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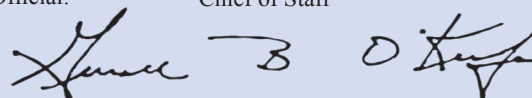
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Army Chemical Review

The Professional Bulletin of the Chemical Corps

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



**Brigadier General
Peggy C. Combs**

Greetings Dragon Soldiers!

First, I want to thank our Dragon Soldiers and the Department of the Army civilians who support this great Regiment. What an extremely exciting time to be a Dragon Soldier and to be serving our Nation! If you've been watching the world news lately, I don't have to tell you that our stock has gone up. Our Regiment is extremely relevant and will continue to be so well into the future. It's hard for me to believe that I've been serving as the Chief of Chemical for the past year. I've visited almost every installation and seen hundreds of chemical, biological, radiological, and nuclear (CBRN) warriors doing great things for our Regiment and our Army. Keep up the great work. Regimental Command Sergeant Major Gabriel Arnold and I look forward to seeing more of you in 2014.

I would also like to introduce and welcome our first regimental chief warrant officer, Chief Warrant Officer Two Matthew Chrisman (see page 5). What an exceptional Soldier and warrant officer we have serving our Regiment. He and his wife Angela and their two children join us from Fort Sill, Oklahoma. Welcome, Chief Warrant Officer Two Chrisman. Our Regiment is looking forward to your great contributions to the transformation of our Warrant Officer Corps.

We are the Army's all-hazardous materials response force! As the Army and joint forces continue to prepare for 2020, the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) is rapidly moving forward with planning the implementation of the new CBRN Regiment Force Design Update and 2016–2020 Strategy.¹ The force design update and strategy will serve as foundations for the development of CBRN Regiment requirements for the force of the future. As we transition from the Cold War era CBRN force that has focused primarily on detection and decontamination, we will quickly become an adaptable technical response force of experts, countering weapons of mass destruction across the full range of military operations. As CBRN threats and hazards and weapons of mass destruction continue to make global headlines, our force must be ready.

Technical expertise and operational savvy are the cornerstones of our Regiment. If you have not been trained for Additional Skill Identifier L3 (technical escort), Additional Skill Identifier L6 (nuclear/biological/chemical reconnaissance), or dismounted reconnaissance, I encourage you to attend one of these courses for professional development and career progression within the branch. The classes are taught year-round at the home of the Regiment—Fort Leonard Wood, Missouri.

Many initiatives are guiding our transformation toward an improved Regiment. A more technically capable response force is necessary, and we are vigorously preparing to enhance our capabilities to counter the proliferation of weapons of mass destruction. Changes will encompass doctrine, organization, training, materiel, leadership and education, personnel, and facilities. Efforts are currently in place to—

- Increase our military occupational specialty entrance standards.
- Implement hazmat technician certification.
- Transition to the One Army School System.
- Increase the academic standards and rigor for all professional military educational and functional courses.

I'm proud to serve as the Chief of Chemical and the Commandant, USACBRNS. And Regimental Command Sergeant Major Arnold and I are proud of you and of everything that you're doing for our Corps and our Army. I'm always soliciting good ideas. If you have one, send a note to me or to my office. We don't hold the market on good ideas; we count on our Dragon Soldiers to share! See you in the hot zone!

Elementis Regamus Proelium!

Endnote:

"CBRN Regiment 2016–2020 Strategy," *Army Chemical Review*, Summer 2013, p. 65.

Regimental Command Sergeant Major

Greetings to the entire chemical, biological, radiological, and nuclear (CBRN) community!

The Regiment continues to move forward. We received approval from the Deputy Chief of Staff for Human Resources (G-1), Department of the Army, to increase the armed Services vocational aptitude battery skilled technical entrance standards for our military occupational specialty from 91 to 100, effective 1 October 2013. The purpose of this increase is not solely for hazmat certification, but rather to posture our branch for holism in the future. We plan to increase academic rigor in all courses. Not everyone can hold Military Occupational Specialty 74D.

We have completed the program of instruction revision for the Advanced Leader's Course, which is now in line with the One Army School System. The three Army components are currently training together to the same standard in the Advanced Leader's Course and the Senior Leader's Course. Hazmat operations level certification and mass casualty decontamination certification are now graduation requirements for 74D advanced individual training. Although the passing rate was initially poor, it has consistently improved throughout the last four classes—thanks to the hard work of the 3d Chemical Brigade and the 84th Chemical Battalion.

