

# Army Chemical Review

*The Professional Bulletin of the Chemical Corps*  
Summer 2013



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# Army Chemical Review

*The Professional Bulletin of the Chemical Corps*

PB 3-13-1, Summer 2013

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Back cover "Cross Retorts" design— Specialist Michael Hughes

# Chief of Chemical and Commandant, U.S. Army Chemical, Biological, Radiological, and Nuclear School



**Brigadier General  
Peggy C. Combs**

Greetings Dragon Soldiers!

As Regimental Command Sergeant Major Gabriel Arnold and I have traveled around the world during the past 7 months, we have met a number of leaders and Soldiers who inspire and amaze us. We are grateful for all that you do. You make us proud to be chemical, biological, radiological, and nuclear (CBRN) professionals!

In January 2012, the Department of Defense (DOD) issued *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*—strategic guidance that identifies 10 primary missions of the armed forces; among these is “counter weapons of mass destruction.”<sup>1</sup> In the same month, General Raymond T. Odierno issued guidance to the force via *Marching Orders, 38th Chief of Staff, U.S. Army*, in which he directed five priorities for the Army.<sup>2</sup> One of those priorities was to develop the force of the future, Army 2020, as part of Joint Force 2020, ensuring a versatile mix of capabilities, formations, and equipment.<sup>3</sup> Based on this recent guidance, we have been busily preparing the CBRN Regiment 2016–2020 Strategy (see inside back cover).

The CBRN Regiment 2016–2020 Strategy will serve as the foundation upon which to build the Regiment to meet future requirements. The strategy nests with Army and joint doctrine and the soon-to-be-published *National Defense Strategy to Counter Weapons of Mass Destruction*. Certified subject matter experts (CBRN advisors, teams, or units) will

be placed at the point of need, where they will conduct autonomous operations or support designated commanders, countering weapons of mass destruction across the full range of military operations.

As the Army and Joint Force continue to prepare for 2020, the CBRN Regiment has begun a number of parallel initiatives, including the CBRN Force Design Update and a revision of the CBRN Warrant Officer Program.

As currently structured, about 73 percent of the total fiscal year 2015 CBRN force is dedicated to decontamination and biological detection. The intent of this appropriation was to deter and mitigate the nuclear, biological, and chemical threats that originated from 1980 to 2000, during the Cold War era. This appropriation resulted in a large decontamination- and biological detection-resourced force. While the CBRN force has reinvested in its niche capability in support of the DOD, it must now evolve into a 2020 force that plans, assesses, characterizes, advises, and mitigates all hazmat throughout the range of military operations. As a result, the CBRN Force Design Update—

- Creates a standard operational CBRN battalion throughout Components 1–3 (with the exception of strategic reserve assets) consisting of three hazard response companies and one technical escort company; it eliminates the stand-alone design of the technical escort battalion. The CBRN battalion will be capable of conducting mission command, sustainment, and combating weapons of mass destruction (CWMD) mission planning and synchronization to enable a division to conduct CWMD operations and to better address homeland defense CBRN response force mission requirements. These CBRN battalions will have a consolidated maintenance responsibility for assigned companies, creating a field service and support element—an imperative addition that will enable the electronic maintenance of the nuclear, biological, and chemical reconnaissance vehicle sensor suite.
- Restructures 45 current maneuver support CBRN companies (15 per component) to hazardous response companies, consisting of two hazardous response platoons and one mounted reconnaissance platoon. These multifunctional companies will be capable of performing personnel and equipment decontamination in addition to mounted and dismounted hazmat assessment, characterization, and reconnaissance. They will be able to support the defense support of civil authorities mission set (U.S. Northern Command Concept of Operations 3500) and all battlefield CWMD mission sets—especially CWMD elimination operations. These smaller, scalable companies are to be allocated one per brigade combat team, which will triple the current brigade combat team capacity to conduct hazard assessments and site exploitations. This will place technical expertise at the point of decision on the battlefield and eliminate the constant need to call technical forces forward. This restructure will increase the Army’s ability to conduct hazard assessments by 600 percent, with no increase in overall force structure.
- Retains some large-area heavy decontamination and large-area Biological Integrated Detection System capabilities within the strategic reserves. These capabilities remain necessary to support large-scale CWMD mission sets.



The CBRN Force Design Update is in the final stages of staffing, and approval is anticipated by the end of the fiscal year. Once it is approved, the Regiment will begin a phased approach to the transformation. Initial changes will begin immediately.

The CBRN Warrant Officer Program is also being revised to build the technical expertise required in the future force. Warrant officers will become the technicians and certification and standardization officers placed in key positions throughout the Regiment. Changes, which will begin immediately upon final approval from Headquarters, Department of the Army, include the—

- Removal of CBRN warrant officers from non-CBRN tables of organization and equipment and their subsequent placement in CBRN organizations.
- Replacement of CBRN warrant officers in field artillery, air defense artillery, and military intelligence battalions with CBRN lieutenants.
- Adoption of the following proposed structure:
  - Chief Warrant Officer Two: CBRN companies and technical escort teams.
  - Chief Warrant Officer Three: CBRN battalions; the 20th Support Command (Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives); division CBRN cells; the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS); and the Maneuver Support Center of Excellence (MSCoE).
  - Chief Warrant Officer Four: CBRN battalions, CBRN brigades, the MSCoE, and corps CBRN cells.
  - Chief Warrant Officer Five: CBRN brigades and the USACBRNS.

Additional initiatives spanning doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) domains will be added in the coming years as we prepare the Regiment for its roles in Army 2020 and Joint Force 2020.

As I write this article, weapons of mass destruction and CBRN hazards are making front-page news once again, with nuclear testing in North Korea; ricin attacks in Washington, D.C.; the use of sarin in Syria; and the explosion of a fertilizer plant in Texas. Now, more than ever, the Nation is counting on us to be prepared for, to prevent the use of, to protect against, to respond to, and to recover from the accidental release or deliberate use of these hazards. I look forward to working with you as we transform our Regiment from a legacy formation into a technically capable response force that is ready to defeat all hazards and material threats and to counter weapons of mass destruction well ahead of 2020.

On a final note, our Regiment, in its 95th year, is proud to announce two firsts: On 30 May 2013, Major General Thomas W. Spoehr, our Regiment's senior ranking officer, became the first Chemical officer to be nominated for promotion to Lieutenant General. Additionally, on 7 June 2013, Major General Leslie C. Smith became the first Chemical officer to command the MSCoE, Fort Leonard Wood, Missouri. Please join me in congratulating these two pioneers in our Regiment!

### ***Elementus Regamus Proelium!***

#### **Endnotes:**

<sup>1</sup>*Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, DOD, January 2012, <[http://www.defense.gov/news/Defense\\_Strategic\\_Guidance.pdf](http://www.defense.gov/news/Defense_Strategic_Guidance.pdf)>, accessed on 9 May 2013.

<sup>2</sup>*Marching Orders, 38th Chief of Staff, U.S. Army*, January 2012, <<http://usarmy.vo.llnwd.net/e2/c/downloads/232355.pdf>>, accessed on 9 May 2013.

<sup>3</sup>*Ibid.*



## Regimental Command Sergeant Major

Greetings chemical, biological, radiological, and nuclear (CBRN) warriors!

A multitude of regimental initiatives are allowing for a rapid move toward a change for the better. A pilot program that is currently underway within our advanced individual training formations is designed to require military occupational specialty 74D10 students to become hazmat technician-certified before leaving advanced individual training. The 3d Chemical Brigade and the 84th Chemical Battalion are doing everything they can to ensure that this endeavor is successful. In addition, we are currently in the process of attempting to raise our military occupational specialty entrance standards. The proposal would elevate armed Services vocational aptitude battery skilled technical score requirements from 91 to 100. For comparison, the highest existing skilled technical score requirement is 112 for military intelligence systems maintainer/integrator. If the proposal is approved, it would impact accessions and result in an authorization of 5,840 CBRN Soldiers.

*"Placing sergeants back into infantry, field artillery, and support company formations would provide the expertise required for BCTs to focus on and achieve the required training and equipment readiness. It would also ensure the availability of subject matter expertise at the point of execution."*

In 2009, Headquarters, Department of the Army (DA), approved a design change in which CBRN specialists were removed from infantry,

field artillery, and support companies within the brigade combat team (BCT) structure; however, they are still authorized in armor and medical companies. The change was made, in part, to create company intelligence support teams to support operations in Iraq and Afghanistan. Over time, the action has led to a significant decrease in training and equipment readiness within BCT formations. The focus on counterinsurgency operations has caused individual and collective training and CBRN system readiness to suffer at the company level.

Placing sergeants back into infantry, field artillery, and support company formations would provide the expertise required for BCTs to focus on and achieve the required training and equipment readiness. It would also ensure the availability of subject matter expertise at the point of execution. Based on a structure of 32 BCTs, the cost of this recommendation would be 196 E-5 positions and 256 E-4 positions (452 total authorizations).

In addition, our Advanced Leader Course will transition to the One Army School System in July 2013. Under the One Army School System, the three Army components are trained together to one standard. We are also raising the standards for Advanced Leader Course graduation. In the past, students were allowed to graduate from the Advanced Leader Course with test scores between 70 and 80 (although they were unable to obtain hazmat certification). This will no longer be the case. NCOs will be required to achieve certification in order to graduate. We are striving to increase academic rigor across all professional military education and functional courses.

Our largest project is our CBRN Force Design Update. The commandant of the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) and her team here at the Maneuver Support Center of Excellence (MSCoE), Fort Leonard Wood, Missouri, are working on this proposal. We are currently socializing this proposal with the field and are receiving great feedback.

In other news, we have begun planning and preparing for the Best Joint CBRN Warrior Competition. Unfortunately, due to significant Army budget constraints, it remains unclear whether we will actually be able to hold the competition this year. We are exploring several different options to determine the best course of action with regard to the competition.

Finally, I want to congratulate all of the NCOs, warrant officers, and commissioned officers who were selected for command or advancement during our centralized selection boards.

Remember, the difference between a boss and a leader is this: A boss says, "Go do this;" and a leader says, "Let's go do this."

I am proud to serve with each and every one of you. Honor and glory to the Regiment!



**Command Sergeant Major  
Gabriel S. Arnold**

***Elementis Regamus Proelium!***



# The Role of NATO in Medical CBRN Defense: A Primer for CBRN Soldiers



*By Colonel Theodore J. Cieslak, MD; Lieutenant Colonel S. Craig Moss (Retired); and  
Sergeant Major James O. Smith (Retired)*

The North Atlantic Treaty Organization (NATO), which was established in 1949, originated from Cold War imperatives associated with Soviet expansionist policies, threats to the sovereignty of several Western European nations, acute crises such as the Berlin Blockade, and the crumbling security situation resulting from World War II. Since the collapse of the Soviet Union and the Warsaw Treaty Organization of Friendship, Cooperation, and Mutual Assistance (commonly referred to as the *Warsaw Pact*), the organization has grown to include 28 nations that are allied for security cooperation and mutual defense and the focus has shifted somewhat toward counterterrorism, peacekeeping, and peace support operations. Paramount among security and defense concerns is the issue of defending against chemical, biological, radiological, and nuclear (CBRN) weapons—an issue that involves NATO military and civilian establishments.

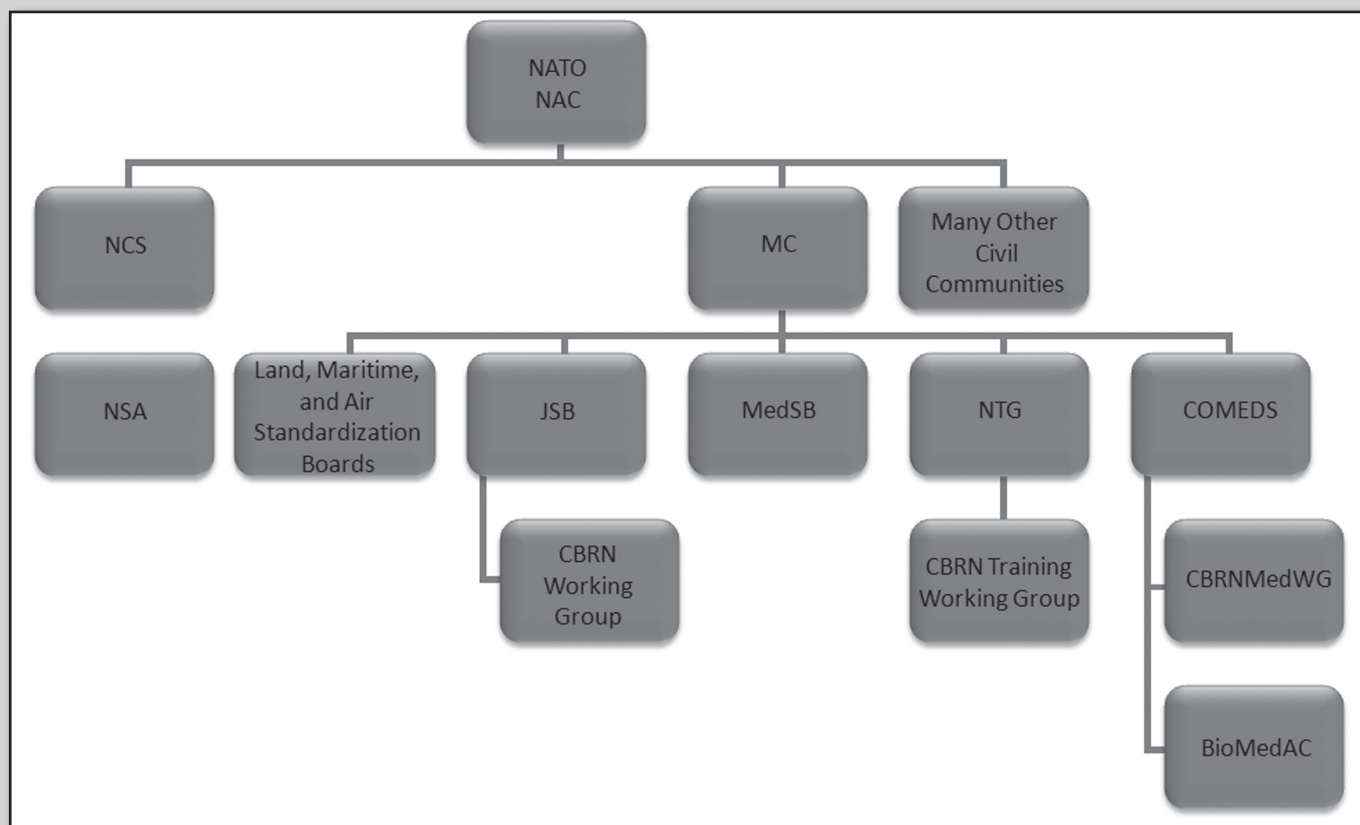
As recent history has demonstrated in Bosnia, Kosovo, Iraq, and Afghanistan, U.S. Service members are increasingly likely to fight alongside NATO allies. Therefore, a basic understanding of NATO functions and operations is critical. Perhaps nowhere is such an understanding more important than it is in the struggle against CBRN warfare and terrorism—a struggle that often uniquely transcends national boundaries and that causes concern for all NATO allies. At least 49 separate NATO bodies are responsible for some aspect of CBRN defense. Consequently, it is imperative that CBRN Soldiers be familiar with NATO counter-CBRN efforts. This article focuses on the medical aspects of NATO's robust CBRN defense establishment.

When the NATO governing civilian political body—the North Atlantic Council (NAC)—seeks to formulate military policy or undertake military action in defense of the alliance and its member nations, it does so through its Military Committee (MC), which is comprised of senior national military officials who answer directly to their respective nations' chiefs of

defense (which, in the case of the United States, is the Secretary of Defense) (see Figure 1, page 6). The MC, in turn, oversees five standardization boards (Land, Maritime, and Air Standardization Boards; Joint Standardization Board [JSB]; and Medical Standardization Board [MedSB]), which—to the degree practical—serve to standardize doctrine, tactics, procedures, and equipment among the NATO allies. A separate entity, the NATO Committee for Standardization (NCS), which answers directly to the NAC, oversees the NATO Standardization Agency (NSA), which supports the MC standardization boards and other standardization efforts within the alliance. In addition to the five standardization boards, the MC also oversees the NATO Training Group (NTG), which in turn, controls a CBRN Training Working Group. Moreover, the MC, through the JSB, is responsible for a CBRN Working Group, which concerns itself primarily with CBRN operations. Medical advice is provided to the MC by the Committee of the Chiefs of the Military Medical Services (COMEDS)—a group consisting of senior military medical officers from alliance member nations (for the United States, the Joint Staff Surgeon, who is a two-star flag officer, currently sits on the COMEDS). Two entities that provide medical CBRN defense advice and undertake medical CBRN standardization efforts are organized under the COMEDS; they are the CBRN Medical Working Group (CBRNMedWG) and the Biomedical Advisory Committee (BioMedAC).

## **CBRNMedWG**

The CBRNMedWG originated with the Nuclear, Biological, and Chemical (NBC) Medical Working Party, which first met in Brussels in May 1973 to “staff doctrine and procedures for defense against radiation (ionizing and nonionizing) [and] biological-, chemical-, and laser-directed energy weapons and/or hazards that result directly or indirectly from military operations.”<sup>1</sup> The NBC Medical Working Party, which originally consisted of 25 delegates from 11 NATO



**Figure 1. Select NATO organizational structure elements**

nations, met irregularly at first. As NATO grew and sought engagements with partner nations, the NBC Medical Working Party evolved into the CBRNMedWG. The organization now convenes annually at the NATO Headquarters in Brussels, Belgium. The 33d meeting, which was held in February 2012, was attended by more than 40 delegates from 15 nations, including the “Partnership for Peace” states of Austria, Serbia, and Switzerland, whose delegates are invited to open sessions (while other sessions are limited to NATO member delegates only). Among the key results of CBRNMedWG efforts are three cornerstone doctrinal contributions (medical in nature, but likely somewhat familiar to Chemical Corps personnel) that are critical to the CBRN defense posture of NATO and the United States:

- **Allied Medical Publication (AMedP)-06, *NATO Handbook on the Medical Aspects of Defensive Operations (Nuclear, Biological, and Chemical)*.** AMedP-06, which is aimed at medics who provide care on the battlefield, contains information about tactical-level medical CBRN defense.
- **AMedP-07, *Concept of Operations of Medical Support in Chemical, Biological, Radiological, and Nuclear Environments*.** AMedP-07, which targets medical operations personnel, can be viewed as the operational-level counterpart to AMedP-06.
- **AMedP-08, *NATO Planning Guide for the Estimation of CBRN Casualties*.** AMedP-08, which is geared toward

medical planners, is a technical manual that is designed for ease of use—but which is, nonetheless, supported by complex methodologies and technical estimations developed by CBRNMedWG scientists and supporting contractors over a period of many years.

### BioMedAC

In recognition of the unique issues and technical complexity surrounding questions of medical biodefense, the BioMedAC was first constituted as a somewhat informal gathering of seven scientists from five NATO nations (Belgium, Germany, the Netherlands, the United Kingdom, and the United States), who met in London in 1998. The group considered issues related to chemoprophylaxis and immunization against biological warfare agents. Later that year, representatives from Canada and Norway joined the group and the BioMedAC slowly grew to include members from the dozen or so NATO nations that had robust biodefense programs. The BioMedAC now convenes twice each year, with one meeting at the NATO Headquarters and the other rotating amongst participating nations. The 29th BioMedAC meeting was held in Warsaw, Poland, in May 2012.

In the early years, the BioMedAC provided advice and technical expertise to the CBRNMedWG; but as the scope of responsibilities grew and the emphasis on biodefense issues increased, the BioMedAC was subordinated directly to the COMEDS. The BioMedAC provided subject matter expertise during the development of the biological portions



of AMedP-06, AMedP-07, and AMedP-08 and now engages in a broad array of biodefense-related issues ranging from the burial needs of potentially infectious decedents to the protective mechanisms necessary for the safe aeromedical evacuation of biological casualties.

One of the premier responsibilities of the BioMedAC is the tackling of the “dirty dozen”—a term derived from early editions of the U.S. Army Medical Research Institute of Infectious Diseases “Blue Book”<sup>2</sup> and used to refer to a validated, nonclassified list of a dozen potential biological threat agents around which medical and nonmedical countermeasures are planned. As new agents are discovered and new threats emerge, the threat list must continually be reassessed. And the BioMedAC—which is composed of clinicians, pharmacists, microbiologists, public health officers, and other biomedical science experts—is well suited to such ongoing reassessment. U.S. representatives proposed a program of assessment and prioritization during the fifth meeting of the BioMedAC, which was held in Oslo, Norway, in 2000. The subsequent BioMedAC work in this regard has led to periodic updates of the threat list and an ongoing reappraisal of the biological sections of AMedP-06. Moreover, the work of the BioMedAC helps form the doctrinal framework that is used to update the medical response training provided to clinicians.

### Standardization Agreements

One of the principal products of the CBRNMedWG and the BioMedAC is the standardization agreement (STANAG)—the

mechanism by which NATO nations agree upon common standards as they apply to doctrine, tactics, procedures, or equipment. In the modern era of combined operations, such common standards are an imperative. NATO philosophy is built upon the realization that “Combined operations, reinforced by non-NATO nations, are not efficient without common standards.”<sup>3</sup>

Each STANAG has a “custodian”—a nation whose delegates serve as the lead authors of the agreement and who shepherd the agreement through a series of study drafts and ratification drafts to ultimate ratification and adoption as NATO doctrine. Certain STANAGs are “owned” by the CBRNMedWG or the BioMedAC; these entities are responsible for overseeing the crafting and updating of those agreements. Other STANAGs are “of interest” to the CBRNMedWG and the BioMedAC—in which case, the organizations monitor the progress of the agreements and may provide subject matter expertise to other NATO bodies who “own” the documents. At its inception in 1973, the NBC Medical Working Party became responsible for STANAG 2358, *Training in First Aid in Nuclear, Biological, and Chemical Operations* (AMedP-47, *First Aid and Hygiene Training in a CBRN or TIH Environment*) and for STANAG 2500 (which later became STANAG 2461 [Volume I], STANAG 2462 [Volume II], and STANAG 2463 [Volume III], *NATO Handbook on the Medical Aspects of NBC Defensive Operations* [AMedP-06]). From that humble beginning, the oversight responsibilities of the CBRNMedWG and BioMedAC have grown significantly (see Table 1 and Tables 2 and 3, page 8). In some cases, these STANAGs

| STANAG Number                                                                                                                                                                                                                                                                                                                                                           | AMedP or AJMedP Number | Title                                                                                                                           | Date Promulgated         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| STANAG 2358, Ed. 4                                                                                                                                                                                                                                                                                                                                                      | AMedP-47               | <i>First Aid and Hygiene Training in a CBRN or TIH Environment</i>                                                              | 5 Jan 09                 |
| STANAG 2461, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-06, Volume I     | <i>NATO Handbook on the Medical Aspects of Defensive Operations (Nuclear)</i>                                                   | 18 Feb 05                |
| STANAG 2463, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-06, Volume III   | <i>NATO Handbook on the Medical Aspects of Defensive Operations (Chemical)</i>                                                  | 14 Dec 06                |
| STANAG 2474, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-40               | <i>Recording of Operational Ionizing Radiation Exposure for Medical Purposes and Management of Dosimeters</i>                   | 21 May 03                |
| STANAG 2478, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-41               | <i>Medical Support Planning for Nuclear, Biological, and Chemical Environments</i>                                              | 10 Feb 06                |
| STANAG 2551, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-42               | <i>Regulations for Establishment and Employment of MRIIT (Medical Radiological Incident Investigation Teams)</i>                | N/A (ratification draft) |
| STANAG 2553, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AMedP-08               | <i>NATO Planning Guide for the Estimation of CBRN Casualties</i>                                                                | 3 Mar 11                 |
| STANAG 2596, Ed. 1                                                                                                                                                                                                                                                                                                                                                      | AJMedP-7               | <i>Allied Joint Medical Doctrine for Support to Chemical, Biological, Radiological, and Nuclear (CBRN) Defensive Operations</i> | N/A (study)              |
| STANAG 2871, Ed. 4                                                                                                                                                                                                                                                                                                                                                      | AMedP-43               | <i>First-Aid Materiel for Chemical Injuries</i>                                                                                 | 24 Mar 09                |
| STANAG 2873, Ed. 4                                                                                                                                                                                                                                                                                                                                                      | AMedP-07               | <i>Concept of Operations of Medical Support in Chemical, Biological, Radiological, and Nuclear Environments</i>                 | 6 Dec 07                 |
| STANAG 2954, Ed. 2                                                                                                                                                                                                                                                                                                                                                      | AMedP-44               | <i>Training of Medical Personnel for NBC Defence Operations</i>                                                                 | 12 May 06                |
| <b>Legend:</b><br>AJMedP—allied joint medical publication<br>AMedP—allied medical publication<br>CBRN—chemical, biological, radiological, and nuclear<br>Ed—edition<br>MRIIT—medical radiological incident investigation teams<br>N/A—not applicable<br>NATO—North Atlantic Treaty Organization<br>NBC—nuclear, biological, and chemical<br>TIH—toxic inhalation hazard |                        |                                                                                                                                 |                          |

**Table 1. STANAGs for which the CBRNMedWG is responsible**

| STANAG Number                                                                                                                                                                             | AMedP Number        | Title                                                                                                        | Date Promulgated |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------|------------------|
| STANAG 2242, Ed. 1                                                                                                                                                                        | N/A                 | <i>Policy for the Chemoprophylaxis and Immunotherapy of NATO Personnel Against Biological Warfare Agents</i> | 10 May 05        |
| STANAG 2462, Ed. 1                                                                                                                                                                        | AMedP-06, Volume II | <i>NATO Handbook on the Medical Aspects of Defensive Operations (Biological)</i>                             | 11 May 05        |
| STANAG 2529, Ed. 1                                                                                                                                                                        | AMedP-74            | <i>Rapidly Deployable Outbreak Investigation Team (RDOIT) for Suspected Use of Biological Warfare Agents</i> | 29 Oct 09        |
| <b>Legend:</b><br>AMedP—allied medical publication<br>Ed—edition<br>N/A—not applicable<br>NATO—North Atlantic Treaty Organization<br>RDOIT—rapidly deployable outbreak investigation team |                     |                                                                                                              |                  |

**Table 2. STANAGs for which the BioMedAC is responsible**

| STANAG Number                                                                                                                                                                                                                                                                                                  | AMedP, ATP, or AEP Number | Title                                                                                                                              | Date Promulgated |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------------------|------------------|
| STANAG 2037, Ed. 9                                                                                                                                                                                                                                                                                             | AMedP-23                  | <i>National Military Strategies for Vaccination of NATO Forces</i>                                                                 | 16 Dec 08        |
| STANAG 2070, Ed. 4                                                                                                                                                                                                                                                                                             | N/A                       | <i>Emergency War Burial Procedures</i>                                                                                             | 6 Apr 99         |
| STANAG 2083, Ed. 7                                                                                                                                                                                                                                                                                             | N/A                       | <i>Commander's Guide on the Effects From Nuclear Radiation Exposure During War</i>                                                 | 2 Sep 09         |
| STANAG 2352, Ed. 6                                                                                                                                                                                                                                                                                             | ATP-84                    | <i>Chemical, Biological, Radiological, and Nuclear (CBRN) Defence Equipment—Operational Guidelines</i>                             | 22 Sep 09        |
| STANAG 2471, Ed. 3                                                                                                                                                                                                                                                                                             | N/A                       | <i>Chemical Contamination Control for Airlift Operations</i>                                                                       | 7 Oct 08         |
| STANAG 2473, Ed. 2                                                                                                                                                                                                                                                                                             | N/A                       | <i>Commander's Guide to Radiation Exposure in Non-Article-5 Crisis Response Operations</i>                                         | 6 Oct 04         |
| STANAG 2497, Ed. 4                                                                                                                                                                                                                                                                                             | AEP-45                    | <i>Warning and Reporting and Hazard Prediction of Chemical, Biological, Radiological, and Nuclear Incidents (Reference Manual)</i> | 14 Dec 10        |
| STANAG 2520, Ed. 1                                                                                                                                                                                                                                                                                             | ATP-3.8.1, Volume III     | <i>CBRN Defence Standards for Education, Training, and Evaluation</i>                                                              | 5 Jul 10         |
| STANAG 2521, Ed. 1                                                                                                                                                                                                                                                                                             | ATP-3.8.1, Volume I       | <i>CBRN Defence on Operations</i>                                                                                                  | 14 Jan 10        |
| STANAG 2522, Ed. 1                                                                                                                                                                                                                                                                                             | ATP-3.8.1, Volume II      | <i>Specialist NBC Defence Capabilities</i>                                                                                         | 17 May 05        |
| STANAG 2879, Ed. 3                                                                                                                                                                                                                                                                                             | AMedP-38                  | <i>Principles of Medical Policy in the Management of a Mass Casualty Situation</i>                                                 | 7 Sep 98         |
| STANAG 3204, Ed. 7                                                                                                                                                                                                                                                                                             | N/A                       | <i>Aeromedical Evacuation</i>                                                                                                      | 1 Mar 07         |
| STANAG 3946, Ed. 2                                                                                                                                                                                                                                                                                             | N/A                       | <i>Maximum Dosage of Nerve Agent Vapour to the Eyes Acceptable for Aircrew</i>                                                     | 25 May 10        |
| STANAG 4359, Ed. 1                                                                                                                                                                                                                                                                                             | AEP-10 Series             | <i>Handbook for the Sampling and Identification of Chemical Warfare Agents</i>                                                     | 29 Jan 91        |
| STANAG 4632, Ed. 1                                                                                                                                                                                                                                                                                             | AEP-81                    | <i>Deployable NBC Analytical Laboratory</i>                                                                                        | 12 Aug 05        |
| <b>Legend:</b><br>AEP—allied engineering publication<br>AMedP—allied medical publication<br>ATP—allied technical publication<br>CBRN—chemical, biological, radiological, and nuclear<br>Ed—edition<br>N/A—not applicable<br>NATO – North Atlantic Treaty Organization<br>NBC—nuclear, biological, and chemical |                           |                                                                                                                                    |                  |

**Table 3. STANAGs of interest to the CBRNMedWG and the BioMedAC**



serve as stand-alone guidance; in others, they provide the “covering” agreement that governs the use of a more robust document, such as an allied medical, administrative, technical, or engineering publication. These publications are, in turn, sometimes incorporated into U.S. Army field manuals or joint or sister Service equivalents.

The practical importance of NATO STANAG development is well illustrated by the fielding of rapidly deployable outbreak investigation teams (RDOITs), as prescribed in STANAG 2529 (AMedP-74, *Rapidly Deployable Outbreak Investigation Team [RDOIT] for Suspected Use of Biological Warfare Agents*). Merely a concept just a few years ago, the RDOIT rapidly became a reality via the close cooperation of NATO partner nations. STANAG 2529 provides the doctrinal framework under which nations will build and field rapid-response teams that can be called upon by commanders who are faced with a potential infectious disease outbreak. In such situations, commanders must know whether an outbreak is real or fictitious, whether it is nefarious (the result of a deliberate agent release) or naturally occurring, whether the resultant disease is contagious or poses an ongoing risk to troops, and how to best mitigate the consequences. RDOITs are designed to deploy within 48 hours, and they bring with them a wide range of technical expertise (especially given their small footprints) and substantial rapid-diagnostic capabilities, allowing them to quickly provide information to commanders. They are also capable of reaching back for vast technical expertise available at military and civil scientific facilities within the member nations. Finally, through the standardization forged by the CBRNMedWG and BioMedAC, RDOITs provide results that can be confidently shared among, and trusted by, partner NATO nations.

## Conclusion

It is difficult to overestimate the contributions of the CBRNMedWG and BioMedAC to the development of joint and allied doctrine. Yet the value of these entities extends well beyond efforts at doctrinal standardization and promulgation. These organizations represent an important mechanism for the sharing of ideas among CBRN professionals (clinicians, pharmacists, chemists, microbiologists, radiation physicists, and operators). They provide a venue for the conduct of valuable tabletop medical planning and response exercises and a forum for distributing the lessons learned from CBRN field exercises such as the biennial NATO “Clean Care” exercise. But perhaps most importantly, they are invaluable in forging the close working relationships among allies and partners in the boardroom that become so imperative on the battlefield.

## Endnotes:

<sup>1</sup>D. Jenkins, “La Communauté Médicale de L’OTAN,” *Actu Sante*, May–June, 2009, pp. 10–19, < <http://en.calameo.com/read/0001659610e037a11e4be>>, accessed on 8 February 2013.

<sup>2</sup>*Medical Management of Biological Casualties Handbook*, U.S. Army Medical Research Institute of Infectious Diseases, 1996.

<sup>3</sup>The NATO Standardization Agency (“Be Wise—Standardize”), 3d Edition, Brussels, Belgium, <[http://nsa.nato.int/nsa/zzMisc/booklets/NSA\\_BOOKLET\\_A5.pdf](http://nsa.nato.int/nsa/zzMisc/booklets/NSA_BOOKLET_A5.pdf)>, accessed on 4 March 2013.

## References:

AMedP-06, *NATO Handbook on the Medical Aspects of Defensive Operations (Nuclear, Biological, and Chemical)*, 14 December 2006.

AMedP-07, *Concept of Operations of Medical Support in Chemical, Biological, Radiological, and Nuclear Environments*, 6 December 2007.

AMedP-08, *NATO Planning Guide for the Estimation of CBRN Casualties*, 3 March 2011.

AMedP-47, *First Aid and Hygiene Training in a CBRN or TIH Environment*, 5 January 2009.

AMedP-74, *Rapidly Deployable Outbreak Investigation Team (RDOIT) for Suspected Use of Biological Warfare Agents*, 29 October 2009.

Warsaw Treaty Organization of Friendship, Cooperation, and Mutual Assistance, 14 May 1955.

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# The Role of the Defense Threat Reduction Agency in Combating Weapons of Mass Destruction

By Major Bryon G. Galbraith

The Defense Threat Reduction Agency provides chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) expertise at the strategic (global and national) level, the operational (regional and geographic combatant command) level, and the tactical (battlefield) level. Its unique organization, capabilities, mission, and ability to build partnerships make the Defense Threat Reduction Agency the Department of Defense center of excellence for combating weapons of mass destruction threats.

According to the *National Strategy to Combat Weapons of Mass Destruction*, “Defending the American homeland is the most basic responsibility of our government. As part of our defense, the United States must be fully prepared to respond to the consequences of [weapons of mass destruction] use on our soil, whether by hostile states or by terrorists. We must also be prepared to respond to the effects of [weapons of mass destruction] use against our forces deployed abroad and to assist friends and allies.”<sup>1</sup> The Department of Defense must coordinate interagency efforts in order to synchronize resources to deter and prevent the use of weapons of mass destruction.

The Defense Threat Reduction Agency is uniquely positioned to support and develop partnership capacities using a nested and synchronized approach. The agency builds partnerships with combatant commanders across the full spectrum of operations in the contemporary operating environment by providing expertise and services during offensive, defensive, stability, and civil support operations. Another important role of the Defense Threat Reduction Agency is the building of partnership capacities outside the Department of Defense. The Defense Threat Reduction Agency works with other government agencies (U.S. Department of State, U.S. Department of Energy, U.S. Agency for International Development), nongovernmental organizations, and foreign-nation ministries in planning and executing weapons of mass destruction missions to ensure global synchronization in combating weapons of mass destruction. The Defense Threat Reduction Agency organization, capabilities, and mission-essential tasks are tangibly linked to the *National Strategy to Combat Weapons of Mass Destruction* and clearly nest with the *National Security Strategy*,<sup>2</sup> with the ultimate goal of safeguarding the American people and our allies.

The importance of building partnership capacities has been summarized in the following statement: “No ministry or agency has at its disposal all the capabilities and expertise necessary to deal with complex policy challenges in a comprehensive manner. Today, these challenges are often transborder—e.g., disease, crime, terrorism, financial, and humanitarian—crises. They require domestic and international cooperation and

the engagement of multiple governments and international organizations.”<sup>3</sup>

No single Department of Defense organization or agency has the ability or autonomy needed to unilaterally conduct combating weapons of mass destruction operations. Many organizations within and outside the U.S. government provide expertise and assistance. The Defense Threat Reduction Agency conducts its mission in partnership with agencies across the Department of Defense, U.S. government, universities, private and civilian sectors, and foreign nations.

The Defense Threat Reduction Agency is actively engaged in activities related to the three main pillars of the *National Strategy to Combat Weapons of Mass Destruction*: nonproliferation, counterproliferation, and consequence management.<sup>4</sup> According to the *National Military Strategy to Combat Weapons of Mass Destruction*—

- *Nonproliferation* can be described as the ability to combat weapons of mass destruction by *preventing* proliferation through intelligence, policy, treaties, and agreements—with the ultimate goal of preventing states and terrorists from acquiring weapons of mass destruction.
- *Counterproliferation* is the ability to combat weapons of mass destruction use through kinetic and sustained operations to decisively *defeat* weapons of mass destruction-armed adversaries.
- *Consequence management* refers to the ability to *respond* to weapons of mass destruction effects against forces deployed abroad and to assist friends and allies.<sup>5</sup>

The Defense Threat Reduction Agency performs several types of nonproliferation activities, primarily through the implementation of the Nunn-Lugar Cooperative Threat Reduction Program. Cooperative Threat Reduction Program authorities are derived from a 1992 law sponsored by Senators Sam Nunn and Richard Lugar. The purpose of the program is to “[reduce] the threat posed by terrorist organizations or proliferant states seeking to acquire weapons of mass destruction expertise, material, and equipment.”<sup>6</sup> The Cooperative Threat Reduction Program also provides funding and expertise for decommissioning nuclear, biological, and chemical weapons stockpiles and for assisting with security improvements for nuclear weapons storage and transportation. In conjunction with other U.S. government agencies, such as the Department of State and the Department of Energy, and foreign partners, the Defense Threat Reduction Agency provides the means to implement the Cooperative Threat Reduction Program and to help eliminate weapons of mass destruction threats.

Efforts to deter or defeat weapons of mass destruction threats are known as counterproliferation—the second pillar of the *National Military Strategy to Combat Weapons of Mass Destruction*. The Defense Threat Reduction Agency conducts a wide variety of mission support activities to defeat weapons of mass destruction threats. Research and development activities result in improvements to technologies that sense, detect, locate, and track weapons of mass destruction threats; the Defense Threat Reduction Agency helps integrate these improved technologies into battlefield operations. In addition, the Defense Threat Reduction Agency is directly involved in improving weapons of mass destruction detection, assessment, protection, and decontamination and in the hardening of mission command systems to protect against nuclear and radiation effects. Furthermore, the Defense Threat Reduction Agency is involved in the safe, kinetic destruction of weapons of mass destruction agents while ensuring limited collateral damage. Through field testing and modeling, the Defense Threat Reduction Agency has improved its means of “defeating underground facilities that are often associated with [weapons of mass destruction] production, storage, delivery, and command and control.”<sup>7</sup> Counterproliferation efforts enable the Defense Threat Reduction Agency to further expand the building of partnership capacities. The Defense Threat Reduction Agency works closely with its allied partners, the Department of Defense, the Department of State, and other agencies, conducting vulnerability assessments and providing force protection guidance.

The Defense Threat Reduction Agency also supports the last pillar of the *National Military Strategy to Combat Weapons of Mass Destruction*—consequence management. The goals of the consequence management program are to reduce and mitigate the effects of weapons of mass destruction attacks. As a Department of Defense combat support agency, the Defense Threat Reduction Agency supports all major combatant commanders, primarily through the consequence management program. In 2011, the Defense Threat Reduction Agency began a new consequence management assistance program initiative to build partnership capabilities through engagement activities designed to help foreign nations build chemical, biological, radiological, and nuclear (CBRN) defense programs. This support demonstrates the working relationships that the Defense Threat Reduction Agency has with agencies across the Department of Defense and the U.S. government. Partnerships with the U.S. Northern Command and the U.S. Pacific Command enable the Defense Threat Reduction Agency to participate in civil support missions in the event of a CBRNE attack on American soil. For example, the Defense Threat Reduction Agency recently deployed subject matter experts to Japan to aid in the consequence management of the compromised Fukushima Daiichi Nuclear Power Plant in the wake of the 2011 Tōhoku earthquake incident. The Defense Threat Reduction Agency also partners with the U.S. Army and the Department of Energy to conduct postnuclear blast sample collections and analyses. And the Defense Threat Reduction Agency has built partnerships with a wide range of state governments (including Army National Guard weapons

of mass destruction—civil support teams, local authorities, and international customers to provide “[Weapons of mass destruction] effects predictions for exercises and real events.”<sup>8</sup>

Its organization, capabilities, and unique mission set position the Defense Threat Reduction Agency to build partnerships with combatant commanders and to integrate its capabilities into unified land operations. As directed in the *National Military Strategy to Combat Weapons of Mass Destruction*, “The military must strive to expand and exercise combating [weapons of mass destruction] partnerships with a goal of creating partners that can provide for themselves and assist during coalition operations.”<sup>9</sup> This statement, along with the Defense Threat Reduction Agency defense support role to combatant commanders, set the conditions for the Defense Threat Reduction Agency to build and maintain partnerships with all major commands across the world. As a result, the Department of Defense may be called upon to carry out one or all of the eight missions listed in the *National Military Strategy to Combat Weapons of Mass Destruction*: offensive operations, elimination operations, interdiction operations, active defense, passive defense, weapons of mass destruction consequence management, security cooperation and partnership activities, and threat reduction cooperation.

The Defense Threat Reduction Agency is capable of conducting the eight *National Military Strategy to Combat Weapons of Mass Destruction* missions as a deployable joint task force headquarters elimination force that functions in a mission command capacity, directing weapons of mass destruction elimination. The joint task force headquarters elimination force assists combatant commanders in conducting the eight mission sets during each of the six military operational phases (shape, deter, seize the initiative, dominate, stabilize, and enable civil authority).<sup>10</sup>

Defense Threat Reduction Agency organizations and capabilities are synonymously linked to the Defense Threat Reduction Agency mission statement, which states that the Defense Threat Reduction Agency “safeguards America and its allies from weapons of mass destruction (i.e., [CBRNE]) by providing capabilities to reduce, eliminate, and counter the threat and mitigate its effects.”<sup>11</sup> This mission statement is subordinate to that included in the *National Military Strategy to Combat Weapons of Mass Destruction*, which states that it is the “[Department of Defense] mission to dissuade, deter, and defeat those who seek to harm the United States, its allies, and partners through [weapons of mass destruction] use or threat of use and, if attacked, to mitigate the effects and restore deterrence.”<sup>12</sup>

The Defense Threat Reduction Agency mission statement effectively enables the agency to function in three main capacities—as a defense agency, as a combat support agency, and as a national asset for combating weapons of mass destruction. With these three operational “hats,” the Defense Threat Reduction Agency is positioned to report directly to three distinct strategic chains of command.

As a CBRNE defense agency, the Defense Threat Reduction Agency reports to the Under Secretary of Defense for



Acquisition, Technology, and Logistics through the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs. The Defense Threat Reduction Agency also functions as a combat support agency that enables direct support to the Chairman of the Joint Chiefs of Staff. In this role, the Defense Threat Reduction Agency directly supports the combatant commanders by providing technologies, reachback capabilities, and deployable subject matter experts that integrate with joint task forces. Finally, the Defense Threat Reduction Agency director functions as the director of the U.S. Strategic Command Center for Combating Weapons of Mass Destruction and reports to the commander of the Strategic Command.

The Center for Combating Weapons of Mass Destruction is organized into an integrated enterprise structure that is similar to a joint staff. Divisions are organized according to the following joint staff codes:

- J-1: Human Resources.
- J-2/5/8R: Intelligence, Plans, and Resource Integration.
- J-3/7: Operations, Exercise, and Readiness.
- J-4/8C: Acquisition, Finance, and Logistics.
- J-6: Information Operations.
- J-9: Research and Development.

These entities respond to requirements by delivering new technology across Department of Defense and ally spectra. The Defense Threat Reduction Agency also provides combating weapons of mass destruction and nuclear-mission expertise to the Office of the Under Secretary of Defense for Policy and other Department of Defense components.

In addition, the Defense Threat Reduction Agency works closely with the Department of State, the Department of Energy, and host nations to provide assessments and “on-site arms control inspections, escort of foreign inspectors, prepar[ation of] U.S. sites for foreign inspections, and . . . monitoring and verification assistance to treaty negotiators.”<sup>13</sup>

Combating weapons of mass destruction is one of the Nation’s top priorities, and the Defense Threat Reduction Agency is an extraordinary example of an agency with the capability to synchronize combating weapons of mass destruction efforts across the Department of Defense, other U.S. government agencies, and foreign nations. Perhaps most compelling is the unique ability of the Defense Threat Reduction Agency to build partnership capacities to synchronize a global effort that systematically deters, prevents, and eliminates weapons of mass destruction. The multiple reporting chains of command (Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs; Chairman of the Joint Chiefs of Staff; Strategic Command) enable the Defense Threat Reduction Agency to coordinate and leverage with many different agencies inside and outside the U.S. government. In these roles, the Defense Threat Reduction Agency combats weapons of mass destruction threats across the full spectrum of combating weapons of mass destruction strategies in the areas of nonproliferation, counterproliferation, and consequence management. Whether it is through the use

of research and development, combating weapons of mass destruction technologies, deployable experts who integrate into joint staffs, expert reachback capabilities, training and exercise programs, or consequence management assistance programs, the Defense Threat Reduction Agency provides a specific niche in combating weapons of mass destruction threats and ultimately in making the world a safer place. 🗨️

#### Endnotes:

<sup>1</sup>*National Strategy to Combat Weapons of Mass Destruction*, December 2002, <<http://www.monde-diplomatique.fr/IMG/pdf/wmdstrategy.pdf>>, accessed on 25 April 2013.

<sup>2</sup>*National Security Strategy*, May 2010, <[http://www.whitehouse.gov/sites/default/files/rss\\_viewer/national\\_security\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf)>, accessed on 25 April 2013.

<sup>3</sup>Army Knowledge Online (AKO) Course J3S T-MN056, Interagency Process Course, U.S. Joint Forces Command.

<sup>4</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, Chairman of the Joint Chiefs of Staff, 13 February 2006, <<http://www.defense.gov/pdf/NMS-CWMD2006.pdf>>, accessed on 29 April 2013.

<sup>5</sup>*Ibid.*

<sup>6</sup>“Office of Cooperative Threat Reduction (ISN/CTR)” Web site, Department of State, <<http://www.state.gov/t/isn/58381.htm>>, accessed on 30 April 2013.

<sup>7</sup>“Defense Threat Reduction Agency and U.S. Strategic Command Center for Combating WMD Overview Briefing,” October 2012, <<http://www.dtra.mil/about/WhatWeDo.aspx>>, accessed on 1 May 2013.

<sup>8</sup>*Ibid.*

<sup>9</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, 2006.

<sup>10</sup>Joint Publication (JP) 3-0, *Joint Operations*, 11 August 2011, <[http://www.dtic.mil/doctrine/new\\_pubs/jp3\\_0.pdf](http://www.dtic.mil/doctrine/new_pubs/jp3_0.pdf)>, accessed on 30 April 2013.

<sup>11</sup>“Defense Threat Reduction Agency,” *Protection*, Center for Army Lessons Learned, U.S. Army Combined Arms Center, August 2010, <[http://usacac.leavenworth.army.mil/cac2/call/docs/10-60/ch\\_5.asp](http://usacac.leavenworth.army.mil/cac2/call/docs/10-60/ch_5.asp)>, accessed on 30 April 2013.

<sup>12</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, 2006.

<sup>13</sup>“Defense Threat Reduction Agency and U.S. Strategic Command Center for Combating WMD Overview Briefing,” October 2012.

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# Army 2020:

## We've Been There Before

*By Colonel John M. Riley*

### Every Soldier Has an Enduring Impact

**M**ajor Charles W. Clifford was not necessarily a notable member of the U.S. Army Chemical Corps, but he represents an important part of the history of our Regiment. He might also be an example of what we can expect to see as our Active Army shrinks back to pre-9/11 levels—or smaller. Major Clifford was a veteran of both world wars, and his story carries a message that is relevant to the entire Army as we enter another difficult transition period for our Nation's ground service.

Charles Clifford entered the U.S. Army in 1918, as our country was joining the World War I fight in Europe. After serving as a “sugar chemist” at the Great Western Sugar Company in Colorado, Clifford left his Colorado Army National Guard unit and entered federal service.<sup>1</sup> He was a natural fit for an assignment to the rapidly growing Chemical Warfare Service (CWS) and was commissioned as a second lieutenant in the CWS. He served throughout the war, performing weapons and protective equipment research in Washington, D.C. Following the armistice, First Lieutenant Clifford was one of several CWS officers who were placed on detached service to support other federal agencies.<sup>2</sup> For a short time, First Lieutenant Clifford provided support to the Federal Bureau of Standards, where he assisted federal inspectors in ensuring that imported agricultural products met U.S. standards. (In sparse fiscal times, trained officers were critical in ensuring that the United States received the highest-quality imported goods for every dollar spent.) First Lieutenant Clifford and his peers also published several articles in scientific journals before returning to civilian life at the end of their service terms.

After leaving the Army, Clifford took a job with the Goodyear® Tire and Rubber Company in Ohio and then later transitioned into the field of education. As a member of the CWS Reserves, Clifford continued to complete military training requirements and periodic drills

during the interwar years. He also continued to publish articles in the field of chemistry throughout the 1920s and 1930s. One of the methods employed by the Army to maintain its professional officer corps during those lean years was the use of “extension,” or correspondence, courses. Clifford was able to pursue his civilian endeavors while also maintaining his Service-related skills in the field of chemical warfare. Clifford was working as a high school chemistry teacher in California at the outbreak of World War II. Following the attack on Pearl Harbor, Hawaii, in December 1941, he immediately offered his services to the nationally renowned chemist Linus Pauling, suggesting in a letter to the scientist that his services might be useful in support of the U.S. development of offensive and defensive chemical capabilities. Major Clifford was eventually recalled to active duty in 1942; he served the Nation by contributing his lifelong experience in chemistry in support of CWS research and development programs until the end of the war.

A close look through the lens of history reveals incredible parallels between the service record of Charles Clifford and the events that are anticipated within the Army over the next 20 years.

### Some Things Never Change

Following successful combat operations overseas, the Army is returning to its large posts in the continental United States and consolidating its few remaining, forward-stationed outposts. Under economic pressure, the Army is undergoing rapid downsizing while planning to sustain a smaller, more technologically advanced force that has the capacity to expand and engage in larger conflicts if necessary. Army planners are scrambling to devise a plan that will meet resource limitations, but will also allow for the continued projection of U.S. power around the globe.

We definitely have a daunting mission ahead of us for the next several years. However, as an Army and as a Nation, we have been down this road of rapid restructuring and force reductions before.



**World War I and World War II victory ribbons and a CWS weapons bar<sup>3</sup> are displayed on Major Clifford's uniform.**



Our current situation mirrors that faced by the Army and the U.S. War Department beginning in the winter of 1918. We would be well served to review the history and events of the interwar years, from 1920 to 1940, as we prepare to confront many of the same challenges faced by our forebears.

The current Army focus for force structure and operational planning is Army 2020. Staff officers at all levels are busily churning out projections and plans across the force in an attempt to understand the threat scenarios that we may potentially face throughout the next 7 years. Others are working to structure the future force to defeat those threats—and then to resource that force with properly trained personnel and the right equipment to fight and win America’s wars. The Chemical Corps will likely continue the struggle to ensure that the Army has the right chemical, biological, radiological, and nuclear (CBRN) capabilities in the active force; properly trained personnel at all levels; and the ability to surge resources from the Reserve Component in the event of contingency requirements. As was the case with Charles Clifford, we will need to rely heavily on our ability to reach out to citizen-Soldiers with the right skills—and to bring them into the Army to support requirements for specific technical expertise. We will also need to ensure that those individuals have access to the training necessary for them to retain their technical and leadership skills while they are out of uniform and pursuing their civilian vocations. Much of that training will be in the form of distributed learning.

Following World War I, the War Department sought to rapidly reduce the Active Army from its wartime peak of almost 3.7 million fighting men back to its prewar strength of about 200,000.<sup>4</sup> As the Army executed this massive reduction in strength and capabilities, the architects of the National Defense Act of 1920<sup>5</sup> sought to retain an active military force that possessed all of the capabilities necessary to respond to national emergencies. Those who were charged with the Army restructuring a century ago recognized the need for a complete Regular Army force that was capable of rapidly acting to defeat the Nation’s enemies and protect critical interests; however, Army planners rejected the idea of an “expansible Regular Army.” After studying the concept in great detail, the Army staff could not support the notion of an Active Army force that was missing key structural elements, such as the supporting arms and services. Instead, the officers focused on the three component structures that we recognize today, with the intent that—while the Regular Army could independently engage in combat operations on a smaller scale—it would share the burden of future, major national emergencies with the Army National Guard and the U.S. Army Reserves.<sup>6</sup> In the same way that the Army reached out for the CWS Reserves during World War II, we will need to be able to reach out to Soldiers who have recently left the Army. We must maintain our existing connections with those Soldiers and learn to leverage their combined military and civilian talents in case they are needed in the future.



**This World War I officer's tunic bears the standard blue and yellow shield of the CWS and a set of French-made CWS officer crossed retorts.**

Like today, the Army of the interwar years placed renewed emphasis on refining doctrine, making limited investments in new technology, and providing structured training for Army personnel. The interwar Army made use of extension courses to ensure that Reserve Component personnel could access the most current training. In spite of the directed mass exodus of veterans from Active Army service following World War I, the Army created and facilitated personnel management systems that allowed those skilled veterans to return to their civilian vocations while remaining linked to their technical military fields.

As we juggle the transition ahead, we must learn from our collective history. We must take a look at the innovative techniques that our predecessors employed to maintain a credible force in spite of manpower and resource constraints. 🗨️

#### Endnotes:

<sup>1</sup>Record for Charles W. Clifford (1917–1918), “World War I Draft Registration Cards,” <[www.ancestry.com](http://www.ancestry.com)>, accessed on 3 January 2013.

<sup>2</sup>*Science*, Vol. XLIX, The Science Press, New York, January–June 1919.

<sup>3</sup>CWS weapons bars were awarded for maintaining proficiency with CWS weapons such as the flame thrower and 4.2-inch chemical mortar.

<sup>4</sup>Richard W. Stewart, editor, *American Military History: The United States Army in a Global Era, 1917–2003*, Vol. II, Center of Military History, Washington, D.C., 2005, p. 21.

<sup>5</sup>National Defense Act of 1920, 4 June 1920.

<sup>6</sup>*Ibid*, p. 57.

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*Colonel Riley is a CBRN officer currently serving as the Deputy Chief of Staff for Operations, Plans, and Training (G-3), Maneuver Support Center of Excellence, Fort Leonard Wood, Missouri. He holds a bachelor's degree in English from The Citadel, South Carolina; a master's degree in international relations from Troy State University (now Troy University), Alabama; and a master's degree in strategic studies from the U.S. Army War College, Carlisle Barracks, Pennsylvania.*



# ECBC Partners With Universities for Advanced Research Initiatives

*By Mr. Don Kennedy*

Partnerships in the research, technology, and engineering fields of the science industry often develop from a shared desire to discover novel solutions to complex problems. That's why the U.S. Army Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, Maryland—an organization with the mission of integrating lifecycle science, engineering, and operations solutions to counter chemical and biological threats—is working closely with universities throughout the Nation to advance initiatives that better protect the United States and U.S. forces.

As a component of the U.S. Army Research, Development, and Engineering Command, ECBC has cultivated core capabilities and technical competencies for 95 years to ensure that the Nation is well prepared for chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) threats. A strong partnership with university programs, personnel, and facilities enables the full life cycle development of projects that can be used by the warfighter and proven in-theater. As a premier resource for CBRNE solutions, ECBC also supports field operations for university-driven research efforts, providing monitoring and on-site laboratory sample analysis for customers around the world.

## Partnership With UCLA

It seems that smartphones can do just about anything these days. But the latest technology under development by ECBC and the University of California, Los Angeles, (UCLA) is surpassing modern convenience; it is actually saving lives. The next generation of smartphone technology makes use of the wide-field fluorescent imaging of microbeads to collect, sample, and analyze various pathogens. Using new apps, sample locations can be geotagged on Google Maps™ and sample results can be sent to a laboratory for further review—all from the same smartphone used to play video games or to digitally deposit checks. According to an ECBC research biologist, this is ideal for Soldiers who are stationed in remote areas with no nearby cellular towers. “[Soldiers] can still capture the data and store it until it can be sent back to the command post,” she said. “[The technology] can also be valuable for clinics or hospitals in underdeveloped areas that may not have sophisticated testing equipment. [Clinics and hospitals] are more likely to be able to afford a device like this, which combines the ease and

reliability of testing with the ability to communicate the results to a larger facility or organization.”



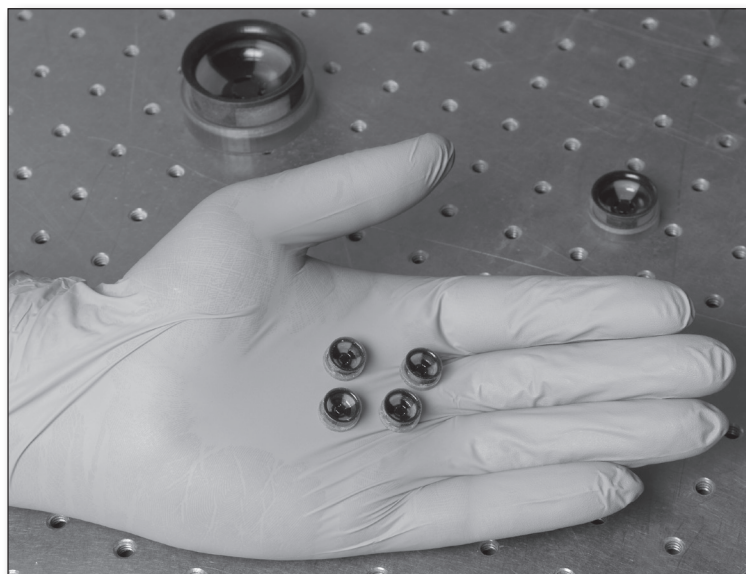
**An ECBC research biologist holds up a prototype of the next generation of smartphone technology.**

The next generation of technology is an upgrade to the ECBC prototype of a plastic, clip-on microscope adapted for Android™ phones that are used by the Army. The UCLA team is developing the software and the hardware, which is clipped directly over the camera of a smartphone and operates like a microscope. The user collects a sample, slides it into the device, and snaps a picture using the smartphone camera. The software application, which is downloaded on the smartphone, then reads the sample, analyzes the results, and generates a clear positive or negative test agent detection result. The detection and diagnostic equipment is typically linked to a computer for further analysis.

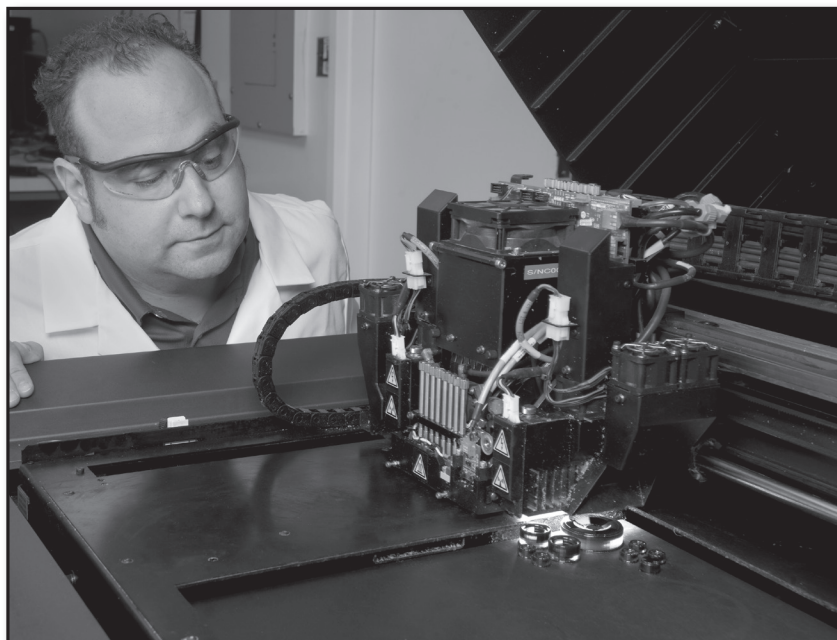
In conjunction with a small-business partner in California, ECBC is also working on the development of a second hardware add-on that can integrate the results of existing field assays with an archive available within the biosurveillance community. The use of an electronic database that can be interpreted by any individual who has access significantly reduces the need for additional heavy (and expensive) equipment. Placing the technology in the hands of the Soldier negates the requirement for separate computers to run the various components of advanced analysis.

### **Partnership With the University of Maryland and the U.S. Army Research Laboratory**

What began as a student project for a doctorate degree at the University of Maryland has evolved into a collaboration between the university, the U.S. Army Research Laboratory, and ECBC. The student, who is also an Army Research Laboratory robotic manipulation researcher, is testing the limits of robotic grasping while pursuing an advanced degree in mechanical engineering. Under the guidance of a university professor, the student has designed an octopus-inspired, self-sealing suction cup, which expands the range of object sizes and shapes that can be grasped by a robot. The new technology, which could be incorporated on robots designed to perform tasks in unstructured and contaminated environments, is expected to enhance emergency response operations. More effective robots would reduce the human risk factor associated with assessments of dangerous sites devastated by natural or man-made disasters.



**These fingertip-size suction cups are used to robotically grasp objects.**



**An ECBC engineering technician produces self-sealing suction cup prototypes.**

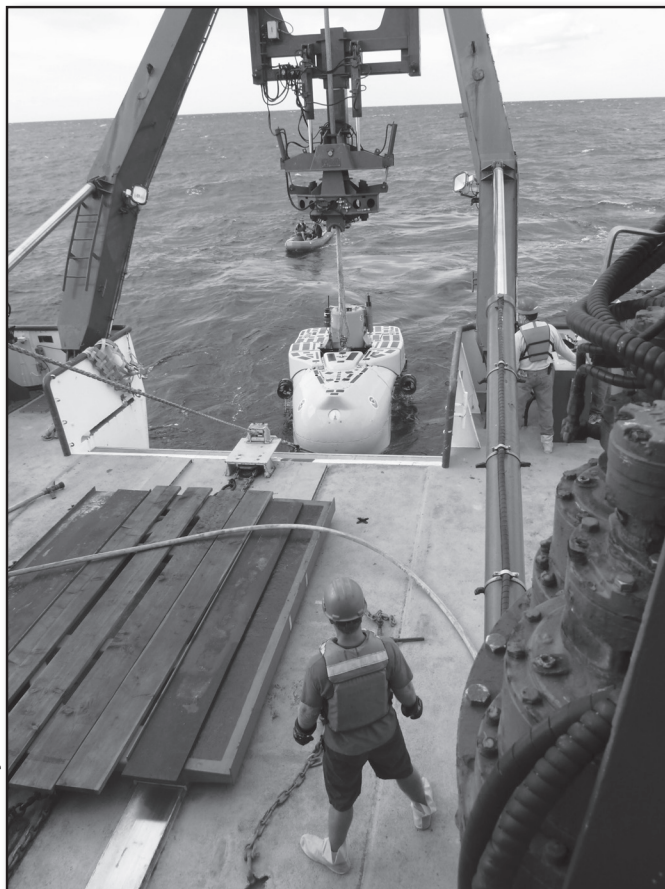
“When something like Fukushima<sup>1</sup> happens, it would be very useful if the robots that are sent in could perform some sort of manipulation activity like closing a valve, recovering an object, or operating a tool in a contaminated area,” the doctoral candidate said. “Even opening a door or a hatch could allow the robot to better observe what’s going on inside the reactor while eliminating the risk of exposing people to radiation.”

ECBC expertise in rapid prototype manufacturing enabled the student to craft and modify multiple generations of the suction cup. The suction cup features a plug that nominally sits in the suction inlet to maximize the suction strength. When the source pump is turned on, the plug of any cup that is not in contact with an object gets sucked in, sealing itself. This increases the pressure differential and strengthens the suction capability of the cups that are engaged on an object.

According to an ECBC engineering technician and senior model maker, the biggest challenge of the project was designing the cups to be as small as possible while ensuring that they remained functional. ECBC used a multimaterial, three-dimensional printer to design numerous prototypes composed of elastomeric or rigid materials. About 20 prototypes consisting of various shapes and sizes, ranging from the point of a fingertip to the palm of a hand, could be designed in 20 minutes.

The collaborative effort between ECBC, the University of Maryland, and the Army Research Laboratory demonstrates a desire to share resources, improve technology, and make use of available expertise.





Crew members wait to dock the submersible vehicle on the deck of the research vessel.

## Partnership With the University of Hawaii

In November 2012, an ECBC Chemical Biological Application and Risk Reduction team worked with the University of Hawaii for the second time since 2009, supporting a 2-week Hawaii Undersea Military Munitions Assessment project. The project involved the investigation of sea-disposed military munitions off the southern coast of Oahu, Hawaii.

Following World War II, conventional and chemical munitions (including 16,000 mustard-filled M47A2 bombs) were discarded in the Pacific Ocean south of Pearl Harbor.<sup>2</sup> Under the Hawaii Undersea Military Munitions Assessment project, a three-person, submersible vehicle—which contained a pilot, an explosive ordnance disposal expert, and a Chemical Biological Application and Risk Reduction scientist—was deployed to the ocean floor 5 miles off the southern coast of Oahu, where World War II era chemical warfare munitions were located at a depth of 550 meters. The Chemical Biological Application and Risk Reduction team performed an on-site chemical analysis of 165 sediment samples, five water samples, and 36 samples of shrimp tissue collected from within 10 feet of the abandoned munitions. The quality of this unprecedented analytical effort matched that of analyses typically conducted at a fixed ECBC laboratory.

The ongoing research effort to investigate the impact of sea-dumped munitions on the surrounding environment is funded by the U.S. Army and led by the University of Hawaii. According to the principal investigator from the University of Hawaii, “[The University of Hawaii] partnership with the U.S. Army and [the prime contractor] significantly increased Hawaii’s and the world’s understanding of sea-disposed munitions—how they were disposed in the past and how they have deteriorated right up to the present time.” And she added, “The forthcoming field program will hopefully allow us to expand our understanding of the potential environmental impact of munitions that may contain chemical agent and develop methods for monitoring and modeling future deterioration.”

U.S. Army and University of Hawaii personnel are in the process of finalizing the research report for this latest mission. During the next phase of the project, performance differences between human-occupied submersibles and remotely operated vehicles will be evaluated. The collaborative team also plans to use new instruments and sensors to improve visual mapping and munitions sampling.

## Lasting Partnerships as Foundations for Sustainable Change

The partnerships that ECBC has established with universities across the country have not only advanced the ECBC mission to better protect the warfighter, but have also underscored a shared vision for innovation by scientists everywhere. The commitment and dedication demonstrated by researchers and engineers in academic programs and Army laboratories have helped foster a spirit of collaboration in a climate of change. As enduring threats continue to evolve and the impact of demilitarization efforts continues to be studied, ECBC partnerships with universities fuse necessary resources with experienced personnel who are capable of solving the most complex CBRNE issues.

For more information, please visit the ECBC Web site at <http://www.ecbc.army.mil> or call (410) 436-7118. 

### Endnotes:

<sup>1</sup>*Fukushima* refers to the Fukushima Daiichi Nuclear Power Plant disaster, which resulted from the 11 March 2011 earthquake and tsunami in Tōhoku, Japan.

<sup>2</sup>*Hawaii Undersea Military Munitions Assessment Project*, <http://hummaproject.com/>, accessed on 17 April 2013.

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*Mr. Kennedy, the communications/public affairs officer for ECBC, served 8 years in the U.S. Navy. He holds bachelor’s degrees in English and history from Christopher Newport University, Newport News, Virginia.*



# Changes to British CBRN Defence Specialist Capabilities



*By Wing Commander Timothy Edward Uren, Royal Air Force*

As the first Royal Air Force (RAF) officer to serve as the United Kingdom (U.K.) exchange officer to the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), I am regularly asked, “Why did the U.K. transfer its CBRN [chemical, biological, radiological, and nuclear] specialists from the Army to the Air Force [following *The Strategic Defence and Security Review*’]?” The short answer is, “We didn’t.” This article provides a somewhat longer answer. It describes the background of *The Strategic Defence and Security Review* decisions regarding CBRN capabilities, which may be of interest to U.S. Army CBRN professionals. More importantly, it outlines the organization and capabilities of U.K. CBRN specialists—a topic that is relevant to U.S. Army Chemical Corps personnel engaged in coalition operations.

## Background

There is no equivalent to the Chemical Corps—or even the CBRN military occupational specialty—in the U.K. Most unit and formation CBRN personnel (including instructors, advisors, and warning and reporting staff) deliver CBRN defense as an additional duty once they have completed a 2- to 3-week course held at the Defence CBRN Centre, Winterbourne Gunner, Wiltshire. The lead service proponent for specialized, dedicated CBRN defense is the RAF, with the Force Protection (FP) staff, Air Command, RAF High Wycombe, Buckinghamshire, specifically responsible.