We were unable to conduct the annual Best Warrior Competition this year; however, the competition is unique because it involves technical, military occupational specialty-centric tasks that have evolved since the inception of the competition in 2006—and we will do everything we can to conduct it next year. We managed to execute Regimental Week (normally held over the course of a full week) in a single day. Regimental birthday activities took place on 28 June 2013, which is the actual birth date of the Regiment. During the activities, the U.S. Army Chemical, Biological, Radiological, and Nuclear School conducted a plaque dedication ceremony in which the leadership and distinguished honor graduate awards were named after two great CBRN warriors from the past who continue to give back to our Corps and its Soldiers—Regimental Command Sergeant Major James Barkley (Retired) and Regimental Command Sergeant Major Peter Hiltner (Retired). Next year's birthday celebration is planned for 27 June. We will continue to assess temporary duty restrictions and do the very best that we can.



**Command Sergeant Major
Gabriel S. Arnold**



Retired Regimental Command Sergeants Major Peter Hiltner (center) and James Barkley (second from right) are honored during a plaque dedication ceremony.

I want to congratulate Colonel Maria Zumwalt and Command Sergeant Major Ken Graham for a job well done at the 48th Chemical Brigade Command. Their tenure came to a close in July 2013. I also want to welcome the two phenomenal leaders who have taken the reins of the 48th—Colonel Sven Erichsen and Command Sergeant Major Kendall Owens.

I had the opportunity to attend the Army Training and Leader Development Conference, 10–12 July 2013. The Chief of Staff of the Army, General Raymond T. Odierno, and Sergeant Major of the Army Raymond F. Chandler noted that leader development is the most important thing we do as leaders! General Odierno also noted that “Squad leaders are the foundation of the Army; they need to understand the eight-step training model.” The steps involved in the model are—

Step 1: Plan the training.

Step 2: Train and certify leaders.

Step 3: Select the training site.

Step 4: Issue the complete order.

Step 5: Rehearse.

Step 6: Execute.

Step 7: Perform an after action review.

Step 8: Retrain.

In talking with Soldiers here at Fort Leonard Wood, Missouri, and during my travels, I’m often asked about the most important skill of a CBRN warrior. My answer is always the same: leadership! We have always dealt with leadership problems, which is why leader development is so important. No matter what the future holds, we need great leadership. Neither technology nor weapon systems will ever overmatch great leadership and disciplined units. Therefore, we are constantly preparing the next generation of great Army leaders. But leader development is a responsibility shared among institutions, the operational force, and you. As a leader, please take the time to read Army Doctrine Reference Publication (ADRP) 1, *The Army Profession*.¹

Finally, I want to congratulate all commissioned officers, warrant officers, and NCOs who were selected for command or advancement during the centralized selection boards. The late, great basketball coach John Wooden once said, “If you are going to expect good things from those under your supervision, you had better show them that you really enjoy it yourself and are enthusiastic about what you are doing.”²

I am proud to serve with each and every one of you.

Elementis Regamus Proelium and honor and glory to the Regiment!

Endnote:

¹ADRP 1, *The Army Profession*, 14 June 2013.

²“John Wooden: Values, Victory and Peace of Mind” video transcript, *Ark TV*, <http://livedash.ark.com/transcript/john_wooden_values%2C_victory_and_peace_of_mind/918/KQED/Saturday_December_5_2009/132789/>, accessed on 13 September 2013.



Regimental Chief Warrant Officer

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

During this past year, the U.S. Army Chemical Corps took a bold step toward its future. Although many of us didn't expect a regimental chief warrant officer for our branch until fiscal year 2027, I am honored to write to you in that capacity—14 years early. This is a testament to the boldness of our Regiment.

It's been nearly 3 years since the CBRN warrant officer position was established within the Chemical Corps. In that time, 37 Soldiers have graduated from the CBRN Warrant Officer Basic Course; soon there will be seven more graduates. The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS)—with the help of the U.S. Marine Corps—ensures that these technical experts possess the CBRN knowledge and experience that commanders need. Through the processes of training, certification, and execution, CBRN warrant officers serve as the standardization and certification officers for their assigned units.