Following Operation Granby—the U.K. contribution to Operations Desert Shield and Desert Storm—in the early 1990s, an operational need for more capable CBRN reconnaissance and surveillance was identified. This led to the formation of the Joint Nuclear, Biological, and Chemical (later CBRN) Regiment, RAF Honington, Suffolk. The roughly battalion-size Joint CBRN Regiment, which was manned by personnel from the RAF Regiment and the Royal Tank

Regiment, was equipped with Fuchs nuclear, biological, and chemical reconnaissance vehicles, Integrated Biological Detection Systems, and a number of Multipurpose Decontamination Systems for the decontamination of Fuchs vehicles. The RAF Regiment also continued to provide the U.K. sampling and identification of biological, chemical, and radiological agents and nuclear emergency response capabilities from a separate unit (the RAF CBRN Operations Squadron), also based at RAF Honington. Joint CBRN Regiment personnel served with distinction—in their primary CBRN defense roles and in their out-of-role capacities as maneuver subunits—in theaters that included Iraq and Afghanistan.

## Strategic Defence and Security Review

*The Strategic Defence and Security Review* required that the U. K. find ways to significantly save on defense spending, while maintaining operations in Afghanistan. Many capabilities, including CBRN defense, were hit hard. The CBRN specialist capabilities that remained were so limited that maintaining a joint CBRN unit was no longer considered viable. Following robust debate, the Ministry of Defence decided that the RAF would remain the lead service proponent for CBRN defense—and that it would also become responsible for delivering the remaining CBRN specialist capabilities. Accordingly, Number (No.) 20 Wing RAF Regiment—which amalgamated the remaining Joint CBRN Regiment capabilities with those of the RAF CBRN Operations Squadron under a single command—was formed in 2011.

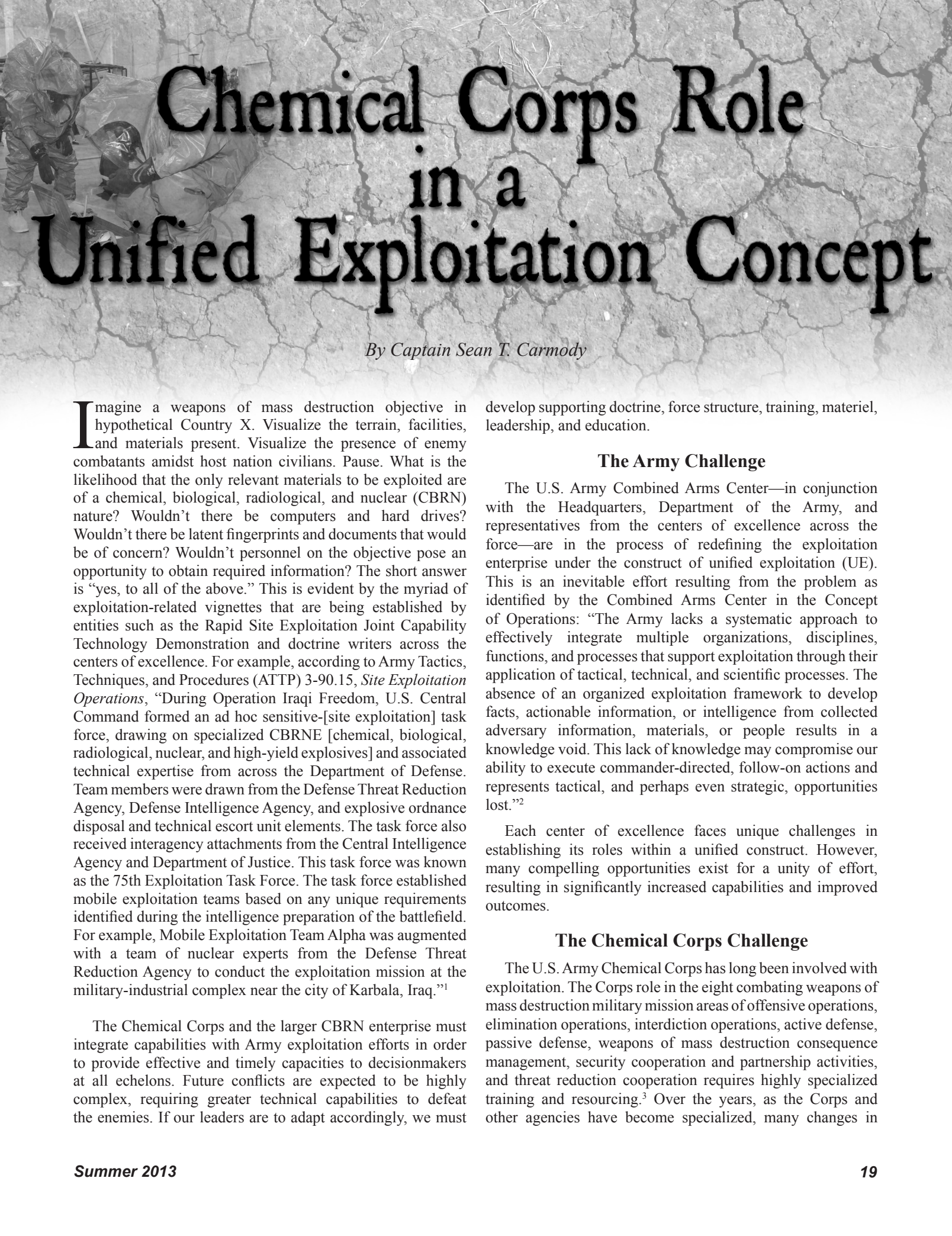
## Current Capabilities

No. 20 Wing RAF Regiment is comprised of—

- **No. 26 Squadron RAF Regiment.** No. 26 Squadron RAF Regiment conducts dismounted CBRN reconnaissance and surveillance. It is roughly equivalent to a number of U.S. Army Chemical Corps dismounted reconnaissance and

*(continued on page 24)*





# Chemical Corps Role in a Unified Exploitation Concept

*By Captain Sean T. Carmody*

Imagine a weapons of mass destruction objective in hypothetical Country X. Visualize the terrain, facilities, and materials present. Visualize the presence of enemy combatants amidst host nation civilians. Pause. What is the likelihood that the only relevant materials to be exploited are of a chemical, biological, radiological, and nuclear (CBRN) nature? Wouldn't there be computers and hard drives? Wouldn't there be latent fingerprints and documents that would be of concern? Wouldn't personnel on the objective pose an opportunity to obtain required information? The short answer is "yes, to all of the above." This is evident by the myriad of exploitation-related vignettes that are being established by entities such as the Rapid Site Exploitation Joint Capability Technology Demonstration and doctrine writers across the centers of excellence. For example, according to Army Tactics, Techniques, and Procedures (ATTP) 3-90.15, *Site Exploitation Operations*, "During Operation Iraqi Freedom, U.S. Central Command formed an ad hoc sensitive-[site exploitation] task force, drawing on specialized CBRNE [chemical, biological, radiological, nuclear, and high-yield explosives] and associated technical expertise from across the Department of Defense. Team members were drawn from the Defense Threat Reduction Agency, Defense Intelligence Agency, and explosive ordnance disposal and technical escort unit elements. The task force also received interagency attachments from the Central Intelligence Agency and Department of Justice. This task force was known as the 75th Exploitation Task Force. The task force established mobile exploitation teams based on any unique requirements identified during the intelligence preparation of the battlefield. For example, Mobile Exploitation Team Alpha was augmented with a team of nuclear experts from the Defense Threat Reduction Agency to conduct the exploitation mission at the military-industrial complex near the city of Karbala, Iraq."<sup>1</sup>

The Chemical Corps and the larger CBRN enterprise must integrate capabilities with Army exploitation efforts in order to provide effective and timely capacities to decisionmakers at all echelons. Future conflicts are expected to be highly complex, requiring greater technical capabilities to defeat the enemies. If our leaders are to adapt accordingly, we must

develop supporting doctrine, force structure, training, materiel, leadership, and education.

## **The Army Challenge**

The U.S. Army Combined Arms Center—in conjunction with the Headquarters, Department of the Army, and representatives from the centers of excellence across the force—are in the process of redefining the exploitation enterprise under the construct of unified exploitation (UE). This is an inevitable effort resulting from the problem as identified by the Combined Arms Center in the Concept of Operations: "The Army lacks a systematic approach to effectively integrate multiple organizations, disciplines, functions, and processes that support exploitation through their application of tactical, technical, and scientific processes. The absence of an organized exploitation framework to develop facts, actionable information, or intelligence from collected adversary information, materials, or people results in a knowledge void. This lack of knowledge may compromise our ability to execute commander-directed, follow-on actions and represents tactical, and perhaps even strategic, opportunities lost."<sup>2</sup>

Each center of excellence faces unique challenges in establishing its roles within a unified construct. However, many compelling opportunities exist for a unity of effort, resulting in significantly increased capabilities and improved outcomes.

## **The Chemical Corps Challenge**

The U.S. Army Chemical Corps has long been involved with exploitation. The Corps role in the eight combating weapons of mass destruction military mission areas of offensive operations, elimination operations, interdiction operations, active defense, passive defense, weapons of mass destruction consequence management, security cooperation and partnership activities, and threat reduction cooperation requires highly specialized training and resourcing.<sup>3</sup> Over the years, as the Corps and other agencies have become specialized, many changes in



capabilities, technologies, and doctrine have resulted in overlapping and sometimes redundant efforts. As shown in Figure 1, CBRN is a key enabling capability spanning several UE core operational activities.

Establishing commonalities in doctrine, training, materiel, leadership and education, and personnel within the designated activities allows for the broader and deeper employment of CBRN exploitation capabilities.

### Ongoing CBRN UE Efforts

In the early 2000s, the U.S. Special Operations Command established its program of record for special-operations forces site exploitation to effectively define, organize, and develop exploitation-related capabilities. Under the program, the following levels of exploitation were established:

- **Level 1:** Operator.
- **Level 2:** Operator–advanced.
- **Level 3:** Technical exploitation.
- **Level 4:** Exploitation Analysis Center.
- **Level 5:** Exploitation Analysis Center–advanced.

Higher levels represent an increased capacity for technical expertise and reachback support. Figure 2 provides a generic

summation of the special-operations forces model of exploitation capability, including the levels, their relationships, and the relative weight of effort for each core operational activity.

The objective of the concept is to build the greatest capacity and fidelity for exploitation at the lowest level that can be matured through fusion at higher levels. The model can be used to create a greater decision advantage. This advantage is a result of the individual site exploitation element providing advice to a tactical commander through strategic decisionmakers who receive summary all-source analyses.

The primary focus of special-operations forces CBRN units within the program of record is serving as exploitation enablers in addition to filling their traditional reconnaissance and decontamination roles. Each special-forces group has an assigned chemical reconnaissance detachment and an organic chemical decontamination detachment. The chemical reconnaissance detachment provides direct and general exploitation support to operational detachments and other special-operations forces. The chemical decontamination detachment provides general exploitation support to a special-operations task force. In the special-operations forces exploitation model, the chemical reconnaissance detachment correlates to exploitation Level 3 and the chemical decontamination detachment correlates to exploitation Levels 4 and 5. While

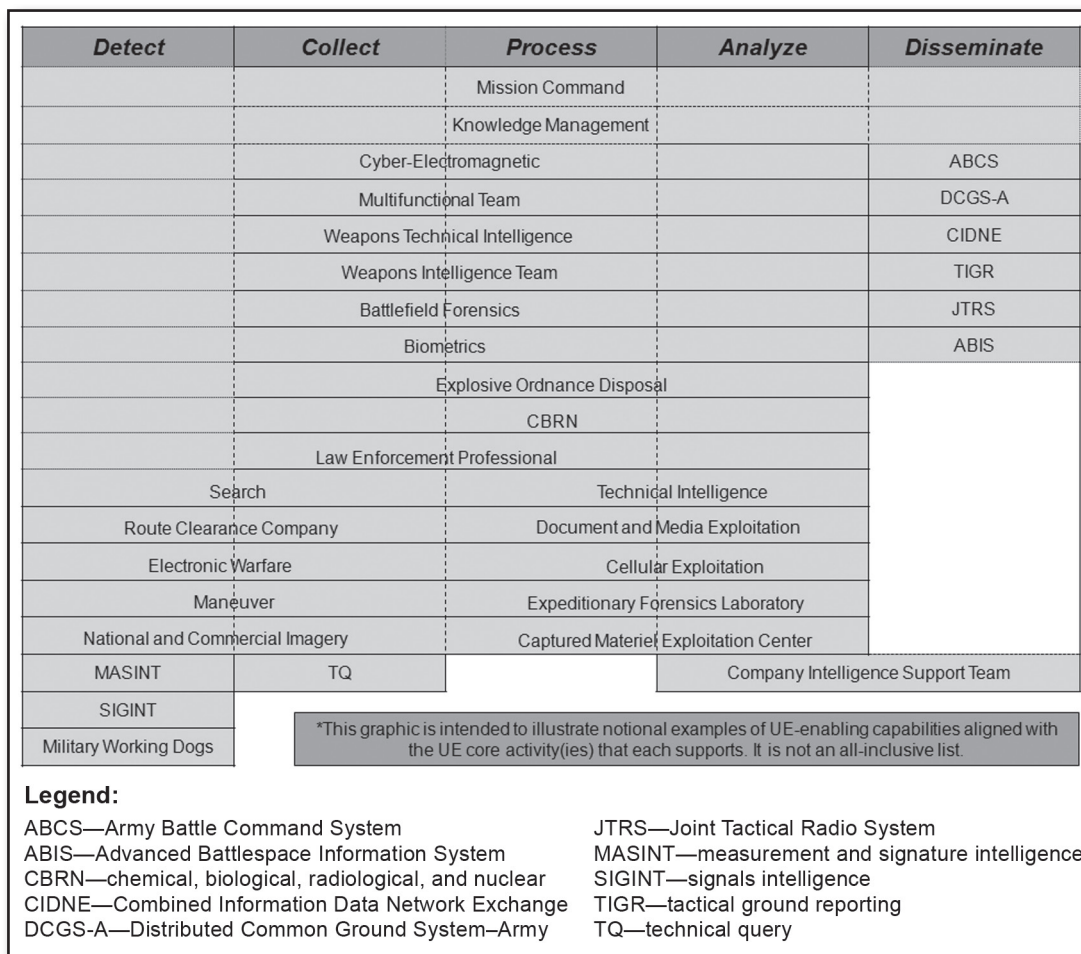
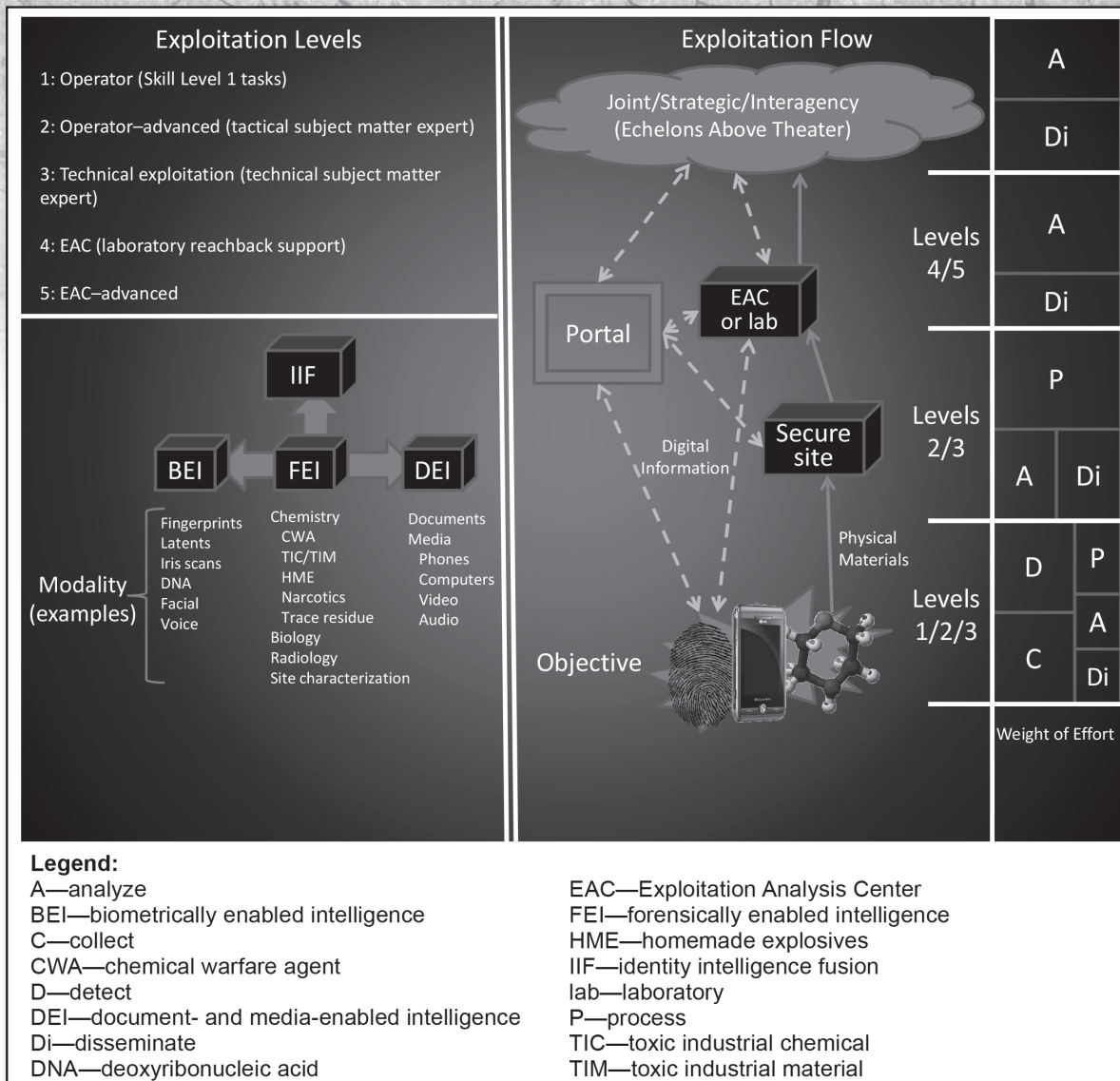


Figure 1. UE core operational activities and enabling capabilities<sup>4</sup>



**Figure 2. Summary of the special-operations forces exploitation model**

special-operations CBRN forces deliberately man, train, and equip for UE, conventional forces have also applied similar constructs.

According to Captain Ori Avila, “While deployed to Afghanistan from 2009 to 2010, the Stryker Brigade Combat Team (SBCT), 5th Brigade (now 2d Brigade), 2d Infantry Division (5/2), Joint Base Lewis-McChord, Washington, identified the need to rapidly disseminate information to maneuver commanders to drive current and future operations.”<sup>5</sup> Because 5/2 SBCT CBRN Soldiers routinely performed duties that included confirming or denying suspect substances through analytical processes, leaders expanded those duties to incorporate a UE approach. The 5/2 SBCT reconnaissance platoon reorganized and trained for this complementary deployed mission. Platoon duties included evidentiary triage, document and media exploitation, biometrics, and other forensics. The results and success of CBRN Soldiers

conducting UE in a framework similar to the special-operations forces exploitation model further serve to demonstrate the compatibility of CBRN skills and UE requirements.<sup>6</sup>

### UE Activities and Military Mission Areas

In part, the UE construct serves to bridge the gap between tactical and sensitive-site exploitation. In addition, each of the eight combating weapons of mass destruction military mission areas correspond to UE core operational activities requirements (see Figure 3, page 22).

Many of the core operational activity requirements are mirrored in multiple military mission areas. For example, the tools, techniques, and procedures that a CBRN professional uses to detect suspect materials during an interdiction operation may be nearly identical to those employed during an offensive or elimination operation. Similarly, dissemination is most significant when information is distributable and discoverable



|                    |                                 |                                                                                                            |                                                                                                        |                                                                                                                                     |                                                                  |                                                                            |                                                                                 |                                                        |                                                                      |
|--------------------|---------------------------------|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|
| UE Core Activities | Threats and hazards             | <br>Intent to proliferate | <br>Weapon employment | <br>CBRN incident<br>(intentional or accidental) |                                                                  |                                                                            |                                                                                 |                                                        |                                                                      |
|                    | Combating WMD strategic pillars | Nonproliferation activities                                                                                |                                                                                                        | Counterproliferation activities                                                                                                     |                                                                  |                                                                            |                                                                                 | Consequence management activities                      |                                                                      |
|                    | Military mission areas          | Security cooperation and partnership activities                                                            | Threat reduction cooperation                                                                           | Interdiction operations                                                                                                             | Offensive operations                                             | WMD elimination operations                                                 | WMD active defense                                                              | WMD passive defense                                    | WMD consequence management                                           |
|                    | Detect                          | Materials related to inspection programs                                                                   | Arms control verification                                                                              | Suspect personnel and material in transit                                                                                           | Facilities and nodes for targeting; post-operation battle damage | Suspect WMD facilities                                                     | Collateral damage, battle damage                                                | Warning and/or treatment                               | Materials released                                                   |
|                    | Collect                         | Known and suspect personnel and material                                                                   | Known and suspect personnel and material                                                               | Suspect personnel and material for confirmation                                                                                     | Pre- and post-operation samples for confirmation                 | Suspect material for confirmation                                          | Samples from postblast analysis                                                 | Reconnaissance, surveillance, and survey information   | Samples from the environment                                         |
|                    | Process                         | Suspect personnel and material for confirmation                                                            | Suspect personnel and material for confirmation                                                        | Suspect personnel and material for confirmation                                                                                     | Pre- and post-operation samples for confirmation                 | Suspect material for confirmation                                          | Samples from postblast analysis                                                 | Reconnaissance, surveillance, and survey information   | Samples for confirmation of release                                  |
|                    | Analyze                         | Results, which drive inspection verification decisions                                                     | Results, which drive threat reduction decisions                                                        | Results, which drive decisions to divert, seize, transfer authority, and attribute                                                  | Results, which drive targeting and confirmation of effects       | Results, which drive decisions to abandon, destroy, and transfer authority | Results, which drive decisions to attribute, retaliate, and manage consequences | Results, which drive tactical commander decisionmaking | Results, which drive decisions to recover, reconstitute, and restore |
|                    | Disseminate                     | Distributable systems and discoverable reporting, which drives decisionmaking                              |                                                                                                        |                                                                                                                                     |                                                                  |                                                                            |                                                                                 |                                                        |                                                                      |

**Legend:**  
UE—unified exploitation  
WMD—weapons of mass destruction

**Figure 3. Alignment of UE core operational activities with combating weapons of mass destruction military mission areas<sup>7</sup>**

by the entire joint force and interagency and multinational partners.

Maneuver forces, in coordination with joint capabilities such as CBRNE response teams, focus on detecting and collecting relevant personnel and materials to identify and characterize suspect sites. Theater laboratories focus on processing, analyzing, and disseminating results from materials collected in the joint operational area. Joint task force elimination and joint force command staffs focus on analyzing and disseminating results that drive decisionmaking processes.

### Scope of the Army Exploitation Concept

As Army efforts progressed, Headquarters, Department of the Army (HQDA), Executive Order (EXORD) 268-11, *Establishment of Army Exploitation*, directed the Combined Arms Center to develop the Army Exploitation Concept,<sup>8</sup> which resulted in the development of the UE concept of operations (CONOPS); the subsequent publication of the CONOPS; and the establishment of the Combined Arms Center as the force modernization proponent for UE. The *Army Unified Exploitation Concept of Operations, 2012–2018*, identifies a current capability list containing 56 supporting capabilities.<sup>9</sup>

At this time, 14 of these capabilities are associated with the Maneuver Support Center of Excellence. And of the 56 capabilities, four are CBRN-related, defined as falling under the purview of the 20th Support Command (CBRNE) and/or the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS). The CBRN capabilities listed in the UE CONOPS span the UE core operational activities. Examples include the 20th Support Command chemical accident or incident response and assistance heavy mobile expeditionary laboratory and the CBRN Dismounted Reconnaissance Course.

### DOTMLPF Requirements and Recommendations

The Army UE CONOPS establishes the UE requirements related to each of the solution options within the Joint Capabilities Integration Development System. For each doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) component, there are CONOPS requirements and recommendations for potential CBRN solutions to be considered during the Joint Capabilities Integration Development System process.

## *Doctrine*

- **CONOPS requirements.** “Emerging joint and Army doctrine must fully capture the description and implications of UE operations. It must also expand upon the ideas presented in CONOPS to guide further combat development. What will make the initial UE doctrine development unique is that joint and Army concepts are still evolving and that joint and Army doctrine will be developed concurrently and likely collaboratively.”<sup>10</sup>
- **Recommendation.** Refine joint and Army doctrinal CBRN and combating weapons of mass destruction terminology and concepts so that they are aligned with emerging UE doctrine.

## *Organization*

- **CONOPS requirements.** “Army organizations must support combatant commander requirements as well as the Army’s generating and operating forces’ needs. Organizational design requirements include active, National Guard, and reserve components.”<sup>11</sup>
- **Recommendation.** Proactively engage with the U.S. Army Intelligence Center of Excellence in the ongoing effort to develop exploitation multifunctional teams at the brigade combat team level. These teams are intended to fuse enabling exploitation capabilities. Organic brigade combat team CBRN reconnaissance platoons should be task-organized within the multifunctional teams.

## *Training*

- **CONOPS requirements.** “Army UE personnel must be trained to joint, [Department of Defense], nongovernmental, and Army standards. There are current training venues and programs already established that can be leveraged and modified to meet UE requirements. Many training requirements will likely be driven by UE enabler requirements and Army-specific requirements necessary to support generating and operating force requirements.”<sup>12</sup>
- **Recommendations.** Continue to develop and integrate UE concepts into technical-course curricula. Ensure that combined arms training strategies reflect UE requirements.

## *Materiel*

- **CONOPS requirements.** “UE operations are technical in nature, and materiel solutions will need to be rapidly developed, tested, evaluated, and acquired. The utility of materiel solutions will likely be temporal in value due to the rapid technologic advancements and proliferation. Adversary counters to UE tools also result in combat development being a continuous and fast-paced process. Materiel solutions are also expensive and will likely be developed using joint, interagency, and public-private partnerships to take advantage of existing best practices and maximize resource utilization.”<sup>13</sup>
- **Recommendations.** Ensure that, where suitable, sets, kits, and outfits employ equipment (such as modular search kits)

that has been standardized within the UE program of record. Develop future deployable laboratory capabilities that are based on a common framework to be modular in nature and interoperable with all other laboratories in the inventory. Ensure that future detection and analytical sets, kits, and outfits are interoperable with the full suite of mission command tools (such as the Distributed Common Ground System–Army), distributable, and discoverable.

## *Leadership and Education*

- **CONOPS requirements.** “Commanders, staffs, and Soldiers must be educated to understand employment of UE capabilities and execution. Doctrine will provide the intellectual foundation to prepare leaders for how to think UE in the context of the future [operational environment]. Leader development and education will provide leaders with the understanding of how to integrate UE into decisive action.”<sup>14</sup>
- **Recommendation.** Continue to develop and integrate UE concepts into professional military education curricula as UE doctrine becomes institutionalized.

## *Personnel*

- **CONOPS requirements.** “The Army must have sufficient trained personnel with the requisite UE knowledge, skills, and abilities. Emerging joint and Army requirements warrant a complete analysis of personnel requirements and the most effective way to develop and manage them.”<sup>15</sup>
- **Recommendation.** Monitor and engage in the Army development of UE skill identifiers as appropriate.

## *Facilities*

- **CONOPS requirements.** “The ability to effectively and efficiently conduct testing, training, and operations using UE systems will require a robust infrastructure. Such facilities and infrastructure must allow networked and distributed operations as well as multilayered security constructs. The planning and resourcing for facility and infrastructure must be initiated with sufficient lead time to reach maturity synchronous with the future force and anticipated technology developments associated with UE operations.”<sup>16</sup>
- **Recommendation.** Ensure that UE requirements (such as those for increased bandwidth) and secure internet protocol router access are considered during future facilities development.

## *Summary*

The future success of CBRN and combating weapons of mass destruction exploitation efforts depends equally on the technical capabilities of our Regiment and on our ability to ensure that DOTMLPF and policy processes are nested with the Army and joint, interagency, intergovernmental, multinational, industry, and academia enterprises. Future conflicts continue to become more complex, requiring greater technical capabilities to defeat our enemies. If we expect our



leaders to successfully adapt to these complexities, we need to develop integrative doctrine, force structure, training, materiel, leadership, and education. The battlefield is not the place for maneuver units or other enablers to work together on a complex UE problem for the first time.

#### Endnotes:

<sup>1</sup>ATTP 3-90.15, *Site Exploitation Operations*, 8 July 2010.

<sup>2</sup>*Army Unified Exploitation Concept of Operations, 2012–2018*, Capabilities Development Integration Directorate, Mission Command Center of Excellence, U.S. Army Combined Arms Center, 19 June 2012.

<sup>3</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, Chairman of the Joint Chiefs of Staff, 13 February 2006.

<sup>4</sup>*Army Unified Exploitation Concept of Operations, 2012–2018*, June 2012.

<sup>5</sup>Ori Avila, “The Evolution of the 5/2 SBCT TSE Program,” *Army Chemical Review*, Winter 2012, <<http://chemical.epubxp.com/t/15891>>, accessed on 1 May 2013.

<sup>6</sup>Ibid.

<sup>7</sup>Field Manual (FM) 3-11, *Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations*, 1 July 2011.

<sup>8</sup>HQDA EXORD 268-11, *Establishment of Army Exploitation*, 23 August 2011.

<sup>9</sup>*Army Unified Exploitation Concept of Operations, 2012–2018*, June 2012.

<sup>10</sup>Ibid.

<sup>11</sup>Ibid.

<sup>12</sup>Ibid.

<sup>13</sup>Ibid.

<sup>14</sup>Ibid.

<sup>15</sup>Ibid.

<sup>16</sup>Ibid.

#### Reference:

All Army Activities (ALARACT) Message 244/2011, *Development of the Army Exploitation Concept*, 28 June 2011.

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(“Changes to British CBRN . . .” continued from page 18)

U.S. Army Chemical Corps dismounted reconnaissance and surveillance platoons grouped together. It retains a number of Multipurpose Decontamination Systems for the decontamination of supporting assets.

- **No. 27 Squadron RAF Regiment.** No. 27 Squadron RAF Regiment retains the Integrated Biological Detection System. It is roughly equivalent to a U.S. Army Chemical Corps Biological Integrated Detection System company. It also maintains the sampling and identification of biological, chemical, and radiological agents capability.
- **No. 2623 Squadron Royal Auxiliary Air Force Regiment.** No. 2623 Squadron Royal Auxiliary Air Force Regiment is equivalent to an Air National Guard unit. It provides reinforcements to No. 26 and No. 27 Squadrons.
- **A specialist training unit.** No. 20 Wing Regiment currently conducts its own, in-house training; however, this training will become the responsibility of the Defence CBRN Centre in the future.

In addition to providing the specialized CBRN capabilities of a force deployed by the U. K., No. 20 Wing also provides elements of the U.K. Technical Response Force, which supports chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) counterterrorist capabilities for homeland defense.

### The Way Ahead

At the core of the RAF FP capability is the RAF Regiment; it “fights on the ground for control of the air.” All RAF Regiment personnel are trained as infantry soldiers before their FP skills are further developed. Because CBRN defense is a core element of the broader FP mission, the RAF Regiment possesses more CBRN defense-trained and -experienced personnel than any equivalent U.K. military unit. The RAF Regiment is committed to delivering specialized CBRN capabilities to U.K. defense assets and coalition and partner nations alongside its core air FP mission. The RAF Regiment acknowledges the far greater size, capability, and CBRN career focus of the U.S. Army Chemical Corps and looks forward to forging links and further developing professional relationships and friendships with the Chemical Corps.

*Per Ardua* (Through Adversity).

#### Endnote:

<sup>1</sup>*Securing Britain in an Age of Uncertainty: The Strategic Defence and Security Review*, October 2010.

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# CBRN/Security Platoon: A New Breed of “Combat Chemical”

*By Captain Seth P. Model*

U.S. armed forces have been engaged in war for nearly a decade, producing a generation of Soldiers who have extensive combat experience. With downsizing on the horizon, the Army, in general—and individual branches, in particular—will certainly shrink. A smaller force must be more efficient; therefore, we must closely examine our tactics, techniques, and procedures, revamping them when necessary. Revolutionary ideas should be shared and developed. This article serves as a forum for the sharing and development of one such idea regarding the U.S. Army Chemical Corps.

## **Cold War Era Training**

During my Chemical, Biological, Radiological, and Nuclear (CBRN) Basic Officer Leader’s Course, it occurred to me that the information being presented was from the Cold War era. The field manuals (FMs) and training videos were from “the Army of the 80s.” Many of the topics were irrelevant for a combat environment. However, the hazmat courses were valuable due to their relation to current events and the possibility that the information could actually be used. For example, technical escort units deal with hazmat and are highly regarded as the “ultimate” CBRN units. Furthermore, weapons of mass destruction (WMD)—civil support teams serve as valuable homeland security resources. And the topic of decontamination is relevant to CBRN training. CBRN reconnaissance units offer the most diverse capabilities; however, there are no rules of engagement.

Following major conflicts, consideration has been given to disbanding the Chemical Corps—in spite of the fact that CBRN Soldiers made significant contributions during those conflicts. Consequently, FM 3-11, *Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations* (the FM that directs the deployment of CBRN assets in combat) remained unchanged for more than 20 years. According to that FM, CBRN units were limited to support roles, forward units were expected to generate smoke to cover advancing engagements,

and reconnaissance and decontamination operations were the only other contributions. Even in publications released after Operation Desert Storm, there were no significant doctrinal changes to the role of CBRN units in combat.

Young CBRN lieutenants aspire to be CBRN reconnaissance platoon leaders; however, opportunities are limited—especially in combat. Neither tactical nor offensive capabilities are considered in doctrine or in practice. For those units that have a modern mission, an updated curriculum is needed.

## **History in the Making**

The 1st Brigade Special Troops Battalion, 1st Brigade Combat Team, 1st Cavalry Division, Fort Hood, Texas, became an accidental pioneer. Although the exact date was not recorded, the CBRN Reconnaissance Platoon was reformulated into something novel sometime from 2008 to 2009. According to the modified table of organization and equipment, the battalion was authorized a small security section—comprised of infantry Soldiers and a portion of the headquarters and headquarters company—and M2A3 Bradley Fighting Vehicle Systems. The small security section lacked discrete leadership; and because the CBRN Reconnaissance (or Fox) Platoon was also small, the two units were combined. The augmented platoon could then conduct reconnaissance missions with its own internal security. Although not recognized at the time, this allowed for the diversification of capabilities and missions.