Every warrant officer in the military, regardless of branch, can attest to the challenges of becoming a warrant officer. The transition from serving years as a noncommissioned officer to executing the roles and responsibilities of an officer is arduous. However, many of the traits required to be an outstanding noncommissioned officer are the same traits required to be a great warrant officer.

To our new warrant officers—and I can't stress these enough—

- Don't forget where you came from, but embrace your appointments as warrant officers.
- Reach out to your fellow warrant officers and to the commissioned officers with whom you serve.
- Seek professional growth from those who came before you.
- Coach, teach, and mentor those who are coming behind you.

As the Army restructures throughout the next few years, CBRN warrant officers can expect to find themselves serving in positions in which CBRN warrant officers were not originally intended to serve. The days of warrant officers serving as members of field artillery battalion staffs are numbered. In the not-so-distant future, CBRN technicians will serve as master trainers and certifiers while assigned to CBRN companies and battalions.

As master trainers, CBRN warrant officers will be expected to maintain a level of proficiency above that of the Soldiers in the units they serve. Their areas of expertise will include an in-depth knowledge of the most current, up-to-date detection, identification, and all-hazards response equipment and crisis and consequence management operations. They will also be required to constantly monitor the CBRN capabilities and vulnerabilities of friendly and enemy forces.

Additionally, CBRN companies will be aligned with maneuver and combat service support elements for brigade combat teams. The CBRN companies will train alongside medical, explosive ordnance disposal, engineer, and military police units. CBRN warrant officers will serve as operational multipliers, bridging the gaps between the various elements.

I can't think of a more exciting time to be a member of the Chemical Corps. The Corps is broadening its level of responsibility and taking ownership of situations that demand its involvement. Taking on a more proactive role will place additional pressure on the enemy and will lengthen available response times, if needed, for our forward units.

For all who want to serve as a CBRN warrant officer, I recommend that you seek advice from any of the current CBRN warrant officers and that you accept challenges which make you competitive. Selections are decreasing, which makes the competition tougher. Given the high caliber of today's Dragon Soldiers, simply meeting the basic requirements will not guarantee selection.

As the regimental chief warrant officer, I am honored to serve all Dragon Soldiers. While the Chemical Corps will surely face changes and new directions, I will always be ready to do what I can to ensure the success of our teams.



**Chief Warrant Officer Two
Matthew Chrisman**

Elementis Regamus Proelium!

Strategic Landpower for the Company Commander:

Leading the U.S. Army Into the 21st Century

In Iraq and Afghanistan, a generation of officers grew up solving strategic dilemmas at the company and platoon levels. Well versed in the requirements and responsibilities of an Army at war, this generation must guide the Army into an ever-evolving and uncertain future. In order to navigate through the complexities in front of us, the Army needs capable, adaptable leaders—now more than ever—who champion the Army's strategic purpose and goals. With that, one of the most important discussions over the next few years will be how company commanders understand and implement the Army's central role in strategic landpower.

Over the last 2 years, the Army has put a lot of great people to work examining every facet of our training, doctrine, and warfighting capability. We did not do this to examine where we stand today. Rather, all of this effort was aimed at figuring out two things—what kind of Army we will need to meet future challenges and what we have to do to build that Army even as we continue fighting in Afghanistan and remain engaged throughout the world. Much of what we concluded is available in a single, brief document—U.S. Army Training and Doctrine Command (TRADOC) Pamphlet (Pam) 525-3-0, *The U.S. Army Capstone Concept*.¹ If you have not read it yet, please do so.

I won't summarize an already brief document in this article. Instead, I will discuss how the newest and most vital ideas relate to the execution level—the company. While things have been written about strategic maneuver, nothing has been written about its application at the tactical level. Although some ideas may be new, much of what must be done remains the same—training, standards, and the understanding of the human environment. This is a result of the unchanging character of the Army's basic strategic problem and mission. As in prior eras, as part of the joint force, our Army must retain its ability to protect U.S. national interests, execute any mission assigned to us, and win on any battlefield around the world.

Given our national strategy, we are required to field an Army capable of waging war decisively. Fielding a ready and responsive force with sufficient depth and resilience to wage sustained land combat is central to our mission, and that force must be able to conduct both combined arms maneuver and wide area security. A ready, robust, responsive force deters adversaries, reassures allies and, when necessary, compels our enemies to change their behavior. Maintaining such a force requires high levels of adaptability throughout each echelon of the Army. Only Soldiers with tactical skill and operational flexibility can effectively respond to changing tactical situations in support of our Nation's strategic goals and interests.

This is where company commanders fit into the concept of strategic landpower. Much like company grade officers did in Iraq and Afghanistan, the company commander of the future must be mentally agile enough to thrive within the parameters of mission command. Developing leaders who can do so, while providing clear task and purpose to their subordinates, will be critical to the success of any mission across the range of military operations. Effective Army commanders, including those at the company level, do not use fiscal constraints as an excuse for failing to develop the best possible mix of training, equipment, and regional expertise they can within their formations. Rather, they motivate their people and guide their units in a way that makes optimal use of available resources to create adaptive, effective forces.

Our Army has three primary and interconnected roles—prevent conflict, shape the operational environment, and win the Nation's wars. The company commander has important responsibilities in each of these.

Prevent Conflict

It is prudent here to define what a conflict is. Since the term gets thrown around a lot and attached to a lot of different situations, it is easy to misunderstand the doctrinal meaning. Conflict is an armed struggle or clash between organized groups within a nation or between nations in order to achieve limited political or military objectives. Irregular forces frequently make up the majority of enemy combatants we face now and may continue to do so in the future. Conflict is often protracted, geographically confined, and constrained in the level of violence. Each conflict also holds the potential to escalate into a major combat operation.



General Robert W. Cone
Commanding General, U.S. Army
Training and Doctrine Command

Many of the contingencies to which the United States responded militarily in the past 50 years have been appropriately defined as conflicts. The same can reasonably be expected in the future, but with the addition of cyberspace.

As was true during the Cold War, many of our greatest successes in the future will not occur on the battlefield; rather, maintaining peace may be our greatest achievement. This will be no easy task as global tensions and instability increase in ungoverned or weakly governed spaces around the world. History has taught us that without a capable, highly trained land force, the United States has little influence in many of those spaces. That land force, our Army, must remain the best-equipped, best-trained, and most combat-ready force in the world if it is to have the strategic effect we seek. That readiness is built from the bottom up.

This is the first critical point where company commanders must help shape the future. As owners of the training schedule, commanders have a critical role in developing team, squad, and platoon skills. Commanders ensure that broadening training—like language, geographical, and cultural familiarization—is done effectively, in a rigorous manner. Soldiers from the generation that fought in Iraq and Afghanistan will not be satisfied with training that is focused on artificial scenarios and made-up adversaries, so their commanders need to be innovative about preparing well-coordinated, realistic training. Subordinates must be challenged, and they have to feel that their challenges have a direct link to future operations. In order not to lose 12 years of combat-proven leader development, company grade officers must find a balance between building an Army prepared for the range of military operations and succumbing to pressure to “get back to the way it used to be.”

Unfortunately, the possession of such a trained and ready force is useless if it cannot affect regions where trouble is brewing. As units reposition from overseas bases and return to the United States, it becomes more crucial than ever for the Army to adopt an expeditionary mind-set and improve its expeditionary capability. To do so, the Army is aligning units to specific geographical regions and arranging them into scalable and tailored expeditionary force packages that meet the needs of the joint force commander across the range of military operations. In short, our Army will be better postured to generate strategic influence anywhere in the world and, as part of the joint force, to deter aggression.

In this construct, company commanders must conduct environmental training specific to their region. Becoming familiar with the people, cultures, and languages of the region in which one's unit will operate is critical to the success of a continental U.S.-based Army. Conventional-force companies learned much over the past 12 years as they executed missions historically reserved for special forces. War is fundamentally a human endeavor, and understanding the people involved is critically important. Company commanders cannot now ignore the hard-won lessons of their predecessors by ignoring one of the special forces' key tasks of understanding the operational environment. Those who meet this intent and enforce standards during this training will ensure that we pay those lessons forward to the next generation.