## **The Iraq Shutdown**

In 2010, the CBRN Reconnaissance Platoon fielded M1135 Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicles (NBCRVs), thereby becoming more tactically advanced and mobile. Unit training in preparation for the National Training Center (Fort Irwin, California) and Iraq involved conventional gunnery and a tasking for the role of personal security detail. The absence of the word *chemical* in the description of duties is noteworthy. As Operation New



Dawn drew to an end in 2011, closing out the theater was one of the primary assignments for the 1st Brigade Combat Team. Operating under the overall theme of force protection (which encompasses CBRN aspects), the CBRN Reconnaissance Platoon was split into two squads. On the CBRN side, Stryker NBCRVs were stationed in a battle position at Forward Operating Base Kalsu to protect the base from indirect fire and improvised, rocket-assisted mortar attacks. The remote weapon station systems served as great platforms for viewing over the wall and safely attacking while remaining protected. On the security side, the platoon leader and platoon sergeant served as an effective personal security detail, providing security escorts for the base commander during his trips to visit Iraqi counterparts, transporting personnel to and from the airport and other sites in Baghdad, providing protection for troop convoys that were leaving bases as they closed, and securing various facilities until they could be handed over to Iraqi forces. Most of the CBRN Reconnaissance Platoon missions consisted of counter indirect fire and counter improvised, rocket-assisted mortar patrols that were designed to ensure a safe forward operating base environment and a safe passage along the major route heading south from Baghdad. The platoon was proven in combat—and even made history by operating the last two Stryker NBCRVs in Iraq. Remarkably, these NBCRVs were used in patrols—and driving them from the middle of Iraq to Kuwait was no small feat.

### **Operation Spartan Shield**

After a nearly 6-month combat tour in Iraq, the CBRN Reconnaissance Platoon—along with the brigade—was repositioned to Kuwait to perform Operation Spartan Shield for the remainder of the year-long deployment. The unit served as a ready-reaction force while in expeditionary garrison. The main focus was on training—and lots of it. The platoon was tasked to participate in traditional CBRN training, learning skills that were considered irrelevant during Operation Iraqi Freedom. Obviously, this was to be a crawl-walk-run enterprise. The training included basic topics such as detection and decontamination procedures; it also covered the topic of advanced detection as a CBRN reconnaissance element. Although the platoon was generally split into CBRN and infantry personnel for training purposes, such a split would have worked against unit goals in this case. Therefore, the battalion reconfigured a new, integrated CBRN/security platoon. It would have been difficult for the platoon leader to plan training for two completely different military occupational specialties; consequently, a new approach to training was necessary.

### **A New Approach to Training**

Of course, separate training for the Soldiers of each military occupational specialty is sometimes desirable—especially during the advanced run phase of training. However, cross training in basic areas is beneficial. Platoon training lanes could consist of conducting a reconnaissance mission with Stryker NBCRVs and Bradley Fighting Vehicle Systems, locating a CBRN agent, reacting to contact, and engaging the infantry. The platoon should be able to carry out these skills

while mounted or dismounted. Planning for the training was difficult since research was required in the areas of CBRN and infantry doctrine. As the platoon leader, I elected to have CBRN Soldiers learn to clear rooms alongside the infantry Soldiers and have infantry Soldiers help CBRN Soldiers look for CBRN agents. It soon became clear that the CBRN Reconnaissance Platoon was no longer limited to CBRN reconnaissance training.

### **The “Combat Chemical” Platoon**

I jokingly referred to the CBRN Reconnaissance Platoon as the “combat chemical” platoon; yet, many a true word is spoken in jest.

Platoon members began teaching each other their respective skills. A platoon with such cross training is uniquely capable of pursuing WMD in an urban environment, clearing a room by force, and neutralizing the WMD without falling victim. Other than Special Forces, 18-series career management operatives, there are few CBRN units with such capabilities. Although most CBRN reconnaissance platoons have a weapon system, tactics, techniques, and procedures dictate that the platoon break contact—not defend itself. The creation of a tactical reconnaissance platoon would allow CBRN Soldiers to safely reconnoiter the battlefield for suspicious or dangerous chemicals and to engage a threat. With its infantry cadre, such a platoon could also attack a small element. This versatile platoon would possess CBRN skills and combat capabilities. The value of such a platoon seems evident. So why don’t we have them?

### **Show and Tell**

The CBRN Reconnaissance Platoon participated in stabilized gunnery with a collection of Bradleys, displaying the capabilities of the remote weapon station and its optics. This demonstrated that the platoon could operate offensively and defensively and while mounted or dismounted. Following gunnery, the platoon was put to a true test. The final, large-scale deployment training event, which was conducted in June 2012, consisted of a multilayered, combined arms breaching exercise that involved combined arms battalions and engineers. The platoon was tasked to do what it was meant to do: conduct CBRN reconnaissance. The reconnaissance, which was carried out in cooperation with the Scout Platoon, 2d Battalion, 5th Cavalry Regiment, 1st Cavalry Division, consisted of performing route and area reconnaissance and conducting surveillance during the breach. Through training and cooperation, the platoon demonstrated the ideal coupling of offensive and defensive capabilities, whether mounted or dismounted.

### **A Smaller Chemical Corps**

The Chemical Branch is shrinking significantly. Discussions about how to keep a smaller Chemical Corps relevant and effective are underway. Yet, we have still not addressed our foundations and manuals. We still train to Cold War standards, where force on force was the concern and giant decontamination lines were planned. This is no longer a realistic scenario—

especially since our role seems to be less appreciated. Hazmat and technical escort teams are modern developments, but we need to expand these concepts and develop a combat or tactical hazmat team that combines expertise and missions. Smaller elements with appropriate skills and equipment could provide CBRN assistance to a unit encountering a CBRN situation. The conversion of CBRN reconnaissance platoons to CBRN/security platoons (combat-ready CBRN units that have multipurpose capabilities and are prepared to operate in any hostile environment) should be seriously considered. The efficient use of CBRN and combat skills together would give any combat arms unit an important edge.

### Evolve or Dissolve

At the time of this writing, the modified table of organization and equipment for brigade special troops battalions had just been changed so that the security section was no longer included. However, the brigade special troops battalion need not be staffed with Military Occupational Specialty 11B and 74D Soldiers; instead, it could be staffed with a new breed of 74-series Soldiers. The fact that the Chemical Corps needs to be restructured in terms of units, purpose, and training cannot be overstated. We say that we rule the elements, but we are not adapting well to the modern Army—and this is especially true among combat arms units, where CBRN training is often devalued and deferred. Many hardworking CBRN officers try to provide their battalions with some sort of training—only to be shunned by the battalion commander and bombarded with additional duties. However, the response to combined 1st Brigade Special Troops Battalion, 1st Brigade Combat Team, 1st Cavalry Division, CBRN/combat missions has been positive. Perhaps this experience can serve as a source of inspiration for other CBRN units and young CBRN officers. I'm not suggesting that the curriculum be tossed out, but an update is overdue. The formation of other CBRN/security platoons would be an excellent start. 

### References:

FM 3-11, *Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations*, 1 July 2011.

FM 3-11.19, *Multi-Service Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Reconnaissance*, 30 July 2004. (Superseded by Army Techniques Publication [ATP] 3-11.37, *Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Reconnaissance and Surveillance*, 25 March 2013.)

FM 3-11.21, *Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Consequence Management Operations*, 1 April 2008. (Currently undergoing revision.)

FM 3-11.34, *Multi-Service Tactics, Techniques, and Procedures for Installation CBRN Defense*, 6 November 2007 (Superseded by ATP 3-11.42, *Multi-Service Tactics, Techniques, and Procedures for Installation Emergency Management*, 26 April 2013.)

FM 3-19.15, *Civil Disturbance Operations*, 18 April 2005. (Currently undergoing revision.)

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**Editor's Note:** FM 3-11, *Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations*—the keystone multi-Service CBRN manual—has been updated twice during the past 10 years. The current (1 July 2011) edition represents a major revision from previous versions, focusing on the prevention and/or elimination of threats and hazards. FM 3-11 incorporates the eight combating WMD military mission areas into a tactical-level lexicon with validated lessons learned from ongoing counterinsurgency operations. In addition, Army Tactics, Techniques, and Procedures (ATTP) 3-11.36 (*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Aspects of Command and Control*, 12 July 2010) was created to address the unique employment and mission command of CBRN assets and ATTP 3-11.23 (*Multi-Service Tactics, Techniques, and Procedures for Weapons of Mass Destruction Elimination Operations*, 10 December 2010) was established to fill the gap for the employment of general and technical CBRN forces that conduct WMD elimination operations. Furthermore, ATP 3-11.37 (*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Reconnaissance and Surveillance*) was updated (25 March 2013) to account for the NBCRV platform and hazard assessment and dismounted-reconnaissance capabilities. Further discussion is available on the Protection Warfighter Forum (WFF) Net at <<https://www.milsuite.mil/book/community/spaces/apf/protectionnet>>. Please visit the site and provide your input. Your contributions are valued.

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*At the time this article was written, Captain Model was the brigade CBRN officer, 1st Brigade Combat Team, 1st Cavalry Division. He has since left the Active Army to pursue a career in emergency management/law enforcement. He holds a bachelor's degree in information technology and criminal justice from Curry College, Milton, Massachusetts, and is working toward a master's degree in emergency management from American Military University.*





# BUILDING PARTNER CAPACITY ACTIVITIES FOR THE GOI

By Lieutenant Colonel Jeffrey J. Kyburz

*“... as our forces continue their drawdown from Iraq, the United States remains committed to developing a strategic partnership that promotes peace and prosperity in Iraq and the region.”*

*Quadrennial Defense Review Report<sup>1</sup>*

*This article contains a review of the building partner capacity activities conducted for the Government of Iraq (GoI) to comply with the Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on Their Destruction (commonly referred to as the Chemical Weapons Convention [CWC])<sup>2</sup> during the 2008–2010 time frame. CWC membership required that the GoI become responsible for the destruction and neutralization of all of its chemical weapons, including pre-Gulf War remnants that were sealed in bunkers. These efforts led to the creation of an Iraqi chemical defense company, which was responsible for providing the GoI with a chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) response and elimination capability in 2010.<sup>3</sup> The United States was successful in building a chemical defense company capability in support of Iraq's CWC compliance while also supporting other combating weapons of mass destruction (WMD) objectives across several theater lines of effort. This is especially significant considering the combating WMD rationale that was in place when the United States first entered the country and the potential threats from Iraq's neighboring countries.*

Before March 2003, the United States was convinced that Iraq had reconstituted its WMD program and, consequently, decided to invade because of the threat that such an arsenal would pose. Although WMD materials were not discovered at prewar intelligence-estimated levels, there were significant quantities of prewar-recovered chemical warfare material that needed to be neutralized.<sup>4</sup>

After Iraq became a member of the CWC in 2009, the United States built an indigenous chemical defense company capability within the GoI. The operational approach taken by the coalition in the Joint Campaign Plan consisted of five lines of effort accompanied by goals, objectives, and measures of effectiveness. The benefit of building a partner capacity for GoI CWC compliance was that the supporting tasks enabled many lines of effort, including one which resulted in a more self-sufficient Iraq with some combating WMD capacity.

The United States should carefully study the activities related to building partner capacities for GoI CWC compliance and the endeavors for CBRNE planning in Iraq to glean lessons learned and potential insights into future strategic, operational, and tactical combating WMD planning considerations. Although the combating WMD goals were not completely met, the United States did develop a CWC response capability and Iraq has continued its nonproliferation progress.

## Challenges in Iraq

From 2003 to 2010, the United States conducted operations in Iraq to reduce Iraq's CBRNE hazards and to build the

capacity for effective government institutions. Due to the insurgency, the coalition conducted very limited partnering during the early years, prioritizing the most significant threats. Because engagements were hampered by security challenges, progress and capacity were difficult to sustain. Conducting partnering activities or engagements in a hostile environment necessitated integration with combat operations, as every movement required significant coordination and execution at many levels of operational command. In 2009, recovered chemical warfare material continued to be discovered on a regular basis; yet, Iraq did not have the capability or the capacity to eliminate it.<sup>5</sup> Chemical weapons needed to be rendered unusable or properly destroyed since they could be used to make improvised explosive devices that kill innocent people. In addition, the U.S. government did not have a designated lead to ensure that relevant lines of effort were synchronized with respect to combating WMD activities. Furthermore, combating WMD and nonproliferation activities were not appropriately consolidated or articulated in operation orders or in the Joint Campaign Plan. Any delay in Iraqi CBRNE training manual development (including delays in the releasability of U.S. training information to foreign nationals) or equipment acquisition could have caused additional challenges in partnering and meeting timeline objectives. Despite GoI improvements in security and institutional development in 2009, the GoI lacked senior leadership cooperation among ministries and did not possess a CBRNE response capability.

## New *CWC* Requirements

By 2009, coalition forces had discovered and destroyed thousands of Iraqi chemical weapons; consequently, U.S. destruction records needed to be turned over to the GoI for its declaration to the Organisation for the Prohibition of Chemical Weapons.<sup>6</sup> Iraq's new membership in the *CWC* required that the GoI be responsible for the destruction of *all* Iraqi chemical weapons, including chemical weapons entombed in Gulf War bunkers. In addition, the Organisation for the Prohibition of Chemical Weapons required that Iraq disclose the history of its WMD program and submit its chemical weapons destruction plans. Regardless of whether munitions were empty or not, those designed for chemical fill were required to be reported to the Organisation for the Prohibition of Chemical Weapons.<sup>7</sup> To comply with *CWC* membership requirements, Iraq needed the capacity to detect and eliminate chemical weapon materials and accept a commitment to nonproliferation. The development of a *CWC* compliance capacity also resulted in improvements to Iraqi WMD detection, nonproliferation, and counterproliferation capabilities. Thus, building partner capacity for the *CWC* program supported an overarching combating WMD strategy that required U.S.-Iraqi interagency cooperation in order to satisfy the Organisation for the Prohibition of Chemical Weapons requirements.<sup>8</sup>

## Fusion Cell

In early 2008, after several major WMD-related missions and planning endeavors in Iraq, General David Petraeus, the commander of the Multinational Force–Iraq, took the advice of then Brigadier General Kevin Wendel, commander of the 20th Support Command (CBRNE), to stand up a fusion cell of WMD subject matter experts. The cell was designed to augment the Multinational Force–Iraq staff for CBRNE planning and to synchronize combating WMD efforts. From 2008 to 2010, the fusion cell was manned with CBRNE subject matter experts from the 20th Support Command and the Defense Threat Reduction Agency.

The three combating WMD pillars—nonproliferation, counterproliferation, and consequence management—in turn, give rise to eight military mission areas. Successful *CWC* compliance requires competence in chemical weapons elimination, which comprises an aspect of one of the military mission areas. Conducting combating WMD support tasks can be difficult to coordinate across the U.S. government interagency process, and the addition of a language barrier and coordination with foreign government ministries required considerable personal diplomacy and creativity from fusion cell members. One of the biggest challenges was understanding the roles, responsibilities, and missions at the policy, combatant command, and operational levels in a complex interagency, partnered, and international environment. Fusion cell tasks included facilitating the release of U.S. chemical weapons destruction records to the GoI and developing and coordinating the first-ever GoI CBRNE consequence management tabletop exercise. The small, multidisciplinary team of CBRNE subject matter experts simultaneously conducted strategic planning, fostered partner engagements, and coordinated operational

CBRNE support to fulfill capacity-building requirements, which evolved over time.

For Iraq to combat the most basic WMD threats and eliminate recovered chemical warfare material, partnering was required at many levels; therefore, information sharing and the integration of the right people were extremely important. Building partner capacity goals and objectives are set at the strategic, operational, and tactical levels. Some of the building partner capacity goals and objectives are listed in Figure 1, page 30.

After analyzing the building partner capacity goals, objectives, and tasks for *CWC* compliance, it was apparent that the most significant combating WMD support objectives could be simultaneously addressed across several lines of effort (political, economic, security, diplomatic, rule of law). Due to the drawdown of combat troops, the United States needed to quickly boost the quantity of trainers and equipment available to assist the Iraqis in CBRNE identification and destruction and to develop a consequence management response capacity for postwar Iraq. The development of Iraqi civil capacities—not just military security forces—needed to be incorporated into the end state.

One of the primary building partner capacity objectives for *CWC* compliance in Iraq was the development of a CBRNE response, identification, and elimination capability for recovered chemical warfare (including WMD) material. It was also strategically important that the GoI pass the nonproliferation legislation in order to demonstrate Iraq's political will and commitment. Iraq's progress toward satisfying United Nations Security Council requirements represented another supporting effort involving ministries relevant to *CWC* and combating WMD capacity building. United Nations Security Council Resolution 1540 requires that states "adopt and enforce appropriate, effective laws which [do not allow] any nonstate actor to manufacture, acquire, possess, develop, transport, transfer, or use nuclear, chemical, or biological weapons" that could be used for harmful purposes.<sup>9</sup> The development of nonproliferation capacities supported U.S. lines of effort to improve Iraqi security, governance, and the rule of law. Iraq's commitment to nonproliferation is important for U.S. interests in regional stability, legitimate governance, and the free flow of commerce.<sup>10</sup>

Executing *CWC* and combating WMD capacity-building efforts with the GoI required determining the U.S. departments and agencies and corresponding coalition resources needed for partnering with Iraqi ministries or offices of primary responsibility (see Figure 2, page 31). The Iraqi National Monitoring Directorate—an independent, semiautonomous ministry that is subordinate to the Ministry of Science and Technology—was appointed as the GoI lead for reporting to the international community. At the strategic level, the Multinational Force–Iraq fusion cell partnered with the Iraqi National Monitoring Directorate and relevant Iraqi ministries through the embassy. Additionally, the fusion cell (through the embassy) coordinated with the Ministry of Science and Technology and other significant Iraqi ministries such as the



| Strategic Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Operational Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>• Gol commitment to nonproliferation</li> <li>• Gol-enacted legislation making WMD proliferation illegal</li> <li>• Gol capability to eliminate chemical weapon threats and to report to the Organisation for the Prohibition of Chemical Weapons according to international requirements</li> <li>• Iraqi ministerial cooperation to support the CWC and nonproliferation</li> <li>• Iraqi capability for response, detection, mitigation, and recovery from a WMD-related incident</li> <li>• Gol disclosure of historical WMD programs to the Organisation for the Prohibition of Chemical Weapons</li> <li>• Gol identification of CBRNE response capabilities and acceptance of ownership for WMD response, mitigation, and elimination</li> <li>• Education of Gol regarding all CWC requirements and nonproliferation legislation</li> <li>• Gol elimination of all WMD munitions and CBRNE hazards, including entombed bunkers and radioactively contaminated materials at the Al Tuwaiha Nuclear Center (long-term)</li> </ul> | <ul style="list-style-type: none"> <li>• Ministry of Defense capability for CBRNE response, identification, destruction, and reporting to the Gol</li> <li>• Ministry of Defense CBRNE units (Chemical Defense Company and Explosive Ordnance Disposal) that are manned, trained, equipped, and capable of directed CBRNE missions</li> <li>• Ministry of Defense-established, appropriate CBRNE training, doctrine, and operating procedures (required USACBRNS and U.S. Army Ordnance School release of training publications to Iraq)</li> <li>• Ministry of Defense-established CBRN and ordnance schools incorporating specialized chemical weapons training and concept of operations</li> <li>• Iraqi security forces capability for the initial identification of recovered chemical warfare material and the notification of the Ministry of Defense for Gol response</li> </ul> |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tactical Objectives                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <ul style="list-style-type: none"> <li>• Full Chemical Defense Company capability for responding, detecting, eliminating, and reporting to the Ministry of Defense</li> <li>• Iraqi General Directorate of Civil Defense (firefighter) capability for mitigating the threat of a chemical/WMD event and requesting Ministry of Defense assistance when required</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

**Figure 1. Examples of building partner capacity goals and objectives**

Ministry of Environment and the Ministry of Interior. The Prime Minister's National Operations Center (one of three national operations centers in Baghdad) served as a critical location for Iraqi ministerial communication and coordination. The fusion cell also regularly reached back to the U.S. Central Command, the Office of the Secretary of Defense, the U.S. Army Training and Doctrine Command, and the Defense Threat Reduction Agency. At the operational level, the Chemical Defense Company and Explosive Ordnance Disposal Section of the Ministry of Defense were important. At the tactical level, the Iraqi Chemical Defense Company and the Iraqi Civil Defense Directorate played valuable roles. The U.S. military partnered with the Iraqi Ministry of Defense to develop CBRNE defense

capabilities, which were instrumental to Iraq's long-term goals to eliminate mines and CBRNE hazards inside its borders. Another key aspect of Iraq's consequence management capacity was the Iraqi civilian response capability (through the Iraqi Civil Defense Directorate, which is a part of the Ministry of Interior).

One of the key decisions in the development of a *CWC* compliance capacity was the decision to man, train, and equip an Iraqi chemical defense company that would be capable of responding to all CBRNE hazards and destroying recovered chemical warfare material. The Iraqi Chemical Defense Company was designed to be similar to a U.S. WMD-civil support team, but with an explosive ordnance disposal capability. Through the Multinational Force-Iraq fusion cell, the U.S. developed the equipment and training requirements for the Chemical Defense Company, while the Iraqis recruited personnel to fill unit and relevant staff positions. The fusion cell with the Multinational Corps-Iraq (through Task Force Troy) partnered with the Iraqi Ministry of Defense and Chemical Defense Company and coordinated with the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) and the U.S. Army Ordnance School, as appropriate. Tactical-level partnering was managed between a U.S. Army technical escort unit and the Iraqi Chemical Defense Company. All efforts were geared toward building a relevant capacity for compliance with *CWC* requirements and mitigating a WMD event.

The following goals were identified by the Multinational Force-Iraq fusion cell in 2009:

- Identify Iraqi senior leaders and action officers among relevant ministries and the corresponding Multinational Force-Iraq and U.S. Embassy team partners that would be involved in nonproliferation, elimination, and consequence management.
- Conduct an Iraqi *CWC* and nonproliferation conference with relevant ministries to educate the GoI on nonproliferation legislation and *CWC* responsibilities.
- Conduct an Iraqi WMD/CBRNE capabilities symposium in conjunction with the GoI. Each ministry would present a briefing on its capabilities for responding to the effects of WMD.
- Execute an Iraqi WMD/CBRNE consequence management tabletop exercise to identify Iraq's required CBRNE capabilities and to enhance ministerial coordination and cooperation.
- Conduct chemical- and biological-response training with the Iraqi Chemical Defense Company and the Iraqi Civil Defense Directorate.
- Build a capacity for CBRNE material detection and a confirmatory capability.
- Develop U.S. and Iraqi interagency combating WMD working groups to improve CBRNE coordination and to implement theater-wide combating WMD and United Nations Security Council Resolution 1540 action plans.

- Support Iraqi radiological cleanup efforts at the Al Tuwaitha Nuclear Center, reducing hazards and enhancing cooperation between the Ministry of Science and Technology and the Ministry of Environment.
- Obtain doctrine support from the USACBRNS to refine Iraqi chemical, biological, radiological, and nuclear (CBRN) school training plans; and train the Chemical Defense Company for *CWC* requirements and CBRNE response missions.
- Man, train, and equip the Chemical Defense Company; and validate the capability to execute *CWC* requirements before the departure of U.S. combat troops.
- Develop Iraqi response and consequence management capabilities, and incorporate the U.S. Agency for International Development into plans whenever possible.

The combating WMD building partner capacity efforts in Iraq are unique in the history of the United States due to the

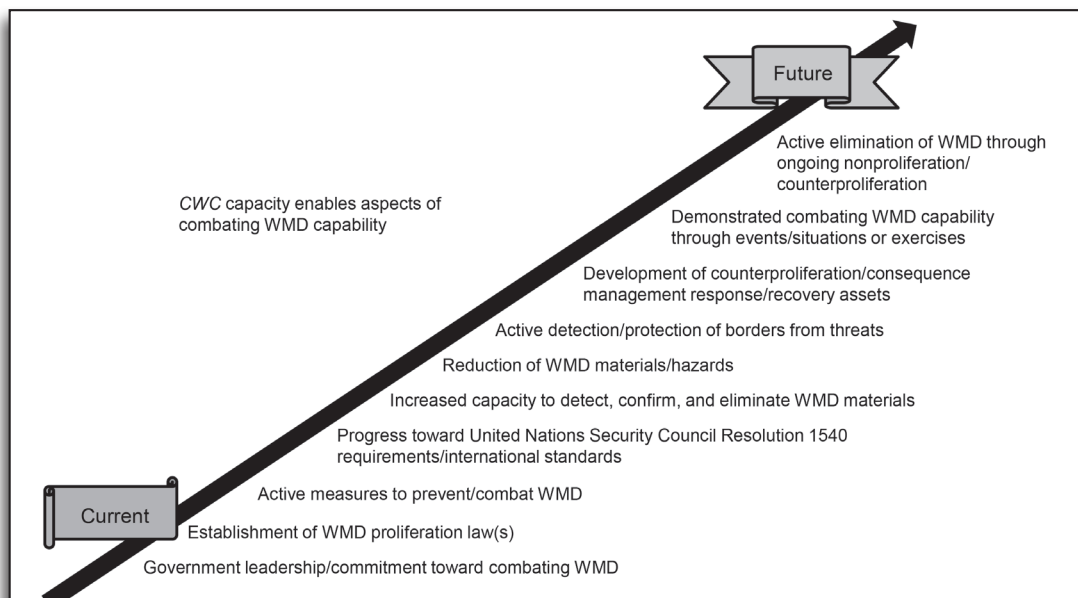
focus on elimination, international compliance requirements, and the level of interagency involvement (see Figure 3, page 32). Aside from cooperative threat reduction activities in the former Soviet Union, the U.S. effort in Iraq may be the most significant combating WMD effort that the United States has undertaken in recent history. Once Iraq became a member of the *CWC* and, therefore, responsible for eliminating its own chemical weapons remnants, several Organisation for the Prohibition of Chemical Weapons member countries volunteered to help provide long-term elimination assistance. The fusion cell identified the development of an elimination and consequence management response capability in Iraq as a priority effort to facilitate the withdrawal of troops. Iraq's chemical weapons elimination capability was beneficial in supporting several combating WMD mission areas and in improving Iraqi self-sufficiency.

The building partner capacity lessons learned for *CWC* and combating WMD capabilities in Iraq should be studied to

| Iraqi Ministry                                                                                                                                                    | U.S. Partner                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ministry of Defense <ul style="list-style-type: none"> <li>• Chemical Defense Company</li> <li>• Explosive Ordnance Disposal Section</li> </ul>                   | U.S. military/coalition<br>Multinational Force–Iraq/U.S. Forces–Iraq/Task Force Troy/technical escort unit                                                                                              |
| Ministry of Transportation                                                                                                                                        | U.S. Department of Transportation                                                                                                                                                                       |
| Ministry of Foreign Affairs                                                                                                                                       | U.S. Department of State                                                                                                                                                                                |
| Iraqi National Monitoring Directorate                                                                                                                             | Multinational Force–Iraq/U.S. Forces–Iraq, U.S. Embassy–Baghdad (Political, Military), U.S. Department of Health and Human Services, Office of the Secretary of Defense/Defense Threat Reduction Agency |
| Ministry of Finance                                                                                                                                               | U.S. Department of the Treasury                                                                                                                                                                         |
| Ministry of Border Controls/Immigration                                                                                                                           | U.S. Department of Homeland Security                                                                                                                                                                    |
| Ministry of Interior <ul style="list-style-type: none"> <li>• Iraqi Security Forces (police)</li> <li>• Iraqi Civil Defense Directorate (firefighters)</li> </ul> | Multinational Force–Iraq/U.S. Forces–Iraq/Multinational Security Transition Command–Iraq                                                                                                                |
| Ministry of Agriculture                                                                                                                                           | U.S. Department of Agriculture/U.S. Department of State/academia                                                                                                                                        |
| Ministry of Science and Technology                                                                                                                                | U.S. Embassy–Baghdad (Economics, Science), U.S. Department of State/academia (Texas Tech University)                                                                                                    |
| Ministry of Environment                                                                                                                                           | U.S. Environmental Protection Agency/academia (Texas Tech University)                                                                                                                                   |
| Ministry of Education                                                                                                                                             | U.S. Department of Education/U.S. Embassy                                                                                                                                                               |
| Ministry of Oil                                                                                                                                                   | U.S. Department of Energy                                                                                                                                                                               |
| Ministry of Energy                                                                                                                                                | U.S. Department of Energy                                                                                                                                                                               |
| Iraqi Radioactive Sources Regulatory Authority                                                                                                                    | U.S. Department of State/International Atomic Energy Agency/academia (Texas Tech University)                                                                                                            |
| Ministry of Health                                                                                                                                                | Multinational Force–Iraq/U.S. Forces–Iraq, Centers for Disease Control and Prevention, World Health Organization, U.S. Department of Health and Human Services                                          |

**Figure 2. Security cooperation/partnership organizations**





**Figure 3. Building partner capacity activities for Iraqi CWC compliance**

review the challenges and evaluate the gaps in combating WMD planning and CBRNE elimination that existed in Iraq. Missions such as the destruction of large caches of recovered chemical warfare munitions and the extraction of yellowcake required very specialized planning and resources and the deployment of CBRNE capabilities from the United States. This building partner capacity effort revealed the criticality of defined end states and the interagency and intergovernmental coordination, integration, and synchronization needed to conduct partnering at appropriate strategic, operational, and tactical levels. The Prime Minister's National Operations Centre served as an appropriate venue for the coordination of high-level meetings, conferences, and exercises among GoI ministries. The sharing of information and the inclusion of the Agency for International Development and the U.S. Army Public Affairs whenever possible facilitated strategic communication and supported end state goals for the eventual transition of authority to the GoI. Challenges regarding the releasability of U.S. doctrine and the development of Iraqi Chemical Defense Company lesson plans were resolved when the USACBRNS deployed an element to assist U.S. CBRN trainers in-country. It was also learned that CBRNE detection and confirmatory capabilities were needed among relevant GoI ministries. In addition, Iraq required appropriate CBRNE and all-hazards response capabilities in the military and civilian sectors.

Much of the *CWC* building partner capacity effort was enabled by the Multinational Force–Iraq fusion cell, which allowed the U.S. government to synchronize CBRNE efforts with the U.S. Embassy, the Central Command, the Training and Doctrine Command, interagency partners, and operational entities. Personnel who had experience with cooperative threat reduction, elimination, and consequence management were assets to the Multinational Force–Iraq staff. The fusion cell developed strategic plans and provided specialized

augmentation to engagements led by the Multinational Force–Iraq (and later U.S. Forces–Iraq) in a complex and dynamic environment. The fusion cell concept demonstrated the need for a team, cell, or joint interagency task force to be focused on the entire spectrum of combating WMD mission areas, rather than on just one of the mission areas. Combating WMD efforts cannot be carried out by staff officers on a part-time basis, and they should not be tasked to a single agency such as the Defense Threat Reduction Agency. The fusion cell consolidated and expanded operation orders to ensure a unity of effort for nonproliferation, counterproliferation, and consequence management and to increase detail and command emphasis in the Joint Campaign Plan to support combating WMD goals and *CWC* efforts. The use of an expeditionary CBRNE planning element should be evaluated as a means to enhance niche planning efforts and to build specialized partner capacity.

The *CWC* building partner capacity efforts were a success, as the Iraqi Chemical Defense Company was fully manned, trained, and equipped in 2010—providing the GoI with a CBRNE response and elimination capability.<sup>11</sup> Thus, the United States helped successfully build a *CWC* capability in Iraq, while establishing a basic elimination and combating WMD capability. This capability serves as a shining example of enabling greater strategic objectives for nonproliferation and containment in the region. The improved capacity for *CWC* compliance supported the combating WMD effort and many other lines of effort and also enabled a responsible U.S. drawdown. This was especially important considering the potential for future regional threats, including WMD and other transnational threats from neighboring countries such as Iran, Syria, and other Arab states in the Persian Gulf.

To be successful, building partner capacity efforts must include relevant government entities and must be synchronized across strategic, operational, and tactical levels.

Due to the complexity and challenges of executing interagency combating WMD plans, the U.S. government should evaluate the consolidation of combating WMD activities and the incorporation of intelligence collaboration to increase effectiveness.<sup>12</sup> Now that the U.S. military has departed from Iraq, a team from the U.S. Embassy should assess *CWC* and combating WMD progress and adjust building partner capacity priorities and tasks to sustain and enhance combating WMD and counterterrorism progress across various lines of effort.<sup>13</sup>

## Endnotes:

<sup>1</sup>*Quadrennial Defense Review Report*, Department of Defense, February 2010, <[http://www.defense.gov/qdr/images/QDR\\_as\\_of\\_12Feb10\\_1000.pdf](http://www.defense.gov/qdr/images/QDR_as_of_12Feb10_1000.pdf)>, accessed on 3 May 2013.

<sup>2</sup>*Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on Their Destruction*, Organisation for the Prohibition of Chemical Weapons, <[http://www.opcw.org/index.php?eID=dam\\_frontend\\_push&docID=6357](http://www.opcw.org/index.php?eID=dam_frontend_push&docID=6357)>, accessed on 3 May 2013.

<sup>3</sup>Chad Menegay, “Iraqi Army Chemical Defense Regiment Proves Capable,” 26 January 2011, <<http://www.army.mil/article/50816/iraqi-army-chemical-defense-regiment-proves-capable/>>, accessed on 3 May 2013.

<sup>4</sup>Unclassified key points from a National Ground Intelligence Center report (entitled “Overview of Chemical Munitions Found in Iraq Since May 2004”) to Congress, 21 June 2006, <<http://smallwarsjournal.com/documents/ngicwmdreport.pdf>>, accessed on 3 May 2013.

<sup>5</sup>Jonathan B. Tucker, “Iraq Faces Major Challenges in Destroying Its Legacy Chemical Weapons,” James Martin Center for Nonproliferation Studies, 17 March 2010, <[http://cns.mii.edu/stories/100304\\_iraq\\_cw\\_legacy.htm](http://cns.mii.edu/stories/100304_iraq_cw_legacy.htm)>, accessed on 3 May 2013.

<sup>6</sup>Michael Luhan, “Iraq Designates National Authority for the Chemical Weapons Convention,” Organisation for the Prohibition of Chemical Weapons, 16 February 2009, <<http://www.opcw.org/news/article/iraq-designates-national-authority-for-the-chemical-weapons-convention/>>, accessed on 3 May 2013.

<sup>7</sup>Michael Luhan, “Iraq Joins the Chemical Weapons Convention,” Organisation for the Prohibition of Chemical Weapons, 14 January 2009, <<http://www.opcw.org/news/article/iraq-joins-the-chemical-weapons-convention/>>, accessed on 3 May 2013.

<sup>8</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, Chairman of the Joint Chiefs of Staff, 13 February 2006.

<sup>9</sup>United Nations Security Council Resolution 1540, adopted by the United Nations Security Council at its 4,956th meeting, 28 April 2004, <<http://www.state.gov/t/isn/73519.htm>>, accessed on 3 May 2013.

<sup>10</sup>“2011 Posture Statement,” U.S. Central Command, March 2011.

<sup>11</sup>Menegay, January 2011.

<sup>12</sup>Brian Findlay et al., “Beyond Boundaries in the Middle East: Leveraging Nonproliferation Assistance to Address Security/Development Needs With Resolution 1540,” the Stimson Center and the Stanley Foundation, 2008, <<http://www.stanleyfoundation.org/publications/report/MERpt910.pdf>>, accessed on 7 May 2013.

<sup>13</sup>*National Security Strategy*, May 2010, <[http://www.whitehouse.gov/sites/default/files/rss\\_viewer/national\\_security\\_strategy.pdf](http://www.whitehouse.gov/sites/default/files/rss_viewer/national_security_strategy.pdf)>, accessed on 7 May 2013.

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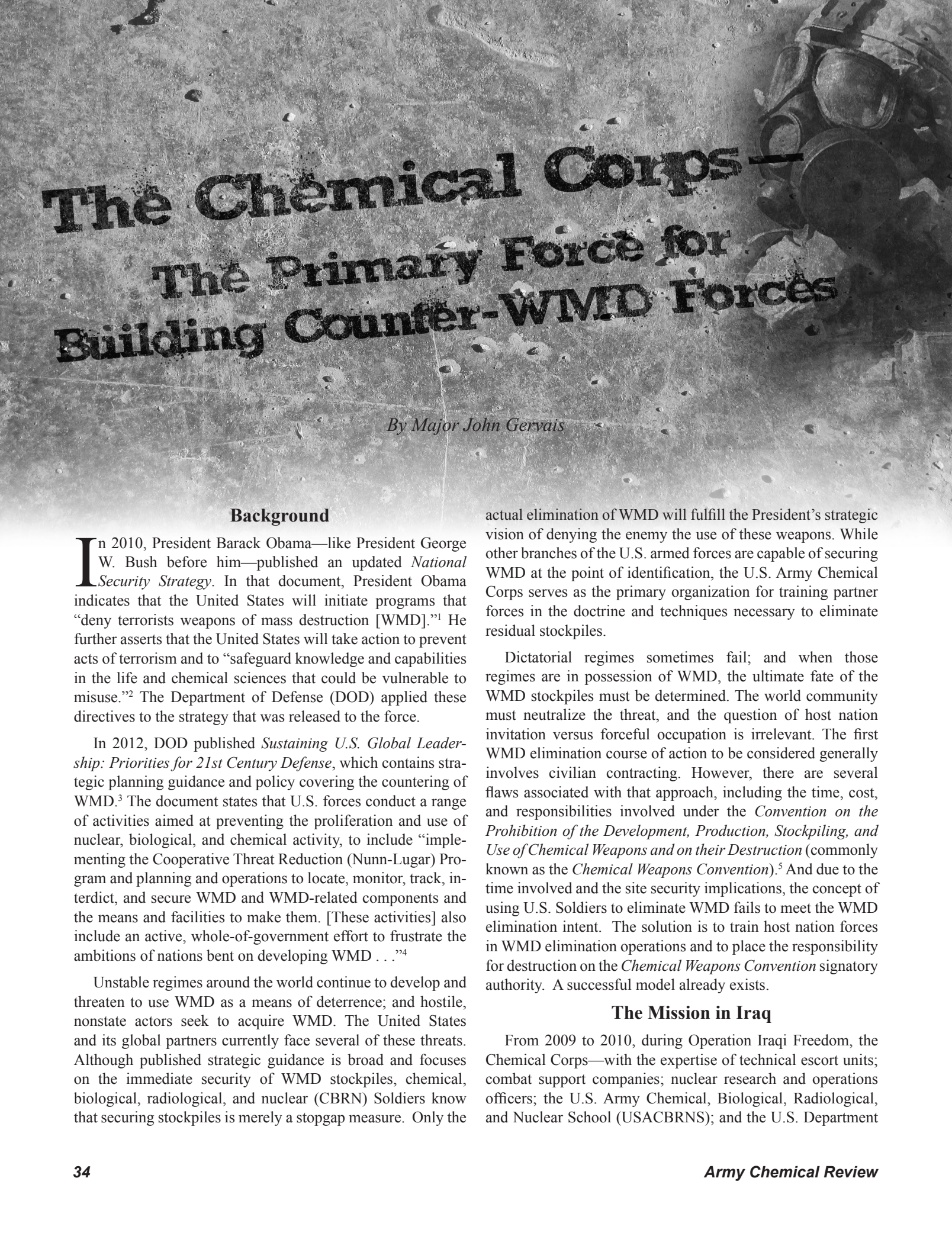
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# The Chemical Corps— The Primary Force for Building Counter-WMD Forces

By Major John Gervais

## Background

In 2010, President Barack Obama—like President George W. Bush before him—published an updated *National Security Strategy*. In that document, President Obama indicates that the United States will initiate programs that “deny terrorists weapons of mass destruction [WMD].”<sup>1</sup> He further asserts that the United States will take action to prevent acts of terrorism and to “safeguard knowledge and capabilities in the life and chemical sciences that could be vulnerable to misuse.”<sup>2</sup> The Department of Defense (DOD) applied these directives to the strategy that was released to the force.

In 2012, DOD published *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, which contains strategic planning guidance and policy covering the countering of WMD.<sup>3</sup> The document states that U.S. forces conduct a range of activities aimed at preventing the proliferation and use of nuclear, biological, and chemical activity, to include “implementing the Cooperative Threat Reduction (Nunn-Lugar) Program and planning and operations to locate, monitor, track, interdict, and secure WMD and WMD-related components and the means and facilities to make them. [These activities] also include an active, whole-of-government effort to frustrate the ambitions of nations bent on developing WMD . . .”<sup>4</sup>

Unstable regimes around the world continue to develop and threaten to use WMD as a means of deterrence; and hostile, nonstate actors seek to acquire WMD. The United States and its global partners currently face several of these threats. Although published strategic guidance is broad and focuses on the immediate security of WMD stockpiles, chemical, biological, radiological, and nuclear (CBRN) Soldiers know that securing stockpiles is merely a stopgap measure. Only the

actual elimination of WMD will fulfill the President’s strategic vision of denying the enemy the use of these weapons. While other branches of the U.S. armed forces are capable of securing WMD at the point of identification, the U.S. Army Chemical Corps serves as the primary organization for training partner forces in the doctrine and techniques necessary to eliminate residual stockpiles.

Dictatorial regimes sometimes fail; and when those regimes are in possession of WMD, the ultimate fate of the WMD stockpiles must be determined. The world community must neutralize the threat, and the question of host nation invitation versus forceful occupation is irrelevant. The first WMD elimination course of action to be considered generally involves civilian contracting. However, there are several flaws associated with that approach, including the time, cost, and responsibilities involved under the *Convention on the Prohibition of the Development, Production, Stockpiling, and Use of Chemical Weapons and on their Destruction* (commonly known as the *Chemical Weapons Convention*).<sup>5</sup> And due to the time involved and the site security implications, the concept of using U.S. Soldiers to eliminate WMD fails to meet the WMD elimination intent. The solution is to train host nation forces in WMD elimination operations and to place the responsibility for destruction on the *Chemical Weapons Convention* signatory authority. A successful model already exists.

## The Mission in Iraq

From 2009 to 2010, during Operation Iraqi Freedom, the Chemical Corps—with the expertise of technical escort units; combat support companies; nuclear research and operations officers; the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS); and the U.S. Department

of State—established a framework with which to build a foreign nation’s chemical elimination capability. The success of the program served as a guide for future Phase IV (stability) operations.

Before Iraq became a signatory to the *Chemical Weapons Convention*, U.S. technical escort units were responsible for rendering-safe or destroying recovered munitions and for preventing the tampering of them. However, Iraq signed the *Chemical Weapons Convention* in 2009, thereby agreeing to relinquish its use of chemical weapons and to destroy its existing chemical stockpiles—thousands of which remained from the days of the Saddam Hussein regime. Iraq’s new commitment to the destruction of existing WMD required that the WMD elimination mission fall to the Iraqi army. Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Response Team (CRT) 1, Alpha Company, 110th Chemical Battalion (Technical Escort), 48th Chemical Brigade, trained the Iraqi Chemical Corps on WMD elimination and discovered trends that will serve the Corps as it meets its directed role in the area of WMD elimination.

In early 2009, the Iraqi Ministry of Defense established the first Iraqi Chemical Defense Company (CDC), which was colocated with the new Iraqi Chemical Defense School at Camp Taji. The purpose of the CDC was to bring Iraq into full compliance with the *Chemical Weapons Convention*. In theory, establishing the CDC was easy, but there were many implementation challenges. The Iraqi Chemical Corps had not existed since the fall of Saddam Hussein; therefore, proper training was unavailable due to a decade of gaps in resources (not to a lack of knowledge among senior Iraqi chemical officers). The reestablished Iraqi Chemical Corps consisted of the Iraqi chemical soldiers of Hussein’s chemical corps (a group of battle-hardened, senior Iraqi chemical officers with little operational experience since the Iraqi invasion of Kuwait in 1990) and other chemical soldiers who had recently completed Iraqi basic training and had received no instruction beyond that of basic chemical protection. Neither of these groups of soldiers had received training on the proper elimination of chemical weapons.

### ***Mission Planning***

After analyzing the situation, CRT 1 determined that to reach the initial operational capability required for compliance with the *Chemical Weapons Convention*, the Iraqi CDC must be able to proficiently conduct the following key tasks:

- Identify munitions.
- Render-safe munitions.
- Transport munitions safely.
- Destroy munitions.
- Complete *Chemical Weapons Convention* compliance documentation, and submit it to the Organisation for the Prohibition of Chemical Weapons.

CRT 1 and the Multinational Security Transition Command–Iraq concluded that the Iraqi mission-essential task list should include the following tasks:

- Establish a program of instruction.
- Train the Iraqis on basic chemical operations.
- Train the Iraqis on chemical munitions elimination.
- Train the Iraqis on proper equipment maintenance.

Once these objectives were met, the Iraqi CDC would reach initial operational capability. CRT 1 presented the training plan to the Iraqi CDC commander; and with his approval, U.S. Army CBRN Soldiers initiated the first host nation training for the WMD elimination effort.

For 6 months, CRT 1 trained the Iraqi CDC on chemical weapon elimination. The training of the Iraqi CDC was completed in early 2010, and partnership operations were passed to the 22d Chemical Battalion in mid-2010. The mission proved to be extremely successful—the overall CDC attendance rate was 90 percent, the average score for written tests was more than 85 percent, and the Iraqi army was instilled with the ability to eliminate the very cause of the 2003 invasion of Iraq. How was the CRT 1 operation able to succeed? The answer lies with the highly trained, skilled, and motivated Soldiers of the Chemical Corps.

### ***Lessons Learned***

There were several lessons learned during the CRT 1 mission to train the Iraqi Chemical Corps on WMD elimination. The lessons were not restricted to the U.S. Army Chemical Corps, the U.S. Army, or the military in general. A whole-of-government approach is the appropriate scheme. However, the responsibility for training partner soldiers ultimately lies with CBRN Soldiers.

- **Program of instruction.** Establishing a program of instruction may sound simple, but it is actually complex. The USACBRNS played an instrumental role in the development of the curriculum, sending a contact team to Baghdad with lesson plans and working diligently to develop a training regimen. Still, U.S. doctrine does not necessarily fit well with foreign militaries. Trainers must review each document and slide to verify that the foreign military possesses the referenced equipment and is capable of using it. Nongovernmental organizations should not be relied on to assist with training. If the environment is seen as remotely dangerous (as was the case in Baghdad in 2009), nongovernmental organizations often refuse to participate. Future Phase IV trainers should focus on each aspect of the lesson plan and leverage the Maneuver Support Center of Excellence (MSCoE) for assistance.
- **Translation.** The most challenging aspect of training proved to be language translation. After perfecting the lesson plan in English, CRT 1 employed interpreters, who translated the slide packet to Arabic. The CRT 1 noncommissioned



officers then diligently worked to ensure that classroom verbal communication and equipment descriptions met teaching requirements. Many English words do not translate well into Arabic, so U.S. supervision was required to ensure that proper meanings were conveyed. In addition, most Iraqi students cannot read Arabic numbers. This meant that the students were unable to interpret data obtained from radiac meters. The translation workload was immense, and CRT 1 noncommissioned officers put forth extreme effort to meet the daunting translation requirements. Some classes were translated only hours before the actual training took place. Lessons for future Phase IV chemical planners include completing translation efforts early and ensuring that interpreters are capable of operating the training equipment. Allowing interpreters to operate the equipment and then write the proper translation saves a great deal of time and ultimately results in the development of additional trainers.

- **Training.** The CRT 1 trainers had few issues with the Iraqi CDC students. The students were intelligent and motivated. They attended classes an average of 7 hours each day, proving to be attentive and hard-working. The CRT 1 trainers did one very important thing to help achieve this result—they became friends with the Iraqis before becoming their teachers.

This approach is recommended in cultural awareness training, but the implementation is difficult. Phase IV operations involve partnering with and training a foreign military; Phase IV trainers must understand the culture of the host nation, and they must treat each partner soldier with dignity and respect. In no other forum is the professionalism of the American noncommissioned officer more prevalent, or is he or she more challenged, than in training a foreign soldier. American Soldiers with Type A personalities may be motivated, but that personality could crush the will of a foreign student. However, all CRT 1 Soldiers were committed to the mission and it was only through their efforts that the training succeeded. Finally, a capstone event is critical in determining the performance of the WMD elimination element.

- **Equipment.** The world community abhors the mere possession of WMD; therefore, a partner nation may be under United Nations-imposed sanctions when U.S. forces enter into stability operations. These sanctions prevent the import of WMD elimination products since these dual-use products can also be used in the production of WMD. And signing the *Chemical Weapons Convention* does not necessarily result in the sanctions being lifted because the partner nation must demonstrate intent and capability to meet treaty obligations.

This was the case in Iraq in 2009. Whereas the United Nations lifted most of the sanctions in 2003, restrictions preventing the importation of chemical protective items and bulk chemicals remained in place. This was a major issue since hands-on CDC training proved difficult without the

necessary equipment. The solution required leveraging the U.S. Embassy in Iraq to acquire an exception to policy from the U.S. State Department—a process that proved extremely slow. To complete the mission, CRT 1 used its own commercial, off-the-shelf equipment and the 101st Chemical Company shipped protective gear from its location in Kuwait. A whole-of-government approach is needed to overcome sanction issues, and early U.S. Department of State interaction is critical to the WMD elimination effort.

## Conclusion

The former Iraqi CDC has now grown to a regiment. This type of occurrence is likely the norm, rather than the exception, in nations that have a history of WMD production. Today, the Iraqi Chemical Corps has been reborn from a force that deployed chemical weapons on its Iranian neighbor to a force that eliminates these terrible weapons. This is a credit to the Iraqi nation and to the efforts of the U.S. Army Chemical Corps.

The Chemical Corps has a role to fulfill across the entire spectrum of the joint model of operations. For decades, the Corps focused on Phase III (conflict) operations, desiring to contribute to the victorious conclusion of hostilities. However, the future of the Corps involves fulfilling the strategic goal of the U.S. government, not only during major hostilities, but also during preconflict and postconflict operations. By training partner chemical soldiers on methods of eliminating their own WMD stockpiles, the Chemical Corps reduces the threat of the use of the world's most dangerous weapons.<sup>6</sup>

The U.S. Army Chemical Corps is responsible for the critical WMD elimination training of partner nations. The Corps must take the lessons that have been learned and actively apply them to all subsequent operations.

## Endnotes:

<sup>1</sup>*National Security Strategy*, May 2010.

<sup>2</sup>*Ibid.*

<sup>3</sup>*Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, DOD, January 2012, <[http://www.defense.gov/news/Defense\\_Strategic\\_Guidance.pdf](http://www.defense.gov/news/Defense_Strategic_Guidance.pdf)>, accessed on 9 May 2013.

<sup>4</sup>*Ibid.*

<sup>5</sup>*Convention on the Prohibition of the Development, Production Stockpiling, and Use of Chemical Weapons and on Their Destruction*, Organisation for the Prohibition of Chemical Weapons, 29 April 1997.

<sup>6</sup>*National Security Strategy*, 2010.

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# CBRN Information Systems Tools

*By Sergeant First Class Shawn T. Watterson and Mr. Charles Klaus*

This article provides the chemical, biological, radiological, and nuclear (CBRN) community with an update on CBRN information systems that are available to the warfighter and describes the proper employment of the Joint Warning and Reporting Network (JWARN) and the Joint Effects Model (JEM). The JWARN and JEM, which reside on mission command host systems or network tactical-through strategic-level servers, provide full-spectrum CBRN situational awareness for commanders and staffs.

## **System Descriptions, Deployment Status, and Operational Use**

The JWARN and JEM are two separate and distinct Department of Defense (DOD)-accredited software applications that provide critical technology for CBRN warning, reporting, modeling, and simulation. These software programs can be used independently or as a single, integrated capability to provide greater situational awareness for commanders and staffs.

### **JWARN**

The JWARN, which meets the standards outlined in Allied Tactical Publication (ATP)-45, *Warning and Reporting and Hazard Prediction of Chemical, Biological, Radiological, and Nuclear Incidents (Operator's Manual)*,<sup>1</sup> provides a comprehensive analysis and response capability that helps minimize the effects of CBRN and toxic industrial material hazards. The program integrates weather, terrain, and other key information and provides CBRN staff with an automated system for analyzing, evaluating, and predicting CBRN/toxic industrial material hazards for the development of contingency and operation plans. JWARN correlates sensor alert information and observation reports to provide warnings to affected units and to supply data to the common operational picture. The JWARN is also capable of archiving data for future use.

A JWARN full-deployment decision was made for the Global Command and Control System–Army, the Global Command and Control System–Joint, the Command and Control Personal Computer, and the Joint Tactical Common Operating Picture Workstation in 2010. The JWARN is currently under development as a Web application for the Joint Project Manager Information Systems; it is expected to receive a full-deployment decision and to be deployed to the field in late fiscal year 2014.

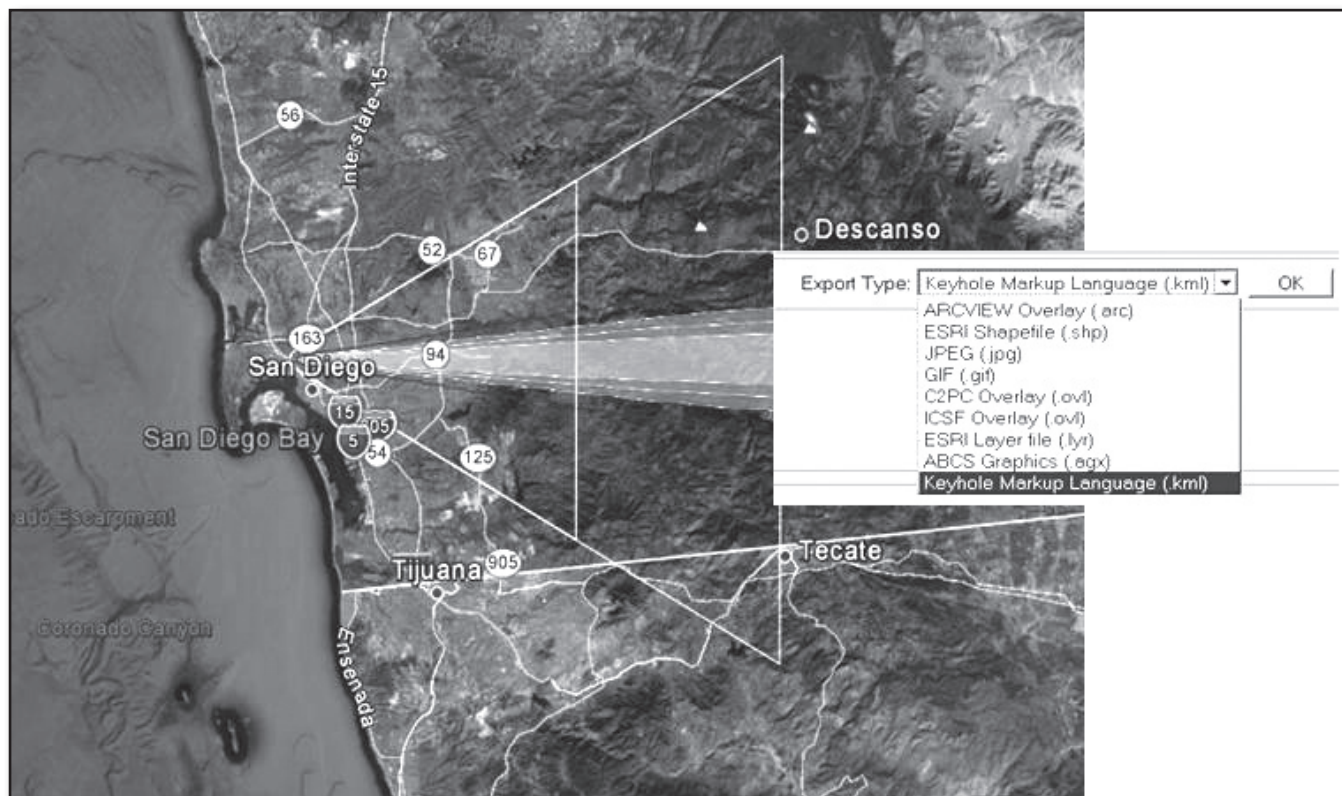
### **JEM**

JEM is a modeling and simulation Web application program that provides the warfighter with the most mature technology available to address a wide spectrum of potential CBRN and toxic industrial material threats. The best science and technology models available from legacy programs such as the Hazard Prediction and Assessment Capability (HPAC); a downwind distance atmospheric dispersion model (D2PUFF); and Vapor, Liquid, and Solid Tracking (VLSTRACK) have been incorporated into JEM. JEM can be used in stand-alone mode as an analytical tool for planning and training purposes or as an integrated capability on mission command systems so that CBRN staffs can contribute to the common operational picture (see Figure 1, page 38). JEM is capable of modeling CBRN hazards for the following operations: active and passive defense, counterforce, urban environment, building interior elimination, incident, high-altitude release, accident, and human performance degradation.

JEM full-deployment decisions were made for the stand-alone version of the program in 2008 and for the Global Command and Control System–Army, the Global Command and Control System–Joint, the Command and Control Personal Computer, and the Joint Tactical Common Operating Picture Workstation in 2010. New JEM capabilities (civilian population, estimated source location, human effects, infectious and contagious disease) are currently undergoing improvements and integration into Joint Program Manager Information Systems; JEM is expected to receive a full-deployment decision and to be deployed to the field in late fiscal year 2015.

All branches of the armed forces—primarily CBRN staffs—use JWARN and JEM. When used as an integrated CBRN warning and reporting entity, JWARN and JEM provide operational commanders with a comprehensive analysis, response, and predictive modeling capability to mitigate the effects of CBRN/toxic industrial material hazards. Integrated JWARN/JEM entities are fielded at the battalion level and above—and to some specified teams (civil support teams, special forces teams) to provide CBRN staffs with an automated CBRN warning and reporting system. This allows CBRN reports to be processed and disseminated with greater speed and accuracy.





**Figure 1. JEM graphic output as displayed on the common operational picture, with inset showing available export file types that warfighters can use to display a plume**

### **Training/Help Desk**

For more detailed information about CBRN information systems; instructions on how to obtain training, troubleshooting, and help desk support; and a list of upcoming training events, visit the Joint Acquisition CBRN Knowledge System Web site at <http://www.jpeocbd.osd.mil/packs/Default.aspx?pg=60>.

### **Conclusion**

JWARN and JEM are DOD-accredited programs that can be used independently or as integrated capabilities with mission command systems. The programs are currently fielded on select Service and joint mission command systems. JEM is also available as a stand-alone capability throughout the Service and joint communities. As separate and distinct programs, JWARN and JEM provide CBRN warfighters with the unique capability to support operational commanders and staffs, allowing for detailed, time-sensitive situational awareness.

### **Endnote:**

<sup>1</sup>ATP-45, *Warning and Reporting and Hazard Prediction of Chemical, Biological, Radiological, and Nuclear Incidents (Operator's Manual)*, North Atlantic Treaty Organization, 1 July 2011.

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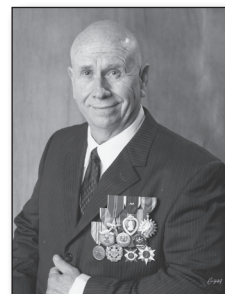
# 2013 Honorees of the Chemical Corps

## Hall of Fame



Major General Stephen V. Reeves (Retired) developed and fielded more than 100 new systems, vaccines, pharmaceuticals, and medical devices for the Chemical Corps. He also established the Joint Program Executive Office for Chemical and Biological Defense and led it for 7 years. He is currently a strategic consultant.

Staff Sergeant John E. Thiel (Retired) served two tours in Vietnam, with the 26th Chemical Detachment and the 184th Chemical Platoon, and was severely wounded during both tours. He taught at several universities and is currently developing histories of the units in which he served.



## *Distinguished Member of the Corps*



Colonel Raymond T. Van Pelt (Retired) served as Deputy Commanding Officer, 20th Support Command (Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives). He currently works as a senior advisor for the 20th Support Command.

Colonel Stanley Q. Tunstall (Retired) served as Chief, Full Dimension Protection Division, Department of the Army G-8. He is currently a senior chemical, biological, radiological, and nuclear defense and logistics manager for Camber Corporation.



Colonel Thomas F. Woloszyn (Retired) served as Chief of Staff and Director, Chemical and Biological Defense Programs, Office of the Secretary of Defense (Acquisition, Technology, and Logistics). He currently serves as Deputy Director, Concepts and Capabilities, U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency.

Command Sergeant Major Bobby J. Vinson (Retired) served as Command Sergeant Major, 31st Chemical Brigade. He has been working in the educational field for more than 30 years and continues to mentor first sergeants and sergeants major in the 31st Chemical Brigade.



Master Sergeant Richard P. Mettke (Retired) served as Chief, Program Management Office, Directorate of Combat Development, U.S. Army Chemical School. He currently serves as Vice President and Manager, Protection Readiness Operations Product Line, Battelle Memorial Institute.





# USAR CBRN: Building a Unity of Command

*By Colonel Clark H. Summers*

According to the U.S. Department of Defense (DOD) strategic review for 2012,<sup>1</sup> threats to U.S. strategic interests are expected to increase throughout the world; at the same time, military readiness resources are expected to be reduced. The primary missions of the U.S. Army, as designated by the Secretary of Defense, include countering weapons of mass destruction and providing defense support of civil authorities. Chemical, biological, radiological, and nuclear (CBRN) units provide the critical CBRN capabilities necessary to meet the demands of these missions. Therefore, CBRN units must be operationally effective.

Operational and strategic CBRN capabilities are the most Reserve Component (RC)-based elements of the mobility-counter mobility-survivability force structure. Two of the three U.S. Army Forces Command (FORSCOM) CBRN brigades belong to the RC—one to the U.S. Army Reserve (USAR) and one to the Army National Guard (ARNG). Of 15 available CBRN battalions, only five belong to the Regular Army, while eight belong to the USAR and two belong to the ARNG. And 58 of the 78 Army CBRN companies (or 74 percent) belong to the RC.<sup>2</sup>

The U.S. Army fundamentally relies on the RC—especially the USAR—to accomplish its countering weapons of mass destruction and defense support of civil authorities missions. Therefore, it is essential that USAR CBRN forces be constituted, organized, and led to achieve the maximum “bang for the buck.” The alignment of these forces is currently inconsistent with the force structure described in USAR Command operational and functional command doctrine. Thus, the forces are not well prepared to meet CBRN operational demands. The establishment of a general officer level command and the realignment of existing USAR CBRN forces within this new organization would better meet functional and operational requirements.

## Problem

Under the current USAR force structure, there is no doctrinally coherent operational and functional command tasked with performing training readiness oversight of CBRN units or with ensuring the effective integration of the units (as operational reserve) with Regular Army CBRN assets.

Within the USAR Command major subordinate command structure, the 335th Signal Command (Theater) has been assigned mission command responsibility for the 415th Chemical Brigade (including four CBRN battalions) and four other CBRN battalions aligned under two other separate U.S. Army Signal Corps units. Undoubtedly committed to providing the best leadership and support possible, the 335th Signal Command is not organized or resourced to provide the effective mission command of CBRN forces. Its current mission command structure is fully engaged in meeting critical operational- and strategic-level signal operations. It is unreasonable to expect the 335th to simultaneously provide effective mission command to a completely separate, technically demanding functional area.

This situation is exacerbated by the lack of a cohesive operational control strategy to integrate USAR CBRN assets under the 20th Support Command (SUPCOM)—the principal Regular Army CBRN force provider and operational headquarters.<sup>3</sup> Although USAR CBRN assets conceptually fall under the 20th (as necessary to execute global CBRN and countering weapons of mass destruction missions), there is no formal coordination between the various headquarters to plan, program, or train together. Furthermore, the 20th SUPCOM is the only CBRN headquarters within any of the Army components that can serve as a joint task force headquarters for CBRN operations. Once deployed, there is no other standing mission command element available to serve as an operational reserve.

Neither the 335th Signal Command nor the 20th SUPCOM is staffed or resourced to provide the supervision and mentoring

necessary for career or professional development. The 335th lacks authorized personnel with CBRN expertise, and the 20th lacks institutional knowledge and a cultural understanding of the USAR.<sup>4</sup> Although individual senior CBRN leaders throughout the U.S. Army Chemical Corps sincerely try to guide, mentor, and shape the body of CBRN professionals, their efforts lack a unifying vision. Recent initiatives by the commander of the Chemical Corps to correct the situation are welcome; however, as an element of the U.S. Army Training and Doctrine Command, the commander has no formal direct command relationship with FORSCOM units. As a result, coordination between Regular Army and USAR CBRN forces is often ad hoc and situationally dependent.

The problem can be summarized with the following points, and addressing these challenges will require creative, no-cost or low-cost solutions that will expand operational capabilities, improve readiness, and enhance mission command:

- USAR CBRN forces are not functionally or operationally organized according to USAR Command doctrine.
- USAR CBRN forces do not necessarily train as they are expected to fight; resources are not used as efficiently or effectively as they should be.
- USAR CBRN forces, despite constituting most of the available CBRN forces, are not configured to serve as operational reserves for the most significant Regular Army CBRN headquarters inside or outside the continental United States.
- Coordination between Training and Doctrine Command and FORSCOM Chemical Corps elements is not optimal.

### Proposed Solution

The course of action proposed to address this problem involves establishing a USAR operational command and aligning all USAR CBRN units under the new command. Using the 20th SUPCOM modified table of organization and equipment as a template, a brigadier general level command would be established and the eight USAR CBRN battalions would be aligned into two 4-battalion brigades—the 415th Chemical Brigade and another CBRN brigade. Funding and resources for the proposed CBRN command would be derived from the existing budget and manning authorizations for the USAR.

The application of this proposed solution can be discussed in terms of the doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF) framework:

- **Doctrine.** The establishment of a CBRN command would be consistent with current USAR doctrine for aligning forces by operational and functional commands. This doctrine, which has been in effect since 2006, has proven to be successful as the USAR has evolved into an operational reserve.
- **Organization.** New organizational models would not be necessary. The 20th SUPCOM modified table of organization and equipment would provide the

organizational template for the USAR CBRN command. The current 415th Chemical Brigade modified table of organization and equipment would apply to the other, newly organized CBRN brigade.

- **Training.** No new tactical (brigade and below) training requirements would be identified. The existing training base (Training and Doctrine Command) could use the USAR-specific knowledge base (the 75th and 102d Divisions) to provide training to the new USAR CBRN command to reach headquarters, joint task force, initial operational capability within 12 months following activation and full operational capability within 24 months following activation.
- **Materiel.** The cost associated with the required sourcing of the new CBRN command with communications and knowledge management systems comparable to those of the 20th SUPCOM would represent the second-largest, single cost (after facilities). The new command would likely need to make use of existing systems and commercial, off-the-shelf equipment during the initial operational capability period.
- **Leadership and education.** Leadership and education benefits could potentially be realized along multiple lines of operation:
  - The new CBRN command would have training readiness oversight for all USAR CBRN assets. This would result in improved efficiency in the planning, programming, budgeting, and execution of training resources through a single headquarters to Training and Doctrine Command (102d Division; U.S. Army Chemical, Biological, Radiological, and Nuclear School [USACBRNS]).
  - The addition of the new CBRN brigade would reduce the span of control required for each brigade commander (with the 415th and the new CBRN brigade each having four subordinate battalions), increasing command contact time and attention by at least 25 percent.
  - The new USAR CBRN command would allow for the operational control of the direct reporting unit to FORSCOM as the operational reserve for the 20th SUPCOM, ensuring the readiness of leadership structures when needed.
  - Additional CBRN formations would provide the structure necessary for improved professional development and for opportunities for branch-qualifying assignments, which are currently very limited. Qualified CBRN officers and noncommissioned officers must be developed and retained as the senior leaders of the Chemical Regiment.
  - The presence of a general officer who, on behalf of USAR CBRN forces, serves as the senior leader (advocate and subject matter expert) would ensure the USAR maintenance of senior leader representation, comparable with the Regular Army and the ARNG.
- **Personnel.** The total end strength would be neutral. New mission command organizations would be sourced and fielded from current major subordinate command



formations and the relocation of active USAR and ARNG personnel, Department of the Army (DA) civilians, and military technician billets. Most of the manning would be based on troop program unit and individual mobilization augmentation assignments.

- **Facilities.** Two new headquarters facilities would be required—one for the new CBRN command and one for the new CBRN brigade. If existing facilities at installations such as Fort Leonard Wood, Missouri, and Joint Base Lewis-McChord, Washington, could be re-missioned, the cost impact could be minimized. In particular, reflagging the existing 209th Regional Support Group as the foundation of the new USAR CBRN brigade would be beneficial with regard to available manning authorization and the use of the headquarters facilities at Fort Leonard Wood. If re-missioning were not possible, temporary buildings would be used until new USAR facilities could be planned, budgeted, and built. Adequate facilities would represent the largest single cost of implementing this course of action.

### Future Direction/Long-Term Focus

The proposed solution represents one possible course of action for improving the operational capability of the USAR CBRN force and, by extension, strengthening the Chemical Regiment as a whole. The Chemical Corps and USAR Command should work together to thoroughly develop this and other possible courses of action to address the problems and shortfalls described. Evaluative criteria must be established—particularly with regard to cost/benefit analyses and the identification of acceptable levels of strategic risk. Although a challenge, it would be possible to complete staffing by the end of the current fiscal year.

### Results/Conclusion

Like its Regular Army counterparts, the USAR has successfully restructured itself throughout the past 12 years to meet the challenges of transformation while at war. In becoming the operational reserve that was originally envisioned in the Abrams Doctrine<sup>5</sup> of the 1970s, the USAR has used a framework of operational and functional commands to achieve the levels of readiness and flexibility necessary to meet the strategic needs of the Army. But to best meet the missions and demands identified in the *National Military Strategy to Combat Weapons of Mass Destruction*,<sup>6</sup> the time has come to align and integrate all USAR CBRN forces into a single, operational-level command. Such a USAR CBRN command would provide the training readiness oversight necessary to meet operational requirements, supply depth in operational reserve, and improve the quality and professionalism of the Chemical Corps. 

#### Endnotes:

<sup>1</sup>*Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, DOD, January 2012, <[http://www.defense.gov/news/Defense\\_Strategic\\_Guidance.pdf](http://www.defense.gov/news/Defense_Strategic_Guidance.pdf)>, accessed on 9 May 2013.

<sup>2</sup>Stew Magnuson, “National Guard, Army Chemical

Units Criticized for Being Untrained, Unprepared,” *National Defense*, June 2007, <<http://www.nationaldefensemagazine.org/ARCHIVE/2007/JUNE/Pages/NationalGuardArmyChem2618.aspx?PF=1>>, accessed on 23 April 2013, (Numbers are based on CBRN forces currently assigned to FORSCOM: the 48th Chemical Brigade, with five CBRN battalions [Regular Army]; the 415th Chemical Brigade and the 335th Signal Command, each with four CBRN battalions [USAR]; and the 31st Chemical Brigade, with two CBRN battalions [ARNG]).

<sup>3</sup>“U.S. Army 20th Support Command: About Us,” <<http://www.cbrne.army.mil/aboutus.htm>>, accessed on 23 April 2013.

<sup>4</sup>This statement is based on the author’s experience in seeking to integrate training readiness oversight between Regular Army and RC formations. Common examples of this lack of cultural understanding include Regular Army misunderstandings about training resource limitations on RC units, ignorance concerning RC Army force generation planning timelines, and unawareness of RC demands for balancing concurrent military and civilian career expectations.

<sup>5</sup>In the final days of the Vietnam War, General Creighton Abrams (Chief of Staff of the Army, 1972–1974) initiated a strategy whereby the U.S. Army would never again go to war without a substantial mobilization of the Army RC. Although never formally articulated as a specific doctrine, this strategy has become widely known and accepted as the Abrams Doctrine.

<sup>6</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, Chairman of the Joint Chiefs of Staff, Washington, D.C., 13 February 2006, <[www.defense.gov/pdf/NMS-CWMD2006.pdf](http://www.defense.gov/pdf/NMS-CWMD2006.pdf)>, accessed on 19 April 2013.

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# *The Need for Cross-Cultural Strategies and Cohesiveness Within CBRN Security Partnerships*

By Dr. Boshra N. EL-Guindy

**W**e live in an era of persistent conflict. The complex challenges to U.S. security cannot be mastered solely by military means or through unilateral U.S. actions. Therefore, it is important that the U.S. Army continue multifaceted efforts that significantly contribute to the improvement of U.S. relations with allied and partnered nations and enhance the ability of the United States and its allied and partnered nations to meet those security challenges.

As the Army continues its current security cooperation programs and activities (including collaborative efforts with selected international partner armies to build capacities in underdeveloped regions and countries) and continues to assess its effectiveness, it is looking for opportunities to build partnership capacities and relationships. For example, the Army has instituted a management information system that will significantly improve our Nation's ability to integrate Army and geographic combatant command security cooperation activities.

The *National Military Strategy to Combat Weapons of Mass Destruction* calls for a proactive counterproliferation strategy to defend against and defeat missiles and weapons of mass destruction (WMD) before they are unleashed.<sup>1</sup> In fact, the entire philosophy of combating WMD is changing from one of passively reacting to a WMD attack to proactively and aggressively targeting and engaging WMD threat networks before the enemy can mount an attack. Under the battle command functional area, a commander could plan counterforce missions (active defense, WMD interdiction, WMD elimination, offensive operations) to engage enemy WMD threats, proactively deterring and preventing WMD attacks. Such a comprehensive, proactive approach addresses the importance of engaging actual or potential WMD actors as early as possible during the stages of WMD capability development. Earlier engagements result in improved security against the threat of WMD employment and in reduced costs for achieving that security.

From an Army operational and tactical combating WMD operations perspective (and using the mission area strategy outlined in the *National Military Strategy to Combat Weapons of Mass Destruction*), early engagement means first investing in nonproliferation missions (threat reduction, security cooperation, partner activities) whenever possible.

If nonproliferation efforts fail and strategic interests dictate the removal of a WMD threat, the next engagement priority involves counterforce missions. Although the Army plays a role in each of these counterforce missions, it currently serves as the U.S. Joint Forces Command primary capability provider for WMD elimination operations—and it is likely to continue in that capacity. In the event that an adversary attempts or manages to use WMD, the missions of passive defense, active defense, and consequence management rise to the forefront.

At this advanced stage of WMD capability development, early engagement involves working with partners and allies. Developing increased cooperation and an improved ability to conduct multinational combating WMD operations not only produces tangible benefits with regard to mission execution, but also strengthens our message to potential adversaries that their development or use of WMD will not achieve the desired effects. At the operational and tactical levels, aspects of early engagements with partners and allies include actions to plan and conduct multinational training exercises, share responsibilities and equipment, and provide technical assistance. Achieving increased levels of interoperability within multinational battle command systems and specialized combating WMD sensors and equipment assists in early engagement.

In this partnership environment, it is likely that all echelons will incorporate multinational force elements in major combat and irregular warfare campaigns—and that they will encounter cultural differences among friends, combatants, and non-combatants. And the more significant the differences between Army capabilities and those of our potential partners, the more difficult it may be to effectively harmonize multicultural operations. An understanding of the cultural differences that exist is essential. While integration efforts are especially beneficial in the area of information sharing, requirements for collaborative planning, common data standards, and multilevel security must be resolved. These requirements will form the basis for any capability statements.

## **Role of Culture in Effective Security Partnerships**

Just as culture affects how a military organization conducts its internal affairs, it also influences the organization's relations with allies. Cultural variations among militaries can inhibit the



effectiveness of coalitions during conflicts. However, during recent conflicts (such as the Gulf War and the wars in Bosnia, Afghanistan, and Iraq), significant collaboration among allied forces was required—and coalition warfare will likely continue to be the norm in the 21st century.

Historical examples illustrate the importance of cooperation among militaries from different nations and societies. During World War I, a lack of cultural awareness and understanding in the German-Ottoman alliance severely weakened the coalition. The German military, staffed with a largely homogenous Prussian officer corps with limited exposure to other people, alienated its Turkish allies through an attitude of cultural superiority and heavy-handed treatment. Kaiser Wilhelm II's misunderstanding of Islam led him to encourage the Turkish elite to call for a *jihad*<sup>2</sup> against Christians, with the goal of energizing the Ottoman war effort against France, Russia, and the United Kingdom. The declaration fell well short of achieving the intended effect and, instead, spurred massive religious persecution within the Ottoman Empire and atrocities against Christian Armenians and Syrians. This demonstrates that leaders should be aware of the risks in manipulating cultural sensitivities that they do not fully understand. On the other hand, the alliance between the United Kingdom and Japan during World War I is an example of a successful partnership based on shared cultural understanding. British military leaders, who had inherited a long tradition of cross-cultural communication due to their country's imperial experience, were well equipped to coordinate operations with their Japanese allies against German forces on the Shandong Peninsula in northeastern China in 1914. The Japanese commander, Lieutenant General Mitsuomi Kamio, spoke excellent English and closely cooperated with his British counterpart, Brigadier General Nathaniel Walter Barnardiston. Mutual respect at the highest levels produced good relations, which were especially important since British troops served under Japanese command. This confirms that, to understand foreign militaries, leaders must view them through the prisms of their own foreign cultures. The relationship between U.S. forces and the Chinese Nationalist Army during World War II serves as a case in point. Supplementing unit counts with extra ghost soldiers who did not actually exist, demanding kickbacks for services, and selling intelligence to the enemy were commonplace in the Chinese army. And these actions often undermined its combat performance. American officers stationed in China were reluctant to give in to corruption, and they refused to play along. This led to a great deal of friction between the allies and, ultimately, to the failure to defeat the Imperial Japanese Army on the Asian mainland.

Senior military officials need to work with their foreign counterparts—not attempt to impose arbitrary orders. And the Gulf War proved that militaries of radically different cultures can work well together. The coalition commander, General Norman Schwarzkopf, diligently worked to comply with the cultural values of the Saudi Arabian hosts by ordering his troops to refrain from culturally offensive practices such as consuming alcohol or holding public religious services. The respect of the Americans for the cultural, ethnic, and racial differences of the Saudis went a long way toward limiting

potential sources of friction. For their part, the Saudis relaxed a few of their more stringent laws to accommodate the military needs of the coalition. For example, they allowed female Soldiers to drive military vehicles on Saudi roads. Military training and education also played a role in improving relations between the allies. The Saudi military commander, General Khalid bin Sultan, had attended the U.S. Army Air Defense Artillery School, the U.S. Army Command and General Staff College, and the U.S. Air Force Air War College.

Culture helps explain the world view and motivations of potential adversaries. It is also undoubtedly a key determinant in the evolution of military affairs. It underpins the effectiveness of the military and its ability to create operational doctrine. Culture is also a major factor in managing relations between allies. During the two decades since the end of the Cold War, political and military leaders have ignored the impact of culture on military affairs, leading to negative results. In seeking the establishment of more security partnerships, the U.S. military should enhance the cultural education of its midgrade and senior leaders and take this intellectual capability into greater account when making promotion decisions.

### **Benefits of Effective Chemical, Biological, Radiological, and Nuclear Security Environments**

There are several significant benefits to cultural improvements in the multilevel chemical, biological, radiological, and nuclear (CBRN) security environment.

#### ***Regular Consultations and Sharing of Information and Intelligence***

The sharing of information among national authorities, partners, and international organizations, where appropriate, helps foster a common understanding of potential WMD proliferation threats from state and nonstate actors; encourages members, partners, and other nations to fully comply with arms control, disarmament, and nonproliferation obligations; and enhances the global response to WMD. This multiorganizational and intercultural dimension plays an important role in the efficiency and effectiveness of WMD interventions. Significant problems in cooperation arose from cross-cultural differences between the Anglo-Dutch parties involved in the United Nations Peacekeeping Force in Cyprus in 1964 and between U.S.-Danish Stabilization Force in Bosnia participants in 1996. Likewise, tensions emerged between troops as a result of cross-cultural differences during the interactions of German, Danish, and Polish troops in two North Atlantic Treaty Organization institutions in Poland. It is evident that organizational culture is one of the key influences in the quality of cross-cultural interaction.

#### ***Safety and Security of CBRN Materials***

The presence of CBRN materials remains tentative in many parts of the world. In such threatening environments, multi-level security partnerships could explore means to complement existing bilateral, multilateral, and regional cooperative threat reduction programs to secure and reduce global stocks

of CBRN materials; prevent their theft or illicit transfer by terrorists and criminal syndicates; and preclude terrorists from gaining the know-how to develop WMD. Countries already assist their allies in the safe destruction of stockpiles and surplus munitions, conventional weapons, and land mines. Security cooperation allows advice, training, and other multilateral assistance available to partners seeking to secure, reduce, or destroy stockpiles of these materials to remain within the limits of available resources.

Compared to a monocultural environment, the multinational security environment calls for additional leadership competencies—especially when it comes to interpersonal communication, problem solving, and decisionmaking. National cultural differences between different international troops are barriers to a successful coalition mission command. Senior leaders must implement a system that functions throughout the different cultures in order to efficiently work toward the desired goal. One of the most important factors in determining the success of such a system is good interpersonal interaction between leaders at all levels and from all nationalities. There are several reasons for this. First, the structure, goals, and orders issued must be correctly interpreted and understood by each member of the force. In addition, no one should be offended by the way in which people interact with one another. Furthermore, general commitment, trust, and motivation should be presupposed. Misunderstandings regarding general structures, roles, and duties are likely to cause the greatest number of problems. An adequate, sensitive, cross-cultural interaction is important between people from very different continents and between troops from similar Western societies. The management of cross-cultural differences is crucial to the success of the engagement.

### ***Value Added for Nonproliferation Efforts***

Partnerships can foster the development of allied capabilities to impede or stop the trafficking of WMD, related materials, and means of delivery. This type of security cooperation could bring military capabilities to bear to aid in the—

- Detection, identification, monitoring, surveillance, and tracking of WMD acquisition and development activities.
- Performance of information operations aimed at discouraging, disabling, and denying the proliferation of WMD.
- Conduct of information exchange and intelligence fusion among allies and partners to produce actionable intelligence for nonproliferation activities.

Partnerships can also be used to develop and promote common operational standards, concepts, doctrine, and tactics and to encourage or facilitate relevant training and exercises. Security cooperation can also serve to enhance international outreach to foster related partner capabilities and enhance the global response to WMD proliferation.

Individual cross-cultural competencies are the basis for adequate command and leadership behavior in this international security setting. A combination of cultural knowledge, mindfulness (the ability to pay attention to cross-cultural cues

in a reflective and creative way), and behavioral skills leads to effective cultural understanding. Although cross-cultural competencies are important for leadership in monocultural and intercultural environments, international cross-cultural environments are more complex and, therefore, require a different approach with regard to certain aspects of leadership. To be cross-culturally competent, leaders must be able to describe and explain their own culture, the foreign culture, and the cross-cultural interaction. They must have a polycentric view, a tolerance for ambiguity, the aptitude for cross-cultural training, and some knowledge of the foreign language. These competencies allow for improvements in the communication between, and interaction among, people of different cultures.

### **Value of Nonmilitary Partnerships**

Nonmilitary partnerships and alliances can yield valuable strategies and resources that could contribute to efforts to prevent WMD proliferation. For instance, through its expertise in ocean shipping, an alliance might gain situational awareness regarding potential proliferation transit routes. Upon request from a nation, alliances could offer access to civil expertise to assist in the planning and decisionmaking process. In addition, civil experts might offer advice on other relevant topics such as national border control, port security, and sensitive-material protection.

Differing situations will likely influence personal behavior in cross-cultural interaction settings. There are specific characteristics involved in each situation; therefore, a situational assessment should be conducted. Leaders must often act under ambiguous situations, so situational assessments are regularly based on fragmentary information. Under such conditions, there seems to be a tendency to fall back on proven behaviors and problem-solving strategies. But these behaviors and strategies are frequently based on monocultural experiences in different environments and may, therefore, be inappropriate for the situation at hand. The interpretation of a specific situation is strongly influenced by the cultural background of the problem solver. And the more dangerous the situation, the more influential the problem solver's cultural background—since his or her behavior will be less controlled and based more on basic cultural patterns. Therefore, a leader's adoption of new cultural patterns of behavior and new problem-solving strategies based on accurate situational assessments is the key to making sound decisions.

### **Monitoring and Analysis of Global Trends in Research and Development**

CBRN security partnerships can play a crucial role in monitoring and analyzing global trends in research and development and can continue to encourage scientific study and innovation. Security partners might consider intensifying outreach efforts toward scientists, universities, think tanks, and similar national and international entities and fostering public-private partnerships. Because cross-cultural interactions are at the heart of international CBRN interventions, the organizations involved in these interventions must foster an open, polycentric approach with regard to interpersonal interactions and problem



solving. Effectiveness in these settings can only be achieved if organizations are willing to incorporate this approach into their governing statements and to adjust the organizational structure where necessary.

The selection of an internalization strategy is one of the most important organizational responsibilities. When it comes to internalization, organizations typically follow one of the following strategies:

- **Cultural dominance.** Organizations that subscribe to the cultural dominance strategy are geared toward the traditional culture; new, incoming cultures must adjust to the existing culture.
- **Cultural compromise.** Under the strategy of cultural compromise, attempts are made to integrate different rules, regulations, and attitudes into a new organizational structure and management style.
- **Cultural synergies.** The development of a completely new organizational structure and management style based on the different cultural backgrounds of various players and interest groups comprises the strategy of cultural synergies.

Leaders act according to the organization's chosen internalization strategy for cross-cultural interaction. Organizational culture is one of the main factors that determines the quality of intercultural interaction.

Other important organizational responsibilities include selecting the right people and preparing them for leading roles. The selection of leaders based on cross-cultural capabilities; deployment-related, cross-cultural training programs; or opportunities for informal interaction between people from different cultures has an impact on individual leadership effectiveness. However, the type and quality of cross-cultural training are also important. And depending on the mission, cultural distance, and previous experience, the cross-cultural training may vary from a short, factual information session about another culture to ongoing, more experiential training including factual knowledge instruction; cultural awareness training; cultural sensitivity training; language training; or advanced, short-term placements to be completed before taking on a leading role in a new environment.

### **Deterioration of Political Situations in Potentially Aggressive Environments**

Deteriorating political situations, such as the current situation in Syria, might result in the threat or use of WMD, and partners might receive an intelligence alert indicating that a terrorist possesses CBRN materials or WMD. Should measures to de-escalate the crisis prove ineffective, the partners must be prepared to employ military options in response to the threat. Defenses to defeat the use of WMD; to protect forces, populations, and territories against WMD attacks; and to explore ways to assist partners could be employed. Coalition security forces are to be ready to disrupt WMD delivery, respond to the source of a WMD attack, mitigate the effects of the WMD attack, and dismantle or destroy residual WMD capabilities to prevent follow-on attacks.

Changes in political circumstances or the general situational context influence leader behavior. This means that the teams in which the leaders are integrated are more important than ever. Successful cross-cultural teams develop and define a new group culture and promote mutual trust between team members from different cultures. This cross-cultural harmony provides members with the will and ability to communicate with each other and to share their problem-solving and decisionmaking skills. The more culturally harmonious the group, the more likely the group members are to cooperate and make the right decisions. Individuals tend to override their personal motivations and develop realistic alternatives and solutions when they are deeply involved in a cohesive, within-group decisionmaking process.

### **Conclusion**

The principles for sustainable international cooperation are of fundamental importance in CBRN security. The combination of all regional, national, and international CBRN components and the incorporation of these components in a comprehensive approach are effective strategies in dealing with CBRN threats. This requires a high level of collaboration among various, potential stakeholders.

Within this international security environment, cross-culturally competent leader behavior depends on individual cross-cultural competencies, the ability to understand and manage the dynamics of a team, the capacity to work in a given organizational structure and to improve that structure whenever possible, an understanding of the importance of the general context of the mission, and the ability to make appropriate situational assessments.

Most multinational teams, units, or organizations involved in CBRN interventions are subjected to an environment of utmost urgency and life-threatening risks from the first day of deployment. Therefore, Soldiers and leaders must be prepared for, and rehearsed in, cross-cultural interaction, problem solving, and command execution. Providing training in cross-cultural and problem-solving skills is a promising way to increase leaders' ability to act effectively in this complex environment.

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<sup>1</sup>*National Military Strategy to Combat Weapons of Mass Destruction*, Chairman of the Joint Chiefs of Staff, 13 February 2006.

<sup>2</sup>A *jihad* is a holy war that is waged as a religious duty on behalf of Islam.

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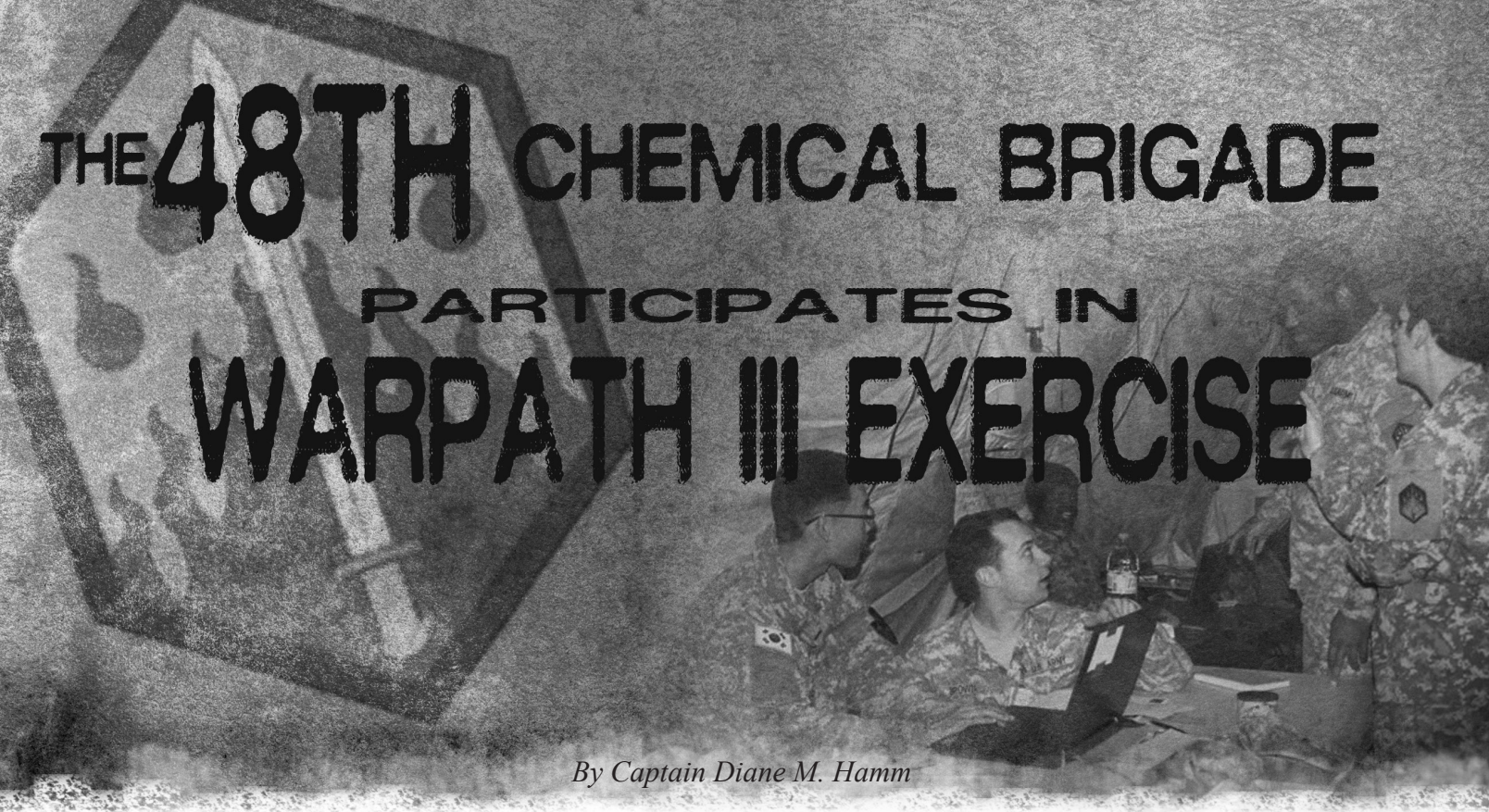
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# THE 48TH CHEMICAL BRIGADE

## PARTICIPATES IN

# WARPATH III EXERCISE



*By Captain Diane M. Hamm*

### Introduction

The battle captain thunderously announces, “Attention in the TOC,” and a Soldier double-times it to the tactical operations cell (TOC). There, Command Post of the Future operators home in on their computer screens, digitally recording key events of the last 24 hours and building a comprehensive picture showing where dismounted reconnaissance forces detected the use of a nerve agent in an underground facility. Suddenly, the word *gas* repeatedly blares from the speakers that are located in each tent, and the TOC pulses with Soldiers donning protective masks. All of this happens in a matter of minutes—on the Korean Peninsula, where the balance between peace and aggression is indeterminate.

Due to the specialized capabilities of the 48th Chemical Brigade “Spartans” from Fort Hood, Texas, elements of the brigade were called upon to deploy to the Korean Peninsula in support of the 2d Infantry Division (2ID) mission to maintain peace and stability in the region through participation in the most recent Warpath III exercise, held from October to December 2012. Warpath III served as the first culminating combined training exercise for the 48th Chemical Brigade—and as the brigade’s first certification exercise—since its inception in 2007. The exercise provided the ideal opportunity for Soldiers of the 48th to practice battle drills; TOC operations; and chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) skills to ensure that they are better postured to accomplish their mission.

According to Command Sergeant Major Kenneth M. Graham, command sergeant major of the 48th Chemical

Brigade, the need for specialized brigade assets and capabilities continues to grow. He stated, “The Chemical Corps [and the brigade] have come a long way, and we now stand ready to counter any CBRNE threat anywhere in the world. . . . The recent training opportunities provided by the 2ID in South Korea have allowed us to validate and improve the construct of the Army’s only operational and deployable chemical brigade, and I am excited to be a part of this great endeavor.”

The Spartan team previously deployed to Korea to participate in the 2011 Warpath III exercise—also in support of 2ID. That year, the 48th Chemical Brigade conducted the largest strategic movement, deployment, and operation in the history of the brigade. In an operation that was truly unique in terms of breadth, complexity, and participation, the brigade assessed its role in impacting CBRNE defense.

This year, the brigade understood and prepared for its role as an enabler by conducting multiple videoconferences with 2ID and the brigade higher headquarters at 20th Support Command (CBRNE), training Soldiers on the Command Post of the Future and other operating systems, participating in related peninsular exercises such as Operations Ulchi Freedom Guardian and Key Resolve, and conducting a week of instruction to provide the brigade staff with a starting point regarding weapons of mass destruction (WMD). Therefore, the brigade was better prepared to provide CBRNE subject matter expertise, allowing CBRNE assets and capabilities to be more effectively employed by combatant commanders.

While last year’s exercise underscored the importance of technical core competencies, warrior tasks, and the synchronization of unified land operations, this year’s exercise



focused on TOC operations—specifically on the ability of the brigade staff to serve as CBRNE experts and to provide a mission command node for technical and operational CBRNE assets while still functioning as a brigade staff. The ability of the staff to understand and apply specialized warfighting functions to the battle was at the forefront of the mission. Key training objectives were to—

- Deploy the brigade staff and certify the staff on its warfighting functions.
- Conduct collaborative and parallel planning with 2ID and 20th Support Command staff to support chemical, biological, radiological, and nuclear (CBRN) operations and counter improvised explosive device operations.
- Provide a realistic exercise environment in which to conduct CBRN operations.
- Advise and enable combatant commands by providing CBRNE subject matter expertise.
- Integrate and synchronize with U.S. and Republic of Korea (ROK) counterparts in combating CBRNE threats and adequately employing CBRNE assets.
- Conduct the mission command of subordinate exploitation, elimination, and counter improvised explosive device operations of WMD and time-sensitive targets.
- Refine tactics, techniques, and procedures for conducting CBRNE operations (with guidance from 20th Support Command operational controllers).

## Execution

The overall objective of the Warpath III exercise was to assess unit interoperability and responsiveness in combating WMD and CBRNE threats through command post operations. The establishment of a common operational picture across multiple commands and cultures was critical in ensuring an understanding across the battlespace. Elements of the Headquarters and Headquarters Detachment, 48th Chemical Brigade; the 23d Chemical Battalion “Lions;” and the 110th Chemical Battalion (Technical Escort) “Iron Dragons” deployed throughout South Korea in support of this unified land operations exercise.

Key leaders of the 24th ROK Battalion, the specialized ROK Army CBRNE forces, and Korean Augmentation to the U.S. Army translators were fused within the Tactical Assembly Area Spartan TOC located at Camp Red Cloud, South Korea, in the vicinity of the 2ID area of operations. This provided the 48th Chemical Brigade with the knowledge of ROK CBRNE assets and the ability to bridge



**Soldiers from the 48th Chemical Brigade discuss equipment with a Korean soldier.**

the English and Korean languages. Elements from the 303d Ordnance Battalion (Explosive Ordnance Disposal [EOD]), headquartered at Schofield Barracks, Hawaii, were also incorporated into the Spartan team. They provided EOD subject matter expertise and oversight to ensure that EOD assets were leveraged throughout the mission. U.S. and ROK Soldiers (in conjunction with senior leaders and visiting dignitaries) also exchanged recommendations regarding CBRNE defense operations to better interdict the enemy and defend against CBRNE threats.



**A Korean soldier demonstrates robotic equipment during the Warpath III exercise.**

The 20th Support Command provided other key assets that were critical to the mission. Nuclear disablement teams—consisting of nuclear physicists, chemical specialists, EOD experts, and counterproliferation subject matter experts—contributed to the mission by focusing on the “bigger picture” WMD programs: the infrastructure, facilities, and key individuals involved. In dismantling the WMD network,





**Soldiers from the 48th Chemical Brigade train during the Warpath III exercise.**

the nuclear disablement team contributed to disabling the threat of proliferation. In addition, a CBRNE Analytical and Remediation Activity light, mobile, expeditionary laboratory chemist was on hand to analyze chemical and biological samples, paint a more accurate picture of enemy capabilities, confirm or deny specific enemy capabilities, and mitigate the threat to our Soldiers.

Meanwhile, the team from the 23d Chemical Battalion was colocated with the 1st Armored Brigade Combat Team, 2ID, at Camp Casey, South Korea. The 23d Chemical Battalion Lions were to serve as the resident CBRNE experts. Through the initial stages of the military decisionmaking process with the 1st Armored Brigade Combat Team, the Lion team analyzed each phase of the armored brigade combat team scheme of maneuver and made recommendations to the commander regarding how to effectively task-organize the correct CBRNE defense force packages with each of the subordinate maneuver battalions. By establishing customized CBRNE asset packages based on the requirements for each phase of the mission, the Lion team was able to support the requirement of each maneuver phase. This systematic approach required the development of balanced CBRNE company teams (including mounted Stryker Nuclear, Biological, and Chemical Reconnaissance Vehicles), dismounted CBRN reconnaissance and surveillance teams, decontamination teams, EOD teams, and other conventional capabilities.

Lieutenant Colonel Dale Crockett, commander of the 23d Chemical Battalion, discussed the importance of the role of the 23d in ensuring that CBRNE assets were properly integrated and employed. He said, "The Warpath experience proved extremely valuable for the entire formation. The battalion served as the CBRNE subject matter expert within the [brigade combat team] command post and provided the commander with advice and assistance on the unique aspects of CBRNE operations."

The 110th Chemical Battalion Iron Dragons were operationally controlled by, and integrated with, the 102d ROK Infantry Regiment in Incheon, South Korea. The Iron Dragon team provided the 102d ROK Infantry Regiment with CBRNE expertise throughout the exercise. Immediately upon their arrival, the Iron Dragons began establishing an operational TOC; they achieved initial operating capability on 27 October 2012. The 110th executed the mission command of a technical escort headquarters with two CBRNE response teams, one EOD company, and two combat support CBRN companies. The battalion also task-organized its assets using the company team approach and employed mounted CBRN reconnaissance platoons, dismounted reconnaissance and surveillance platoons, the CBRNE response team, and EOD assets in support of the 102d ROK Infantry Regiment tactical maneuver plan to facilitate force protection and enhance the freedom of maneuver for U.S. and ROK forces.

All warfighters assigned to the peninsula conducted 24-hour battle staff operations in a field environment. These operations included collecting standard casualty reports; backfilling CBRN Soldiers; assessing battle damage; sustaining specialized, commercial, off-the-shelf equipment throughout the complex battlefield; performing in-depth intelligence analyses of scenario-based WMD sites and trends; and maintaining critical communications architecture in the midst of enemy infiltration. Throughout the mission, features of combined and joint warfighting were executed according to ROK-U.S. Combined Forces Command operations plans.

On the importance of sharing knowledge with the 110th Chemical Battalion, Colonel Se-Woo Pyo, commander of the 102d ROK Infantry Regiment, said, "We are very satisfied with the support we have received from the 110th Chemical Battalion. They are essential elements of my regiment's operations. We have worked very closely to exchange opinions on how we conduct operations." In addition, the 110th Chemical Battalion emphasized the importance of the mission as a tool to bridge the cultural boundaries and to promote a further understanding of CBRNE operations. Command Sergeant Major Victor Whitehorn, 110th Chemical Battalion, stated, "We are thankful for this opportunity to deploy the battalion here to the Korean Peninsula. We are also thankful for the relationship we have built with the staff of the 102d ROK Regiment. . . . This exercise allowed us to see ourselves and better prepare for follow-on missions."

## Observations

Many successes and challenges were revealed through brigade participation in the Warpath III exercise. As a result, areas to be sustained or improved were identified.

### *Areas to Sustain*

Areas identified to be sustained include—

- **Weekly in-process review.** To address issues as they were identified, the information operations officer (G-7) from 2ID and representatives of the 20th Support Command conducted weekly in-process reviews via

secure videoconferences with the 48th Chemical Brigade. It is recommended that in-process reviews continue to be conducted as a component of the exercise battle rhythm and that they be held on a weekly or biweekly basis. The brigade site identification should be maintained as a standard tie-in to allow for constant participation.

- **Torch party/advanced echelon.** In contrast to the minimally manned parties of the previous Warpath III exercise, the 48th Chemical Brigade deployed robust torch parties and advanced echelons to meet 2ID requirements, while 2ID continued steady-state operations throughout the non-duty days leading up to the commencement of this year's Warpath III. The coordination and preparation of systems accomplished once these parties/echelons arrived enabled the brigade to rapidly become established and integrated before combat operations began. It is recommended that robust torch parties and advanced echelons continue to be deployed to ensure that sufficient leadership and manpower are available to address issues before the deployment of the main body. A liaison officer should be provided to the 2ID staff and should deploy as a component of the torch party in support of brigade deployment planning.

### ***Areas to Improve***

The Spartan team identified several challenges during this culminating combined training exercise. Many of the challenges were associated with the coordination and planning that were necessary before arriving on the peninsula. The challenges included—

- **Staff integration (horizontal).** The staff provides the commander with the means to visualize, synchronize, and de-conflict operations. This means that the staff section must maintain situational awareness of ongoing operations and be prepared to integrate staff functions in order to provide the commander with flexible options. Several communications challenges related to the composition and layout of the TOC were identified. It is recommended that face-to-face coordination be conducted when practical. The number of injection points (Microsoft® SharePoint, Ventrilo, Command Post of the Future) can be overwhelming, and various technical difficulties are possible. Units should use integrated plans and operations teams to conduct rapid operation evaluations so that they can provide the commander with clear options for leveraging combat power at the decisive point.
- **Knowledge management.** Tactical command, control, communications, computer, and intelligence systems have evolved significantly since the days of frequency modulation (FM) communication. The use of multiple systems (SharePoint, Combined Information Data Network Exchange Source, Command Post of the Future) across multiple networks (nonsecure Internet protocol router, secure Internet protocol router, Combined Enterprise Regional Information Exchange) improves the ability to share information, but creates a more complex environment in which to navigate information. It is recommended that a brigade knowledge management standing operating

procedure be developed to standardize how products are disseminated. In addition, a steady-state tactical assistance center network, an exercise network, and a prepopulated operations network should be developed to prevent the confusion of exercise products with real-world products.

- **Key enabler integration.** During the Warpath III exercise, the 48th Chemical Brigade integrated and employed task-organized enablers—including an EOD team, a nuclear disablement team, and a CBRNE Analytical Remediation Activity light, mobile, expeditionary laboratory. Although each organization provided a subject matter expert, those experts were not incorporated into plans and activities until after deployment. Because the brigade staff had never before integrated such capabilities, they had a minimal understanding of the formations. This impacted the brigade ability to effectively plan for employment and sustainment. It is recommended that technical enablers be integrated into exercises at the brigade level and below and that predeployment staff training be conducted to educate the staff and to support the development of preexercise plans. Enablers should also be included in academics and in deployment operations.

### ***Conclusion***

As long as the CBRNE threat persists, the opportunity to standardize CBRNE defense tactics, techniques, and procedures will be available in the Korean theater of operations. The Korean theater of operations also implicitly serves as grounds for the 48th Chemical Brigade to evaluate and improve its manning requirements, its training requirements, and the equipment necessary for its Soldiers to accomplish their unique, complex mission. According to Colonel Maria Zumwalt, commander of the 48th Chemical Brigade, “Other theaters are looking at Korea to set the standard for CBRNE operations. As the CBRNE subject matter experts in this exercise, we need to ensure that we have a greater understanding of the Korean theater and our own unique capabilities.”

The Warpath III exercises, along with constant communication between participating units before and after the training events, are necessary to ensure that lessons learned are applied and expanded for future task forces and that best practices continue to be routinely executed. In addition, conducting combined and integrated training with sister U.S. and ROK units is essential to increasing interoperability and adaptability. Maximizing knowledge across national and cultural boundaries and exploring ways that we can employ others' assets ultimately improve mission readiness and determine how we decisively respond to evolving WMD threats.

**Acknowledgement:** The 110th and 23d Chemical Battalions contributed to this article. 

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# The Critical Nature of Building Biodefense Capacity in Africa

By Ralph F. Kerr, Ph.D.

The interest in Africa's possible role in bioterrorism has resulted in the expansion of U.S. government efforts to help improve biosafety, biosecurity, and biosurveillance capacities on the continent. In November 2010, Senator Richard Lugar and a group of Department of Defense (DOD) officials visited the Republics of Kenya and Uganda to observe research laboratories and "to highlight the regional bioterrorism threat."<sup>1</sup> Mr. Andrew Weber, the Assistant Secretary of Defense for Nuclear, Chemical, and Biological Defense Programs, described the situation as a "nexus between active terrorist groups, ungoverned spaces, and human and animal health laboratories working on endemic diseases, some of which are rare and exotic."<sup>2</sup> He went on to explain, "We want to make sure that the pathogens that could be used by terrorists are better secured and that there's an enhanced capability to monitor infectious disease outbreaks."<sup>3</sup> This article explains why U.S. government officials are concerned about the potential biothreat emerging from Africa, provides a historical perspective of biothreat-related events on the continent, and describes efforts that are underway to improve biodefense capabilities there.

## The African Biothreat Concern

Senior government officials are concerned that terrorists may gain control of some of the world's deadliest diseases (anthrax, Ebola, Marburg, plague, Rift Valley fever) due to lax security at a number of the laboratories where samples of disease-causing bacteria and viruses are studied and stored.<sup>4</sup> Two examples of deadly diseases—anthrax (caused by the bacteria *Bacillus anthracis*) and Ebola (hemorrhagic fever virus [HFV])—illustrate why these disease-causing agents are of so much concern.

Anthrax is a natural pathogen that commonly affects hoofed, grazing animals such as cattle, sheep, horses, pigs, and goats. It has long been associated with tanners and the wool-processing industry. About 300 hippopotamuses were killed in an anthrax outbreak in Queen Elizabeth Park, Uganda, in 2004; the deaths of four people were attributed to contaminated meat from that outbreak.<sup>5,6</sup> During that same year in Zimbabwe, about 1,500 animals and at least three people died from anthrax when the disease was passed from livestock to humans.<sup>7</sup> However, anthrax is very rare in developed countries so any outbreak would be highly suspect for terrorism.<sup>8</sup>

Anthrax is the most studied of all biological warfare agents.<sup>9</sup> Numerous countries have investigated its potential use as a biological weapon; it was the centerpiece of the biological warfare programs for the United States and the former Soviet Union.<sup>10</sup> And the possible use of anthrax by terrorists is of major concern to government officials, public leaders, and health care providers—especially in light of the

2001 Amerithrax mail attacks,<sup>11,12</sup> which resulted in 22 cases of anthrax and led to five deaths.<sup>13,14</sup> These anthrax letter attacks produced public fear and caused significant economic loss due to cleanup costs.<sup>15</sup> Senator Lugar's office was located in the Hart Senate Office Building, just two floors below the area where one of the anthrax-laced letters was opened in 2001. The incident, which resulted in a 3-month shutdown of the building,<sup>16</sup> may partially explain Senator Lugar's commitment to the expansion of biosafety, biosecurity, and biosurveillance efforts in Africa through the Nunn-Lugar Cooperative Threat Reduction Act.<sup>17</sup>

Ebola—named after the river in the Democratic Republic of the Congo (formerly Zaire), Africa, where the disease was first recognized—is a severe, often fatal disease that affects humans and other primates (monkeys, gorillas, chimpanzees). The disease was initially acknowledged in 1976 and has appeared sporadically ever since. The exact origin, locations, and natural habitat of Ebola remain a mystery; but based on available evidence and the nature of similar viruses, researchers believe that it is zoonotic (animal-borne), with four of the five subtypes occurring in hosts that are native to Africa. A fifth subtype (Ebola-Reston) was isolated from infected monkeys that were imported to the United States from the Philippines.<sup>18,19</sup>

Since it was first recognized in 1976, 2,288 human cases of Ebola have been reported and 1,532 deaths have occurred (resulting in an overall death rate of 67 percent).<sup>20</sup> During the past decade, nine separate outbreaks of Ebola have occurred in Africa, resulting in a total of 745 human cases and 506 deaths (an overall death rate of 68 percent).<sup>21</sup> Cases of Ebola have been confirmed in several African countries, including the Democratic Republic of the Congo, Gabon, Sudan, the Ivory Coast, Uganda, and the Republic of the Congo. Ebola may be the primary biothreat in Africa; its effects on humans are gruesome:

*Within days of infection, Ebola patients suffer from soaring temperature and excruciating pain. The throat is so sore that swallowing anything, including one's own saliva, is intolerable. The connective tissue liquefies. The skin becomes like soft bread—it can be spread apart with one's fingers, and blood oozes out. Victims choke as the sloughed-off surfaces of their tongues and throats slide into their windpipes. Every body orifice bleeds. Even the eyeballs fill with blood that leaks down the cheeks. ... In the final stages, victims become convulsive, splashing blood all around as they twitch, shake, and thrash to their deaths. ... For Ebola, there is no cure, no treatment.<sup>22</sup>*

Ebola is just one of several HFVs that are considered significant threats for use as biological weapons, due to their

potential to cause widespread illness and death. In the past, several HFVs were weaponized by the United States, the former Soviet Union, and possibly North Korea.<sup>23</sup> In 1993, Shoko Ashahara—the nearly blind leader of the Aum Shinrikyo cult, which was responsible for the 1995 sarin gas attack on the Tokyo, Japan, subway system—led a group of 16 cult doctors and nurses to what was then Zaire “to learn as much as possible about and, ideally, to bring back samples of Ebola virus.”<sup>24, 25, 26</sup> The cult had also experimented with anthrax before the Tokyo subway attack. Cult members had tried to cause a major biological emergency by spraying anthrax spores from the top of an eight-story building in eastern Tokyo.<sup>27, 28</sup> Although the Aum Shinrikyo attempts to create bioweapons failed, the threat of others trying to use anthrax, Ebola, or other diseases from samples collected in Africa is still significant. The rise of al-Shabab, a powerful Islamist insurgent group that claimed responsibility for the deadly suicide bombings in Kampala, Uganda, during the World Cup Soccer Finals in July 2010, has refocused U.S. security attention and interest in the area.<sup>29</sup> The militant Islamist organization of al-Qaida, which sought to develop biological weapons in Afghanistan—and which some believe is still pursuing them—has established cells in East Africa.<sup>30, 31, 32</sup> According to Senator Lugar, when combined with radicalization among sectors of the Muslim population, these al-Qaida-linked cells are the most serious East African threat to the United States and its allies.<sup>33</sup>

### **A Dark, Biothreat-Related History**

Senator Lugar’s trip report from Africa states that “the Soviets obtained many samples used for biological weapons from Africa.”<sup>34</sup> Although samples of deadly diseases may still be of concern—especially if they should fall into the hands of terrorists—they are not the only source of biothreat concern within Africa; experts in the research and development of biological weapons may also be a problem. A 2002 *Wall Street Journal* article described Dr. Mike Odendaal, a former South African biowarfare scientist who once worked on Project Coast (a secret chemical and biological weapons program), and others like him as possibly being “ripe for recruitment.”<sup>35</sup> From 1985 to 1993, Odendaal worked on developing biological assassination weapons for apartheid South Africa at Roodeplaat Research Laboratories,<sup>36</sup> which was a military front company primarily responsible for the biological warfare aspects of Project Coast.<sup>37</sup>

Project Coast began in the early 1980s, under the apartheid era South African government led by Prime Minister P.W. Botha. The program was initiated under the aegis of the special forces, South African Defense Forces, to thwart the perceived threat of Soviet-backed Marxist guerillas or regimes in the region and black nationalists who were at home in South Africa.<sup>38</sup> Major Wouter Basson, a doctor who has been described as a “master manager of people,” was placed in charge of this clandestine program, leading it from the 1980s through the early 1990s.<sup>39</sup> In managing the program, Dr. Basson established an elaborate network of procurement and financial front companies. Scientists working for these companies developed and tested numerous disease-causing biological

agents (including agents for anthrax, botulism, cholera, plague, and salmonellosis), which became part of the arsenal in the assassination program of the apartheid government. Project Coast came to light during the Truth and Reconciliation Commission hearings that were conducted in 1998. Claims were made against Project Coast scientists, accusing them of developing lethal biological weapons to target political leaders of the African National Congress. These weapons reportedly included infertility toxins (to be added to water sources for the purpose of causing blacks—but not whites—to become incapable of reproduction) and skin-absorbent poisons (which could be applied to clothing).<sup>40</sup> During the hearings, the possible anthrax poisoning of cattle was also revealed. Some people believed that the major anthrax outbreak which occurred in Rhodesia (now Zimbabwe) before Project Coast was established was the work of South African special operations, but the allegation was never proven. Other biowarfare-related events that took place in southern Africa were dismissed, as they were not within Truth and Reconciliation Commission jurisdiction. During its 1993 regime transformation, the South African government dismantled Project Coast.<sup>41, 42, 43</sup> Although Dr. Basson was acquitted in 2003,<sup>44</sup> he and his former Project Coast colleagues (who allegedly used biological agents) left a lasting impression on those who are still concerned about the potential of biological warfare proliferation.

### **Measures to Improve Biosafety, Biosecurity, and Biosurveillance**

The Nunn-Lugar Cooperative Threat Reduction Program (CTRP) was established more than 20 years ago—primarily to help secure and destroy nuclear weapons and capabilities; however, it has also resulted in some reduction in chemical and biological threats. So far, the program has amassed an impressive record, including the—

- Deactivation of 7,599 strategic nuclear warheads.
- Destruction of 791 intercontinental ballistic missiles.
- Elimination of 498 intercontinental ballistic missile silos.
- Destruction of 180 intercontinental ballistic missile mobile launchers.
- Elimination of 670 submarine-launched ballistic missiles.
- Elimination of 670 submarine-launched ballistic missile launchers.
- Destruction of 33 nuclear submarines capable of launching ballistic missiles.
- Elimination of 155 bombers.<sup>45</sup>

The Nunn-Lugar CTRP is now being expanded to confront bioterrorism threats on a broader level.<sup>46</sup> The expansion represents a logical continuation of program successes—especially considering current concerns about biological terrorism. Beyond nuclear, biological, and chemical elimination efforts, the Nunn-Lugar CTRP has also worked toward the reemployment of scientists and facilities once associated with weapons of mass destruction activities to help accomplish peaceful research initiatives. For example, 58,000



former weapons scientists now conduct peaceful work for the International Science and Technology Center.<sup>47</sup>

The DOD supported numerous activities within the framework of the threat reduction program, primarily reducing threats in the former Soviet Union. Activities that significantly contributed to the reduction of biological threats include the elimination of infrastructure, the completion of biosafety and biosecurity upgrades and related training, and the performance of cooperative research. The DOD initially referred to these inclusive activities (and associated program administration requirements) as the Biological Threat Reduction Program (BTRP); the activities are now collectively referred to as the Cooperative Biological Engagement Program (CBEP).<sup>48</sup> In 2007, Congress called upon the National Academy of Sciences to conduct a study of BTRP activities and to recommend additional activities to be carried out in the future. It became clear that, based on the resulting discussions and six major National Academy of Science recommendations, the BTRP was considered a program that had merit and was worthy of support for its continuation and expansion.<sup>49</sup>

In the fiscal year 2011 budget estimate submission for the CTRP, the Defense Threat Reduction Agency (DTRA) requested the expansion of efforts to build more biosafety, biosecurity, and biosurveillance capacity in Africa. In the past few years, by reaching out to Pakistan and selected areas of Asia and Africa, CTRP initiatives have shifted toward biological threat reduction.<sup>50</sup> The CBEP (formerly the BTRP) has strived to—

- Consolidate and secure dangerous pathogen collections in central reference laboratories or repositories.
- Improve the safety and security of biological facilities.
- Enhance the capability of partner states to detect, diagnose, and report bioterror attacks and potential pandemics.
- Engage scientists with biological weapons expertise in research that supports force protection, medical countermeasures, diagnostics, and modeling.

In addition, ongoing work emphasizes cooperation and collaborative research among institutes and scientists to improve the ability to detect and diagnose highly infectious disease outbreaks and related biothreats.<sup>51</sup>

An expansion beyond former Soviet Union countries—sought largely to support the President’s National Strategy to Counter Biological Threats<sup>52</sup>—is accomplished by supporting the “seven objectives to PROTECT<sup>53</sup> against misuse of the life sciences to support biological weapons proliferation and terrorism.”<sup>54</sup>

In 2010, the BTRP/CBEP received authorization to expand its efforts to Africa—first setting its sights on Kenya and Uganda. As they seek to continue cooperative biological engagements on the continent in the next few years, DOD officials are pursuing three courses of action:

- **Conduct a regional effort.** The regional effort would be conducted in cooperation with the East Africa Community—the regional, intergovernmental organization

of Kenya, Uganda, the United Republic of Tanzania, and the Republics of Rwanda and Burundi. The program would improve disease detection, diagnostics, and reporting among the five countries—where previous endemic disease outbreaks have challenged prompt medical responses. An added benefit of improving disease detection, diagnostics, and reporting within the East Africa Community would be the establishment of close working relationships among the health ministries of the various countries. Should a bioterror-related incident (such as the theft of a disease sample) occur, the health ministers would know one another and would, therefore, be better prepared to effectively work through an incident.

- **Establish a center of excellence.** A center of excellence would be established in South Africa, where an initial, low-level capability within the construct of CBEP would be developed for the purpose of taking advantage of the country’s role in nonproliferation measures to influence other countries. South Africa was once involved in an offensive weapons of mass destruction program, which has since been dropped. Some officials believe that this could serve as a positive example for others in the region, dissuading them from pursuing such capabilities.
- **Persuade Djibouti to build a biosafety level 2 (BSL-2) laboratory.** If Djiboutians could be persuaded to build a lower-level BSL-2 laboratory in lieu of the BSL-3 laboratory that they desire, the U.S. government would be able to help them with the research and storage capability necessary to reduce the occurrence of dangerous diseases.<sup>55</sup>

## Conclusion

According to DOD officials associated with these efforts, engaging leaders from various African countries serves to support U.S. national interests by pursuing the curtailment of biological threats that might find their way to America and also fosters long-term relationships with African countries.<sup>56</sup> Those relationships may open further avenues for reducing the potential threat of bioterrorism on the continent and create other opportunities for cooperative protection measures. Not only are these the message and position of the DOD, but they also appear to be part of a serious whole-of-government approach. In his July 2011 testimony before the House Subcommittee on Africa, Global Health, and Human Rights, Mr. Donald Yamamoto—acting assistant secretary of the U.S. Department of State—mentioned DOD cooperative threat reduction efforts in East Africa. Mr. Yamamoto emphasized that “without effective cooperation within the U.S. government, we will not be able to address the issues of terrorism, piracy, and conflict in places like Sudan, Somalia, and the Democratic Republic of the Congo.”<sup>57</sup> This theme, the concern of bioterrorism emanating from Africa, and the need to expand cooperative engagement may have best been described by Senator Lugar just before his November 2010 trip, when he stated, “Building capacity for biosurveillance in Africa is essential. However, it will be a complex undertaking. This arena is filled with international public health programs, indigenous efforts, and multiple [non-governmental organizations]. As the [CBEP] moves forward,

it must be deliberate and clear on its end goals. Early efforts must focus on the most critical security risks and on deepening the community's understanding of the landscape in order to develop affordable and sustainable long-term regional strategies."<sup>58</sup>

#### Endnotes:

<sup>1</sup>Kevin Wickel, "Cooperative Threat Reduction: Reducing Biological Risks in East Africa," 9 March 2011, <<http://www.stimson.org/spotlight/cooperative-threat-reduction-reducing-biological-risks-in-east-africa/>>, accessed on 5 February 2013.

<sup>2</sup>Mike Pflanz, "Why Senator Lugar Is Worried About Bio-terrorism in East Africa," *The Christian Science Monitor*, 12 November 2010, p. 5, <<http://www.csmonitor.com/World/Africa/2010/1112/Why-Senator-Lugar-is-worried-about-bioterrorism-in-East-Africa>>, accessed on 13 February 2013.

<sup>3</sup>Ibid.

<sup>4</sup>Wickel, 2011.

<sup>5</sup>Richard Lugar, "Countering More Threats, Faster," *Nunn-Lugar Global: The Africa Mission*, November 2010, pp. 1–5, <<http://www.foreign.senate.gov/publications/download/nunn-lugar-global-the-africa-mission-november-2010>>, accessed on 18 March 2013.

<sup>6</sup>Meera Selva, "Hippo Deaths Raise Fears of Anthrax Epidemic," *The Independent*, 12 November 2004, <<http://www.independent.co.uk/news/world/africa/hippo-deaths-raise-fears-of-anthrax-epidemic-532913.html>>, accessed on 19 February 2013.

<sup>7</sup>Ibid.

<sup>8</sup>Richard L. Crowell, "Likely Pathogens in Biological Terrorism," Chapter 10 in *Countering Biological Terrorism in the U.S.: An Understanding of Issues and Status* (by David W. Siegrist and Janice M. Graham), Oceana Publications, Dobbs Ferry, New York, 1999, p. 131.

<sup>9</sup>Anthony H. Cordesman, *Terrorism, Asymmetric Warfare, and Weapons of Mass Destruction: Defending the U.S. Homeland*, Praeger Publishers, Westport, Connecticut, 2002, p. 153.

<sup>10</sup>Eric Croddy, *Chemical and Biological Warfare: An Annotated Bibliography*, Copernicus, New York, 2002, p. 206.

<sup>11</sup>Thomas V. Inglesby et al., "Anthrax as a Biological Weapon, 2002: Updated Recommendations for Management," *The Journal of the American Medical Association*, Vol. 287, No. 17, 1 May 2002, <<http://jama.jamanetwork.com/article.aspx?articleid=194886>>, accessed on 19 February 2013.

<sup>12</sup>"Amerithrax or Anthrax Investigation," Federal Bureau of Investigation, <<http://www.fbi.gov/about-us/history/famous-cases/anthrax-amerithrax>>, accessed on 19 February 2013.

<sup>13</sup>Deepak K. Bhalla and David B. Warheit, "Biological Agents With Potential for Misuse: A Historical Perspective and Defensive Measures," *Toxicology and Applied Pharmacology*, 15 August 2004, p. 73.

<sup>14</sup>Inglesby et al., 2002.

<sup>15</sup>Stephen H. Goldstein, "Anthrax at Brentwood: The Cleanup," *Homeland Defense Journal*, March 2004, p. 27.

<sup>16</sup>Lugar, 2010, p. 4.

<sup>17</sup>Nunn-Lugar Cooperative Threat Reduction Act, 1st Session, 109th Congress, 8 February 2005.

<sup>18</sup>"Ebola Hemorrhagic Fever Information Packet," Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, 9 April 2010, <[http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/Fact\\_Sheets/Ebola\\_Fact\\_Booklet.pdf](http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/Fact_Sheets/Ebola_Fact_Booklet.pdf)>, accessed on 19 February 2013.

<sup>19</sup>Richard Preston, *The Hot Zone*, Anchor Books, New York, 1995.

<sup>20</sup>"Known Cases and Outbreaks of Ebola Hemorrhagic Fever, in Chronological Order," Centers for Disease Control and Prevention, <<http://www.cdc.gov/ncidod/dvrd/spb/mnpages/dispages/ebola/ebolatable.htm>>, accessed on 19 February 2013. (**Note:** This data does not include statistics from the latest Ebola outbreak [which took place in the Democratic Republic of the Congo and in Uganda] reported by the World Health Organization in September 2012.)

<sup>21</sup>Ibid.

<sup>22</sup>Leonard A. Cole, *The Eleventh Plague: The Politics of Biological and Chemical Warfare*, Henry Holt and Company, New York, 1997, p. 3.

<sup>23</sup>"Hemorrhagic Fever Viruses," fact sheet, Center for Biosecurity, University of Pittsburgh Medical Center, <[http://www.upmc-biosecurity.org/website/our\\_work/biological-threats-and-epidemics/fact\\_sheets/vhf.pdf](http://www.upmc-biosecurity.org/website/our_work/biological-threats-and-epidemics/fact_sheets/vhf.pdf)>, accessed on 20 February 2013.

<sup>24</sup>Kyle B. Olson, "Aum Shinrikyo: Once and Future Threat?" *Emerging Infectious Diseases*, Vol. 5, No. 4, July–August 1999, p. 514, <<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2627754/pdf/10458955.pdf>>, accessed on 20 February 2013.

<sup>25</sup>Cole, 1997, pp. 2–3.

<sup>26</sup>David E. Kaplan and Andrew Marshall, *The Cult at the End of the World: The Terrifying Story of the Aum Doomsday Cult, From the Subways of Tokyo to the Nuclear Arsenals of Russia*, Crown Publishers, New York, 1996, pp. 96–97.

<sup>27</sup>Kaplan and Marshall, 1996, pp. 93–96.

<sup>28</sup>Olson, 1999, p. 514.

<sup>29</sup>Josh Kron, "Uganda Seen as a Front Line in the Bio-terrorism Fight," *The New York Times*, 10 November 2010, <<http://www.nytimes.com/2010/11/11/world/africa/11uganda.html>>, accessed on 20 February 2013.

<sup>30</sup>Pflanz, 2010, p. 5.

<sup>31</sup>Richard Lugar, speech delivered as part of the Nunn-Lugar Global Africa Mission, Madrid, Spain, 8 November 2010.

<sup>32</sup>Wickel, 2011.

(continued on page 64)



# Chief of Chemical's Recommended Professional Reading List

By Brigadier General Peggy C. Combs

What does it mean to be a professional chemical, biological, radiological, and nuclear (CBRN) Soldier? It means being educated, trained, and experienced in our craft. Institutional training and unit experience are two ways to gain that professionalism, but we cannot rely on those methods alone. Our continuing competence as professional CBRN Soldiers also requires self-development, and professional reading is a centerpiece of any self-development program. Professional reading helps add critical detail and greater depth to the information that we learn at institutions and within our units.

Beginning with this issue of *Army Chemical Review*, I will be providing a recommended professional reading list, which will be updated and published in each issue of *Army Chemical Review*. Topics will span four broad categories: leadership, joint/Army doctrine, the CBRN profession, and history/miscellaneous. The recommendations will be made based on the relevancy, subject interest, and readability of the publications. I encourage you to read all of the recommended works, and I hope that they will prompt you to critically evaluate yourself as a professional and to reflect on ways that you can improve.

I want your feedback. Please contact Lieutenant Colonel Damon Yourchisin at <damon.yourchisin@us.army.mil> or (573) 563-8189 to be recognized for your reading efforts and to suggest publications to be considered for subsequent recommended professional reading lists.

## Leadership

- James M. Kouzes and Barry Z. Posner, *The Truth About Leadership: The No-Fads, Heart-of-the-Matter Facts You Need to Know*, John Wiley & Sons, Inc., New Jersey, 2010, ISBN 978-0-470-63354-0.
- Jim Collins, *Good to Great: Why Some Companies Make the Leap . . . and Others Don't*, Harper Collins Publishers, New York, 2001, ISBN 0-06-662099-6.

## Joint/Army Doctrine

- Army Doctrine Publication (ADP) 3-37, *Protection*, 31 August 2012, <[http://armypubs.army.mil/doctrine/DR\\_pubs/dr\\_a/pdf/adp3\\_37.pdf](http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adp3_37.pdf)>, accessed on 22 March 2013.
- Army Doctrine Reference Publication (ADRP) 3-37, *Protection*, 31 August 2012, <[http://armypubs.army.mil/doctrine/DR\\_pubs/dr\\_a/pdf/adrp3\\_37.pdf](http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/adrp3_37.pdf)>, accessed on 22 March 2013.

## The CBRN Profession

- *Determining Core Capabilities in Chemical and Biological Defense Science and Technology*, National Research Council, The National Academies Press, Washington, D.C., 11 September 2012, ISBN 978-0-309-26535-5.

## History/Miscellaneous

- *Decade of War, Volume 1: Enduring Lessons From the Past Decade of Operations*, Joint and Coalition Operational Analysis, the Joint Staff, 15 June 2012, <<http://cgsc.contentdm.oclc.org/utis/getfile/collection/p4013coll11/id/2035/filename/2036.pdf>>, accessed on 22 March 2013.
- Lloyd J. Matthews, "The Uniformed Intellectual and His Place in American Arms, Part I," *Army*, July 2002, <<http://www3.ansa.org/webint/DeptArmyMagazine.nsf/byid/CCRN-6CCS4R>>, accessed on 22 March 2013.

# DOCTRINE UPDATE

## U.S. Army Maneuver Support Center of Excellence Capabilities Development Integration Directorate Concepts, Organization, and Doctrine Development Division

| Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Title                                                                                        | Date      | Status                                                                                                                                                                                                                          |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Joint Publications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                              |           |                                                                                                                                                                                                                                 |
| The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) is not the proponent for joint publications (JPs). However, the Chemical, Biological, Radiological, and Nuclear (CBRN) Doctrine Branch; Concepts, Organization, and Doctrine Development Division; Capabilities Development Integration Directorate; U.S. Army Maneuver Support Center of Excellence, is often a key stakeholder and sometimes the lead U.S. Army agent for a JP. Five JPs affect the development or revision of tactical-level CBRN publications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                              |           |                                                                                                                                                                                                                                 |
| JP 3-11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Operations in Chemical, Biological, Radiological, and Nuclear (CBRN) Environments</i>     | 26 Aug 08 | Under revision. Will be published 1st quarter, fiscal year (FY) 2014.                                                                                                                                                           |
| JP 3-11 will no longer be focused purely on passive defense, which is based on a new definition of the CBRN environment as “an operational environment that includes CBRN threats and hazards and their potential resulting effects.” Rather than dwelling on postevent hazards that require reactions, the focus will be on preevent threats and hazards that allow proactive measures. JP 3-11 will also include information about the new, validated, approved concepts of hazard awareness and understanding and contamination mitigation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                              |           |                                                                                                                                                                                                                                 |
| JP 3-27                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Homeland Defense</i>                                                                      | 12 Jul 07 | Under revision. The final draft is expected summer 2013.                                                                                                                                                                        |
| JP 3-27 provides information across the range of military operations (including interorganizational coordination, planning, and mission command) that is required to defeat external threats to, and aggression against, the homeland—or other threats, as directed by the President. The scope of the current revision has been narrowed by replacing the phrase <i>defense of the U.S. homeland</i> with <i>homeland defense</i> . Presidential and Secretary of Defense guidance has evolved significantly since 2007, thereby affecting relationships between the federal government and state and local jurisdictions with regard to unified action. JP 3-27 covers the federal and state interagency coordination of roles that are unique to homeland defense and then refers to JP 3-08, <i>Interorganizational Coordination During Joint Operations</i> , for more detailed guidance. JP 3-27 also addresses the dual roles of the Army National Guard in federal and state chains of command and explains how those roles affect homeland defense.                                                                                                                                                        |                                                                                              |           |                                                                                                                                                                                                                                 |
| JP 3-28                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Civil Support</i>                                                                         | 14 Sep 07 | Under revision. The final draft is expected summer 2013.                                                                                                                                                                        |
| JP 3-28 provides overarching guidelines and principles to assist commanders and staffs in planning, conducting, and assessing defense support of civil authorities (DSCA). It introduces the principle of civilian agencies being in charge of the domestic operations that receive military support. It also discusses the unique command relationships and coordinating processes to be used when operating in DCSA capacity. Finally, JP 3-28 discusses selected aspects of supporting and sustaining the joint force during these specific types of operations. Major changes from the previous version include replacing the term <i>civil support</i> with the term <i>DSCA</i> and replacing the term <i>National Response Plan</i> with the term <i>National Response Framework</i> .                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                              |           |                                                                                                                                                                                                                                 |
| JP 3-40                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Combating Weapons of Mass Destruction</i>                                                 | 10 Jun 09 | Under revision. The final draft is expected summer 2013.                                                                                                                                                                        |
| The JP 3-40 revision effort is being synchronized with that of the soon-to-be-published <i>National Defense Strategy to Counter Weapons of Mass Destruction (NDS-CWMD)</i> . <sup>1</sup> Major changes include replacing the term <i>combating weapons of mass destruction (WMD)</i> (struggling with or fighting) with the term <i>countering WMD</i> (embarking on efforts to counterproliferate the development, use, and means of delivery, including efforts to minimize or negate the effects of an event). This is important, as the CBRN community has struggled to acquire a common lexicon since combating/countering WMD rose to the forefront of national concern. The focus of the framework will no longer be on the eight military mission areas, <sup>2</sup> but rather on a series of strategic approaches. Sections describing the Countering Terrorism Campaign and explaining how countering WMD relates to DSCA are also being added. This is a significant addition, since combating/countering WMD considerations for the continental United States have not previously been incorporated. JP 3-40 will continue to focus on “left of boom” (dissuade, deter, disrupt) proactive measures. |                                                                                              |           |                                                                                                                                                                                                                                 |
| JP 3-41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <i>Chemical, Biological, Radiological, and Nuclear Consequence Management</i>                | 21 Jun 12 | Current.                                                                                                                                                                                                                        |
| JP 3-41 now focuses only on CBRN. It includes a new framework for CBRN response, elevates consequence management to a federal government level of effort, and aligns joint doctrine with the Department of Defense (DOD) contribution to consequence management. This publication introduces three subsets of consequence management (domestic CBRN, foreign, and DOD-led) and discusses the roles and responsibilities of the subsets and the differences between them. JP 3-41 also introduces the DOD chemical, biological, radiological, and nuclear response enterprise (CRE), an integrated Regular Army and Reserve Component approach to CBRN response. When directed by the Secretary of Defense <sup>3</sup> and the state governor, <sup>4</sup> the DOD CRE conducts CBRN response operations in support of civil authorities responding to CBRN incidents within the United States and its territories to save lives and minimize human suffering.                                                                                                                                                                                                                                                     |                                                                                              |           |                                                                                                                                                                                                                                 |
| <b>Multi-Service Publications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                              |           |                                                                                                                                                                                                                                 |
| The USACBRNS is the U.S. Army proponent and lead agent for nine tactical-level, multi-Service publications. Seven of the publications are sponsored by the Joint Requirements Office for CBRN Defense (J-8), Joint Chiefs of Staff.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                              |           |                                                                                                                                                                                                                                 |
| FM 3-11<br>MCWP 3-37.1<br>NWP 3-11<br>AFTTP 3-2.42                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Multi-Service Doctrine for Chemical, Biological, Radiological, and Nuclear Operations</i> | 1 Jul 11  | Current. Will be revised in the near future due to revisions in national strategy and joint doctrine. The revision timeline will be based on guidance from the Joint Requirements Office and a decision from all four Services. |
| FM 3-11 is the only field manual for which the USACBRNS is the lead agent. It focuses on combating WMD, discusses the strategic pillars and tactical objectives, and translates the military mission areas into eight tactical tasks. This represents a huge paradigm shift for the CBRN community. Our focus moves toward the more proactive role of conducting or supporting active defense, interdiction operations, offensive operations, and elimination operations and away from the reactive role of passive defense (including avoidance, protection, and decontamination).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                              |           |                                                                                                                                                                                                                                 |



| Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Title                                                                                                                                          | Date      | Status                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| ATTP 3-11.23<br>MCWP 3-37.7<br>NTTP 3-11.35<br>AFTTP 3-2.71                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <i>Multi-Service Tactics, Techniques, and Procedures for Weapons of Mass Destruction Elimination Operations</i>                                | 10 Dec 10 | Current. Will be redesignated as ATP 3-11.23.                                                                                                          |
| Army Tactics, Techniques, and Procedures (ATTP) 3-11.23 is "Part 2" of ATP 3-11.37. The WMD elimination isolation activity is the seam that links the battle handover from a conventional CBRN force conducting the assessment task to the technical CBRN force conducting exploitation and destruction tasks. ATTP 3-11.23 educates the reader on performing the entire process from cradle (reconnoitering) to grave (monitoring and redirecting) and on planning, preparing, executing, performing, and assessing considerations throughout. This tactical-level publication truly focuses on actions "left of boom."                                                                                                                                                                                                                                                                                                    |                                                                                                                                                |           |                                                                                                                                                        |
| ATP 3-11.32,<br>Volumes I and II                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | <i>Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Passive Defense</i>                   | TBD       | Under development. Will combine, revise, and supersede FM 3-11.3, FM 3-11.4, FM 3-11.5, and FM 3-11.34. The initial draft will be staffed summer 2013. |
| ATP 3-11.32 will consist of two volumes. Volume I will contain information for conducting operations; performing tactics, techniques, and procedures (TTP); and understanding how to carry out CBRN passive defense. Volume II will contain supporting technical information (CBRN Warning and Reporting System, hazard prediction, decontamination). ATP 3-11.32 will contain the latest validated information regarding hazard prediction and warning and reporting procedures. It will present tactical-level discussions on the validated joint concept of contamination mitigation, which will be introduced in the revised JP 3-11.                                                                                                                                                                                                                                                                                   |                                                                                                                                                |           |                                                                                                                                                        |
| ATTP 3-11.36<br>MCRP 3-37B<br>NTTP 3-11.34<br>AFTTP 3-2.70                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Aspects of Command and Control</i>    | 12 Jul 10 | Current. Will be redesignated as ATP 3-11.36.                                                                                                          |
| ATTP 3-11.36 includes the doctrinal employment of CBRN capabilities (organizations, personnel, technology, and information) to characterize CBRN threats and hazards, including toxic industrial material, for the commander and the force. This manual also incorporates the joint doctrine elements for combating WMD. It is designed to provide operational- and tactical-level commanders and staffs with capability employment planning data and considerations to shape military operations involving CBRN threats and hazards and operations in CBRN environments.                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                |           |                                                                                                                                                        |
| ATP 3-11.37<br>MCWP 3-37.4<br>NTTP 3-11.29<br>AFTTP 3-2.44                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Reconnaissance and Surveillance</i>   | 25 Mar 13 | Current. Combines, revises, and supersedes FM 3-11.19 and FM 3-11.86.                                                                                  |
| ATP 3-11.37 is designed for the conventional force. It establishes forms, modes, methods of, and tasks for CBRN reconnaissance and surveillance. It also establishes four new CBRN hazard identification levels that have been accepted by combatant commanders and the medical community for environmental samples and clinical specimens. These new hazard identification levels allow the conventional force to provide the commander with sample identification at higher levels of confidence. This, in turn, allows the commander to make more timely, higher-level decisions that enhance force protection, improve mission accomplishment, and result in resource savings. It establishes a sample management process and educates Soldiers on the protocols of the process, from sample collection through transfer. Finally, it instructs Soldiers on dismounted reconnaissance operations in urban environments. |                                                                                                                                                |           |                                                                                                                                                        |
| ATP 3-11.41                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <i>Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Consequence Management Operations</i> | TBD       | Under development. Will revise and supersede FM 3-11.21. The initial draft will be staffed fiscal year 2014. Will be published 1st quarter, FY 14.     |
| ATP 3-11.41 will focus on DOD support to domestic or foreign CBRN consequence management operations. It will be designed for CBRN responders who plan and conduct CBRN consequence management operations in domestic, foreign, or theater operational environments. It will provide an important reference for planning and conducting CBRN consequence management.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                |           |                                                                                                                                                        |
| ATP 3-11.42<br>MCWP 3-38.1<br>NTTP 3-11.36<br>AFTTP 3-2.82                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <i>Multi-Service Tactics, Techniques, and Procedures for Installation Emergency Management</i>                                                 | 26 Apr 13 | Current. Revises and supersedes FM 3-11.34.                                                                                                            |
| ATP 3-11.42 addresses the installation commander's response to an incident that takes place on an installation. The scope of this revision has been expanded from CBRN defense to all-hazards installation emergency management, which includes the management of CBRN events. The publication defines the roles of DOD installation commanders and staffs and provides the TTP associated with installation planning and preparedness for, response to, and recovery from all hazards in order to save lives, protect property, and sustain mission readiness.                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                |           |                                                                                                                                                        |

| Number                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Title                                                                                                                                                              | Date      | Status                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------|
| ATP 3-11.46<br>AFTTP 3-2.81                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Weapons of Mass Destruction–Civil Support Team (WMD-CST) Operations</i>                                                                                         | Pending   | Current. Revises and supersedes FM 3-11.22. Approved for implementation. <sup>5</sup>                                                            |
| ATP 3-11.46 serves as the foundation for WMD-CST doctrine. It focuses on the organization, mission, mission command, and operations of WMD-CSTs, which are full-time Army National Guard units designed to provide the specialized capability necessary to respond to intentional and unintentional incidents and natural and man-made disasters. The WMD-CST, a component of the CRE, provides direct support to local, tribal, state, and federal emergency responders, including fire, police, and emergency medical service personnel. Unless federalized under Title 10, U.S. Code (10 USC), <i>Armed Forces</i> , WMD-CSTs operate in 32 USC, <i>National Guard</i> , status within the United States and its territories and possessions. Responding under the authority of the state governor, WMD-CSTs assist agencies that may be overwhelmed or may require specific technical capabilities which are not otherwise readily available. |                                                                                                                                                                    |           |                                                                                                                                                  |
| ATP 3-11.47<br>AFTTP 3-2.79                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Enhanced Response Force Package (CERFP) and Homeland Response Force (HRF) Operations</i> | 26 Apr 13 | Current.                                                                                                                                         |
| ATP 3-11.47 is a new manual. It contains detailed tactical doctrine and TTP and sets the foundation for the tactical employment of the CERFP and HRF. The CERFP and HRF can be pre-positioned, or they can respond to an incident using existing organic transportation and Army National Guard/Air National Guard units that are in 32 USC status. These units are trained and equipped to integrate under the National Incident Management System in support of an incident commander. The CERFP supports the incident commander by planning and exercising mission command, casualty search and extraction, ambulatory and nonambulatory mass casualty decontamination, emergency medical triage and patient stabilization, and fatality search and recovery. The HRF supports the incident commander by planning and conducting mission command, security operations and, if applicable, CERFP operations.                                    |                                                                                                                                                                    |           |                                                                                                                                                  |
| <b>Army-Only Publications</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    |           |                                                                                                                                                  |
| The USACBRNS is the U.S. Army proponent for four tactical-level, Army-only publications.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                    |           |                                                                                                                                                  |
| ATP 3-11.24                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Technical Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Force Employment</i>                                                   | TBD       | Under development. Will revise and supersede FM 3-11.20. The final draft will be staffed summer 2013. Will be published 1st quarter, FY 14.      |
| ATP 3-11.24 will describe how technical CBRNE forces support combatant commanders through every phase of operations conducted in-theater and in the homeland. This is important in educating those who are outside the CBRN community with regard to the true capabilities of the technical CBRNE force. The appendixes will include information about specific technical CBRNE force missions, organizations, capabilities, and employment considerations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                    |           |                                                                                                                                                  |
| ATP 3-11.50                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Battlefield Obscuration</i>                                                                                                                                     | TBD       | Under development. Will revise and supersede FM 3-11.50. The final draft will be staffed summer 2013. Will be published 1st quarter, FY 14.      |
| ATP 3-11.50 will provide TTP to plan obscuration operations and employ obscurants during or in support of unified land military operations at the tactical through operational levels of war.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                    |           |                                                                                                                                                  |
| ATP 3-90.10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <i>Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Operational Headquarters</i>                                                             | TBD       | On hold due to the possible implications of the Standing Joint Force Headquarters Elimination activation. Will revise and supersede FMI 3-90.10. |
| ATP 3-90.10 will educate the reader on the special capabilities that exist within the CBRNE mission command element.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                    |           |                                                                                                                                                  |
| FM 100-30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <i>Nuclear Operations</i>                                                                                                                                          | 29 Oct 96 | Current. Is under review for continuing applicability. Could be converted to an ATP or rescinded in the future.                                  |
| The USACBRNS received proponenty for ATP 100-30 from the Combined Arms Doctrine Development Directorate. The U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency is currently developing JP 3-72, <i>Nuclear Operations</i> , which will provide joint doctrine for the planning, mission command, operations, and surety of employing nuclear weapons. JP 3-72 will contain information regarding the fundamentals of nuclear operations and is expected to translate key nuclear operations policy directives into considerations and options that can be used to assess and address nuclear employment and the commander's decisionmaking process. As a result, the relevant nuclear doctrine for conducting operations is being assessed and will be included in ATP 100-30.                                                                                                                                                   |                                                                                                                                                                    |           |                                                                                                                                                  |
| <b>Technical Manual</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                    |           |                                                                                                                                                  |
| The USACBRNS is the proponent and approving authority for one technical manual.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                    |           |                                                                                                                                                  |
| TM 3-11.91                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <i>Chemical, Biological, Radiological, and Nuclear Threats and Hazards</i>                                                                                         | Pending   | Current. Revises and supersedes FM 3-11.9 and FM 3-11.11.                                                                                        |
| TM 3-11.91 serves as a one-stop shop for information about the technical aspects of CBRN threats and hazards, including information about the chemistry of homemade explosives. In addition to the technical information on CBRN threats and hazards, it also includes basic educational information and covers the "so what" and the field behavior of CBRN hazards (including riot control agents and herbicides). The appendixes contain scientific CBRN data, and the centerpiece of the manual is the CBRN threats and hazards diagram.                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                    |           |                                                                                                                                                  |

(continued on page 63)





# RESERVE COMPONENT UPDATE

## Professional Military Education

Qualification training courses are listed and described in Table 1.

**Table 1. Qualification training courses**

| <b>Enlisted/Noncommissioned Officer (NCO) Qualification Training Courses</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>74D10 Chemical, Biological, Radiological, and Nuclear (CBRN) Specialist Course (School Code 031)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Phase I<br>(Course 031-74D10 [R] [dL])                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Once Soldiers are enrolled in Phase I, they will receive e-mail instructions from the Army Distributed Learning Program via Army Knowledge Online (AKO). Students must complete Phase I before reporting for Phase II training. An Army Correspondence Course Program (ACCP) certificate of completion (e-mailed) or other documentation must be presented as proof of Phase I completion during Phase II in-processing. Soldiers who experience problems with Phase I should telephone the ACCP at (800) 275-2872 (Option 3) or (757) 878-3322/3335. If no ACCP representative is available, they should contact Master Sergeant Yamil Rodriguez, 3d Brigade (Chemical), at (860) 570-7114 or <yamil.rodriguez.mil@mail.mil>.                                                                                                                                                                    |
| <b>74D10 CBRN Specialist Course (School Code R031)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Phases II and III<br>(Course 031-74D10 [R1])                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | These phases consist of resident training conducted at Fort Leonard Wood, Missouri. Soldiers must have an e-mail printout indicating that they have completed Phase I. Soldiers who fail to provide the printout are returned to their units.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>CBRN Transition Course (School Code R031)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| This is a three-phase resident course. Soldiers attending the CBRN Transition Course (031-74D2/3/4) must be graduates of a military occupational specialty (MOS) Advanced Leader Course (ALC) or Basic Noncommissioned Officer Course (BNCOC). Soldiers who have not attended ALC or BNCOC must attend the CBRN Specialist Course (031-74D10) to become 74D10 MOS-qualified. Soldiers must complete the online Hazmat Awareness Training (< <a href="https://afcesa.csd.disa.mil/kc/login/login.asp">https://afcesa.csd.disa.mil/kc/login/login.asp</a> >) prior to attending the CBRN Transition Course; certificates must be presented during in-processing.                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>ALC-Common Core (CC) Distributed Learning (dL) (School Code G400, Course 600-C45)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| This is a 90-day, 60.4-hour, highly facilitated, Web-based, non-MOS-specific course that replaces only the CC portion of the previous BNCOC. Unit trainers enroll Soldiers through the Army Training Requirements System (ATTRS). Students receive e-mail registration instructions. Soldiers who fail to register within 15 days before the start date are automatically cancelled and considered "No Shows." The next Soldier on the waiting list is granted a confirmed reservation. Soldiers who are classified as "No Shows" or who have been cancelled may be required to wait 24 months to reschedule for any phase of ALC. Soldiers must complete the ALC-CC and the three-phase CBRN ALC technical course to be considered an ALC graduate. Soldiers who previously completed BNCOC-CC will receive constructive credit for ALC-CC. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>74D30 CBRN ALC (School Code R031, Course 031-74D30-C45)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| CBRN ALC is a three-phase resident course. Phase I is waived for Soldiers who possess a certificate indicating that they have completed Department of Defense (DOD)-certified hazmat training at the technician level.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>74D40 Senior Leader Course (SLC) (School Code R031, Course 031-74D30-C46)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| This is a three-phase resident course conducted at Fort Leonard Wood. Effective 1 June 2013, graduation from Structured Self-Development, Level III, is a prerequisite for attending SLC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Officer Qualification Training Courses</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>CBRN Captain's Career Course (C3) (School Code 031)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Phase I<br>(Course 4-3-C23 [dL])                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | This branch-specific dL phase consists of 108 hours of dL instruction, which must be completed within 60 days before attending Phase II. Unit trainers enroll Soldiers through ATTRS. Students receive e-mail instructions from the Army Distributed Learning Program. Hazmat awareness training can be accessed at < <a href="https://afcesa.csd.disa.mil/kc/login/login.asp">https://afcesa.csd.disa.mil/kc/login/login.asp</a> > and completed by students prior to attending Phase II. Students who encounter problems should contact the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), CBRN C3 Course Manager, Major John Feero at (573) 563-7397 or < <a href="mailto:john.feero@us.army.mil">john.feero@us.army.mil</a> >. The successful completion of Phase I (and the CBRN Defense Course [branch transfers]) is a prerequisite for Phase II attendance. |
| Phase II<br>(Course 4-3-C23)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | This branch-specific resident phase consists of 2 weeks of training conducted at the USACBRNS. The focus is on radiological operations, live-agent training, hazmat awareness and operations level training and certification, and the basics of the Joint Warning and Reporting Network used within the Maneuver Control System. The successful completion of Phase II is a prerequisite for enrollment in Phase III.                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Phase III<br>(Course 4-3-C23 [dL])                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | This CC phase consists of 59.2 hours of dL instruction. Unit trainers enroll Soldiers through ATTRS. Students receive e-mail instructions from the Army Distributed Learning Program. Students must complete Phase III within 60 days of attending Phase IV. Those who encounter problems should contact Major Feero at (573) 563-7397 or < <a href="mailto:john.feero@us.army.mil">john.feero@us.army.mil</a> >. The successful completion of Phase III is a prerequisite for Phase IV attendance.                                                                                                                                                                                                                                                                                                                                                                                               |
| Phase IV<br>(Course 4-3-C23)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | This resident phase consists of 2 weeks of training conducted at the USACBRNS. The focus is on a computer-aided exercise that includes additional Joint Warning and Reporting Network and Maneuver Control System training, culminating in a military decisionmaking process exercise using state-of-the-art battle simulation equipment.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

# RESERVE COMPONENT UPDATE



| Joint SLC (Course 4K-74A/494-F18)                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| This is a 4-day course for senior leaders focusing on operational- and strategic-level aspects of countering weapons of mass destruction (WMD). Participants also receive toxic-agent training at the Chemical Defense Training Facility. In addition, the Joint SLC forum offers a unique opportunity for senior military leaders, civilian government agency leaders, and leaders representing allied and coalition partners to exchange ideas. |
| CBRN Precommand Course (Course 4K0F4)                                                                                                                                                                                                                                                                                                                                                                                                             |
| This is a 5-day course that prepares Regular Army and Reserve Component (RC) officers who have been selected for command of a CBRN battalion or brigade or a CBRN position in a division. Each student receives instruction in the application of Army Doctrine Publication (ADP) 7-0, <i>Training Units and Developing Leaders</i> , concepts to the battalion training management process.                                                      |
| <b>Note:</b> Additional information is available at < <a href="https://www.atrrs.army.mil/">https://www.atrrs.army.mil/</a> >.                                                                                                                                                                                                                                                                                                                    |

The courses shown in Table 2 are required by command and control chemical, biological, radiological, and nuclear response element (C2CRE); chemical, biological, radiological, nuclear, and high-yield explosives enhanced response force package (CERFP); WMD–civil support team (CST); domestic response force; and homeland response force units for MOS qualification.

**Table 2. Functional training courses**

| Mass Casualty Decontamination Course (School Code 031, Course 4K-F25/494-F-30)                                                                                                                                                                                                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| This 9-day course is appropriate for CERFP and domestic-response casualty decontamination team members. Students who successfully complete the course receive certification at the hazmat awareness and operations levels.                                                                                                                                                                            |
| CBRN Responder Course (School Code 031, Course 4K-F24/494-F29)                                                                                                                                                                                                                                                                                                                                        |
| This 10-day course is appropriate for C2CRE members. Students who successfully complete the course receive certification at the hazmat awareness, operations, and technician levels.                                                                                                                                                                                                                  |
| Civil Support Skills Course (CSCS) (School Code 031, Course 4K-F20/494-28)                                                                                                                                                                                                                                                                                                                            |
| This 8-week course is appropriate for Army National Guard WMD-CST members. Students receive advanced training in hazmat technician and incident command and CBRN survey, point reconnaissance, sampling operations, personal protective equipment selection and certification, and decontamination and receive specialized training on a variety of military and commercial CBRN detection equipment. |
| <b>Note:</b> All students who successfully complete hazmat training are awarded certificates issued by the International Fire Service Accreditation Congress and DOD. Additional copies of certificates can be obtained at < <a href="http://www.dodffcert.com">http://www.dodffcert.com</a> >.                                                                                                       |

A Soldier who arrives for any resident course without having first completed all appropriate dL requirements will be returned to his unit without action.

## USACBRNS RC Personnel

Officers (O-3 through O-5) and NCOs (E-7 through E-9) who are interested in available drilling individual mobilization augmentee positions throughout USACBRNS should contact the U.S. Army Reserve (USAR) Proponency NCO.

Field grade USAR officers who would like to transfer into the Chemical Corps should contact the USACBRNS Deputy Assistant Commandant–Army Reserve (DAC-AR) for specific branch qualification information.

The 3d Brigade (Chemical), 102d Division (Maneuver Support), is currently seeking instructors for various locations. An applicant should be an E-6 or E-7, should be qualified (or able to be trained) as Army basic instructors, and should have completed the appropriate NCO Education System coursework. Interested Soldiers should contact Master Sergeant Rodriguez at (860) 570-7114 or <[yamil.rodriguez.mil@mail.mil](mailto:yamil.rodriguez.mil@mail.mil)>.

### Contact Information

Colonel Francisco S. Velez (DAC-AR), (573) 563-8050 or <[francisco.s.velez.mil@mail.mil](mailto:francisco.s.velez.mil@mail.mil)>.

Sergeant Major LaHarold M. Woodhouse (Senior Enlisted Advisor–AR), (573) 563-4026 or <[laharold.m.woodhouse.mil@mail.mil](mailto:laharold.m.woodhouse.mil@mail.mil)>.

Master Sergeant Richard K. Kennon (Training Development NCO–AR), (573) 563-7757 or <[richard.k.kennon.mil@mail.mil](mailto:richard.k.kennon.mil@mail.mil)>.

Lieutenant Colonel Kenneth R. Napier (DAC-NG), (573) 563-7676 or <[kenneth.r.napier.mil@mail.mil](mailto:kenneth.r.napier.mil@mail.mil)>.

Master Sergeant Joseph C. Bahr (Proponency NCO–NG), (573) 563-7667 or <[joseph.c.bahr.mil@mail.mil](mailto:joseph.c.bahr.mil@mail.mil)>.

### Reference:

ADP 7-0, *Training Units and Developing Leaders*, 23 August 2012.



# *News From the Personnel Development Office*

**T**his new feature article keeps members of the U.S. Army Chemical Corps up to date on actions that will affect them and the future of the Corps. During the last quarter, the Personnel Development Office (PDO) has been busy handling a number of actions in support of the Chemical Corps Regimental Campaign Plan as the Corps continues to move toward the future, maintaining its vital role in executing chemical, biological, radiological, and nuclear (CBRN) operations in support of the Army of 2020.

## **Revision of the Warrant Officer Program**

The PDO prepared a military occupational classification structure change and submitted it to the Office of the Deputy Chief of Staff for Personnel (G-1), Department of the Army (DA), in an attempt to better align the CBRN Warrant Officer Program with Chief of Chemical guidance on the role and function of the CBRN warrant officer. The intent of the revision is to make the best possible use of warrant officer skills and training for the benefit of the Chemical Corps and the Army. The major change involves the conversion of all warrant officer positions in field artillery, air defense artillery, and military intelligence battalions to CBRN lieutenant positions and the transfer of the warrant officer positions to CBRN companies. The field artillery, air defense artillery, and military intelligence branches have agreed to the revision; and Army approval is anticipated June–July 2013. Implementation is expected to take place at the beginning of fiscal year (FY) 2016.

## **Revision of 74D Skilled Technical Score Requirements**

During the past 5 years, the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) has gradually implemented full-spectrum CBRN operations/response training according to Section 1910.120, Title 29 (Labor), Code of Federal Regulations (29 CFR 1910.120),<sup>1</sup> and national consensus standards related to National Fire Protection Association competencies. This training is critical in meeting the legal requirement defined in Section 1522, Title 50 (War and National Defense), U.S. Code (50 USC 1522),<sup>2</sup> and in preparing military personnel to respond to CBRN incidents and safely operate in CBRN environments. Training requirements have been fully integrated into all CBRN courseware except for that of advanced individual training.

The integration of the intellectual attributes and key skills required at the apprentice level began during the past three FYs. But despite a couple of pilot course attempts and variations in methods of instruction, the attrition rate for advanced individual training Soldiers continues to be too high. Analyses indicate that students' Armed Services Vocational Aptitude Battery skilled technical (ST) scores are directly related to course performance. Soldiers who had earned an ST score of less than 100 were typically unable to achieve passing grades on various tests associated with the national consensus standards. Statistical data collected from the two advanced individual training pilot courses indicate that Soldiers with ST scores below 100 were twice as likely to fail course tests as those who had ST scores above 100.

In addition, beginning in FY 11, hazmat certification was piloted as a non-graduation requirement for the CBRN Advanced Leader's Course. Advanced Leader's Course data collected FY 11–FY 13 indicates that noncommissioned officers who had an ST score below 100 failed hazmat certification at a higher rate than Soldiers who had ST scores of 100 or more. Hazmat technician level certification is slated to become a requirement for CBRN Advanced Leader's Course graduation beginning in FY 14.

For these reasons, the PDO prepared a military occupational classification structure change and submitted it to the DA G-1 to increase the initial-entry Military Occupational Specialty 74D ST score requirement from 91 to 100. The new requirement will apply to all new enlistments, reclassifications, and warrant officer applicants.

## **New Lieutenant Accessions**

As spring and summer approach, the PDO is heavily focused on disseminating accurate information about the Chemical Corps—and opportunities available within the Corps—to as many junior and senior U.S. Army Reserve Officer Training Corps (ROTC) and U.S. Military Academy cadets as possible. The most effective way to do this is to have personnel speak directly to the cadets; however, that approach has been limited by the current fiscal climate. Opportunities to personally interact with cadets will be available during the ROTC summer Leadership Development and Assessment Course (Warrior

Forge) and during U.S. Military Academy Branch Week—and we will take advantage of those opportunities—but they are not enough. During Warrior Forge, cadets choose the branches they wish to consider. If they have not been properly informed, they may not consider the Chemical Branch and we may not get a chance to discuss available opportunities. We are sending letters and e-mails to these cadets and encouraging recent Basic Officer Leadership Course graduates to return to their campuses to interact with the cadets. We also challenge members of the Corps who are out in the field to engage their alma maters and local ROTC populations to help spread the word. ROTC programs welcome those who reach out to cadets. The PDO can provide support, including briefing products, brochures, and novelty items. Please contact the PDO at (573) 563-7374 with your requests.

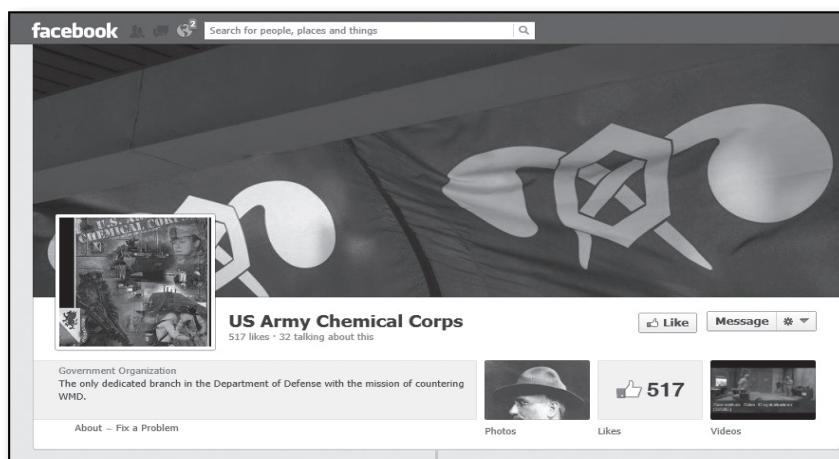
### Chemical Corps Facebook® Page

The Chemical Corps Facebook page at <<http://www.facebook.com/ChemicalCorps>> is intended to provide a means for current members of the Corps to receive news, provide feedback, connect with each other, and recognize that they are part of a unique and outstanding organization. It also provides prospective members with a vehicle to view and gather information and to familiarize themselves with the Chemical Corps in a unique way. As we reach out to cadets, we promote this page, which has been linked to information about several ROTC programs. If you haven't already done so, visit the page and "like" it so that you may share in the information.

#### Endnotes:

<sup>1</sup>29 CFR 1910.120: Section 1910.120 (*Hazardous Waste Operations and Emergency Response*), Subpart H (*Hazardous Materials*), Part 1910 (*Occupational Safety and Health Standards*), Title 29 (*Labor*), Code of Federal Regulations, current as of 3 April 2013, <<http://www.ecfr.gov/cgi-bin/text-idx?rgn=div8&node=29:5.1.1.1.8.8.33.14>>, accessed on 5 April 2013.

<sup>2</sup>50 USC 1522: Section 1522 (*Conduct of Chemical and Biological Defense Program*), Chapter 32 (*Chemical and Biological Warfare Program*), Title 50 (*War and National Defense*), U.S. Code, current as of 3 January 2012, <<http://uscode.house.gov/download/pls/50C32.txt>>, accessed on 5 April 2013.



The Chemical Corps Facebook page

(“Doctrine Update” continued from page 59)

<sup>1</sup>The NDS-CWMD will replace the *National Military Strategy to Combat Weapons of Mass Destruction*, 13 February 2006.

<sup>2</sup>The eight military mission areas are offensive operations, elimination operations, interdiction operations, active defense, passive defense, WMD consequence management, security cooperation and partnership activities, and threat reduction cooperation. (*National Military Strategy to Combat Weapons of Mass Destruction*, 13 February 2006.)

<sup>3</sup>The Secretary of Defense authorizes DSCA support by federal military forces (defense chemical, biological, radiological, and nuclear response force [DCRF] and command and control chemical, biological, radiological, and nuclear response element [C2CRE] A, and C2CRE B).

<sup>4</sup>The state governor authorizes DSCA support by Army National Guard forces under state mission command (WMD-CST, CERFP, and HRF).

<sup>5</sup>The final approved draft can be accessed and downloaded from the CBRN Knowledge Network at <<https://www.us.army.mil/suite/page/409522>>. Due to the large number of requirements at the Army Publishing Directorate, an authenticated publication is not expected until late 2014. Therefore, the USACBRNS commandant has signed and approved an implementation memorandum authorizing the final approved draft to be incorporated into Army institutional training and implemented by Army forces and installations. However, the final approved draft cannot be reproduced since it is not an official Department of the Army publication until it is authenticated and published by the Army Publishing Directorate.



(“Critical Nature of Building . . .” continued from page 55)

<sup>33</sup>Lugar, speech, 2010.

<sup>34</sup>Lugar, “Countering More Threats, Faster,” 2010, p. 1.

<sup>35</sup>Robert Block, “Bitter Researchers Are Cause for Concern in Germ Warfare,” *Wall Street Journal*, 20 May 2002, <<http://www.ph.ucla.edu/epi/bioter/bitterresearchers.html>>, accessed on 4 March 2013.

<sup>36</sup>Ibid.

<sup>37</sup>Stephen Burgess and Helen Purkitt, *The Rollback of South Africa’s Chemical and Biological Warfare Program*, U.S. Air Force Institute for National Security Studies, February 2001, p. 20.

<sup>38</sup>“South Africa,” country profile, Nuclear Threat Initiative, July 2012, <<http://www.nti.org/country-profiles/south-africa/>>, accessed on 25 February 2013.

<sup>39</sup>Burgess and Purkitt, 2001, pp. 16–18.

<sup>40</sup>Tom Mangold, “Plague War: What Happened in South Africa?” *Public Broadcasting System: Frontline*, <<http://www.pbs.org/wgbh/pages/frontline/shows/plague/sa/>>, accessed on 20 February 2013.

<sup>41</sup>“South Africa,” 2012.

<sup>42</sup>Burgess and Purkitt, 2001 pp. 3–38.

<sup>43</sup>Tom Mangold and Jeff Goldberg, *Plague Wars: The Terrifying Reality of Biological Warfare*, St. Martin’s Press, New York, 1999, pp. 214–282.

<sup>44</sup>“South Africa,” 2012.

<sup>45</sup>Richard Lugar, “The Nunn-Lugar Cooperative Threat Reduction Program,” <<http://lugar.senate.gov/nunnlugar/>>, accessed on 31 January 2013.

<sup>46</sup>Paul Tinder, “Cooperative Threat Reduction Set to Expand,” *BioPrepWatch*, 15 April 2011, <<http://www.bioprepwatch.com/news/cooperative-threat-reduction-set-to-expand/241516/>>, accessed on 26 February 2013.

<sup>47</sup>Lugar, “The Nunn-Lugar Cooperative Threat Reduction Program.”

<sup>48</sup>Personal discussion with officials from DTRA and the Office of the Secretary of Defense for Policy, 16 November 2011.

<sup>49</sup>*The Biological Threat Reduction Program of the Department of Defense: From Foreign Assistance to Sustainable Partnerships*, Committee on Prevention of Proliferation of Biological Weapons, National Research Council, National Academy of Sciences, The National Academies Press, 2007, <<http://www.nap.edu/catalog/12005.html>>, accessed on 26 February 2013.

<sup>50</sup>*Fiscal Year 2011 Budget Estimate, Cooperative Threat Reduction Program*, DTRA, February 2010, <[http://comptroller.defense.gov/defbudget/fy2011/budget\\_justification/pdfs/01\\_Operation\\_and\\_Maintenance/O\\_M\\_VOL\\_1\\_PARTS/CTR\\_FY11.pdf](http://comptroller.defense.gov/defbudget/fy2011/budget_justification/pdfs/01_Operation_and_Maintenance/O_M_VOL_1_PARTS/CTR_FY11.pdf)>, accessed on 26 February 2013.

<sup>51</sup>“Biological Threat Reduction Program,” *Defense Threat Reduction Agency & USSTRATCOM Center for Combating WMD*, <<http://www.dtra.mil/Missions/Nunn-Lugar/BiologicalThreatReductionProgram.aspx>>, accessed on 28 February 2013.

<sup>52</sup>Wickel, 2011.

<sup>53</sup>“President Obama Releases National Strategy for Countering Biological Threats,” *The White House*, <<http://www.whitehouse.gov/the-press-office/president-obama-releases-national-strategy-countering-biological-threats>>, accessed on 28 February 2013. (The acronym PROTECT stands for: **P**romote global health security; **R**einforce norms of safe and responsible conduct; **O**btain timely and accurate insight on current and emerging risks; **T**ake reasonable steps to reduce the potential for exploitation; **E**xpand our capability to prevent, attribute, and apprehend; **C**ommunicate effectively with all stakeholders; and **T**ransform the international dialogue on biological threats.)

<sup>54</sup>Ibid.

<sup>55</sup>Personal discussion with officials from DTRA and the Office of the Secretary of Defense for Policy, 16 November 2011.

<sup>56</sup>Ibid.

<sup>57</sup>“AFRICOM: Promoting Partnership for Global Security in Africa,” *Testimony by U.S. Department of State Acting Assistant Secretary Donald Yamamoto, 26 July 2011, Subcommittee on Africa, Global Health, and Human Rights, U.S. House Foreign Affairs Committee*, <<http://www.state.gov/documents/organization/169364.pdf>>, accessed on 4 March 2013.

<sup>58</sup>Lugar, 8 November 2010.

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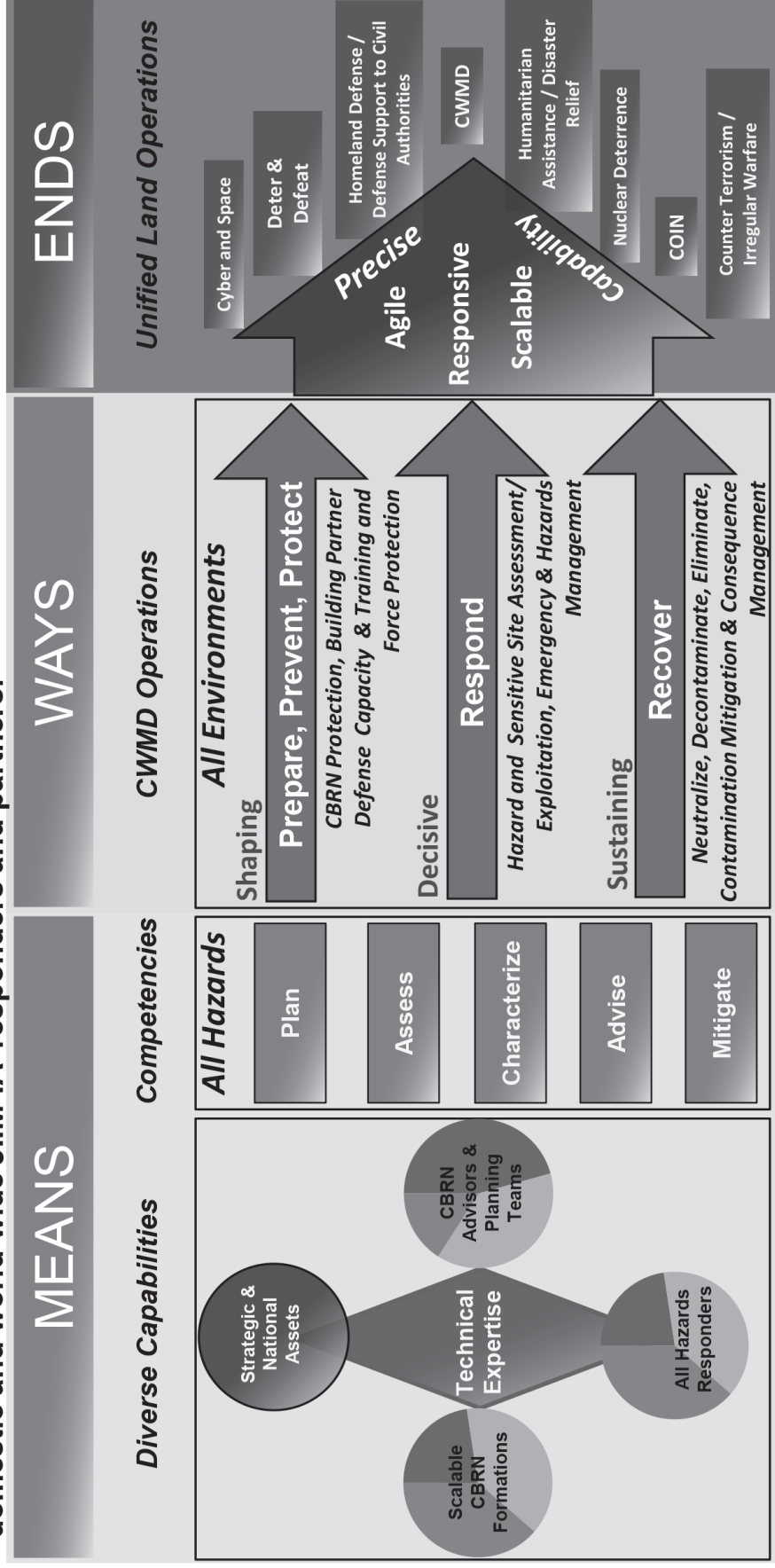
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# CBRN Regiment 2016–2020 Strategy

**Vision:** The Army's unique technical response force of choice providing scalable and operationally adaptable experts, teams, and formations, standing ready to defeat all hazards, material threats, and combat weapons of mass destruction across the full spectrum of unified land operations ... anytime ... anywhere. Enabled by world-class education and training and internationally recognized certifications, backed by the scientific weight of the United States and the collective capabilities of a network of domestic and world-wide JIIM-IA responders and partners.



Active Guard Reserve

4 MAY 2013



*Chemical Corps 95th Anniversary*  
*28 June 1918–28 June 2013*



*“Remembering the Past,  
Moving Forward Toward the Future”*