Shape the Operational Environment

During peacetime, the Army is continuously engaged in shaping the global environment to promote stability and partner nation capabilities. We do this for several reasons—the most important of which is maintaining peace in the pursuance of American national security interests. Where conflict has already broken out, engagement helps keep it contained and may even lead to a peaceful resolution. By helping to build partner capacity and trust, forward-engaged Army units greatly add to regional and global stability. Moreover, by building strong relationships of mutual trust, we facilitate access and set the conditions for success in any future combined operation in a particular region or country.

But what are shaping operations, and how are they executed at the company level? Shaping operations, which occur at any echelon, create or preserve conditions for the success of the decisive operation. Thus, engagement by regionally aligned forces positively shapes the environment in which the Army operates throughout the range of military operations. This aligns with the notion of the “strategic corporal,” which recognizes that in the information age, the actions of individuals and small groups can have widespread impact well beyond what was intended at the time. Every action has a reaction, and it is necessary for junior officers to be aware of the role their Soldiers and units play in the overall strategic goals of our Nation.

As part of regionally aligned shaping operations, the Army will employ a careful mix of rotational and forward-deployed forces, develop relationships with foreign militaries, and conduct recurring training exercises with foreign partners to demonstrate the Nation's enduring commitment to allies and friends. Where we share mutually beneficial interests with an ally, the Army enhances that partner's self-defense capacity and improves its ability to serve as a capable member of a future military coalition. More-capable allies generate a stabilizing influence in their regions, tending to reduce the need for American military interventions over time.

Shaping operations do not end with planned training engagements by forward-deployed units. Other actions that the units, or even small groups of individual Soldiers, take can have a shaping effect. Those actions will run the gamut from brigade- or division-size assistance after a natural disaster, to a single act of kindness to a foreign student in an Army school who later rises to high levels in his nation's armed forces. All shaping activities should convey to our intended audiences a clear message: We are committed to peace, and our Nation protects its friends and defends its interests. Instilling this understanding among our Soldiers and junior noncommissioned officers (NCOs) is one of the vital roles that company grade officers play in the execution of strategic landpower.

But there is a caveat. What may be the standard for us is not necessarily useful or welcome with our host nation partners. So, shaping also entails tailoring our delivery of security assistance to our counterparts in ways appropriate for their culture and military capabilities. Company commanders can gain great success here by applying key interpersonal skills to know and understand officers, NCOs, and Soldiers from other armies and to be humble when dealing with them.

Win the Nation's Wars

Despite our best efforts to shape a stable global environment and prevent conflict, violence is likely to remain endemic to the human condition. It has been said that “Only the dead have seen the end of war.”² While we do everything possible to prevent the outbreak of war, we must ensure that there never will be a day when the U.S. Army is not ready to fight and win wars in defense of our Nation.

What is a war? Historically, war has been defined as a conflict carried out by a force of arms, either between nations or between parties within a nation. However, as we consider hostile acts in cyberspace, the definitions of war and acts of war will continue to evolve. For example, large-scale cyberattacks against government operations or critical infrastructure—such as those

“An Army that cannot win on the battlefield is of little worth to the security of the Nation.”

in the 2008 Russian-Georgian conflict—can reasonably be considered acts of war. Leveraging the technological savvy of today’s Soldiers requires that leaders have an engaged interest in Soldier development. This will require junior leaders from the same generation who are as adept at leader development as they are technologically competent.

To defend our Nation, the Army must maintain the capacity to conduct strategically decisive land operations anywhere in the world. Though we will always conduct such operations as part of a joint force, we also acknowledge that war is a clash of wills that requires the ethical application of violence to compel change in human behavior. Here, company commanders make a dramatic contribution to the application of strategic landpower by being tactically and technically proficient in the execution of combined arms maneuver and wide area security. Without successful tactical execution, the best strategic concepts are doomed to failure.

The U.S. Army capstone concept lays out the details of what capabilities the Army must sustain and provides some guidance on how the force may be employed in the future. But it all boils down to one crucial point: An Army that cannot win on the battlefield is of little worth to the security of the Nation. As everyone is aware, we are facing austere times ahead. This fiscal reality cannot be an excuse for not doing our duty or losing sight of our purpose. In the final analysis, this country will one day—maybe soon—ask us to deploy to some distant land, close with and destroy an enemy, and then build a secure and lasting peace. Our Army is uniquely qualified to ensure the training necessary to make those things happen, thanks to the strength of our NCO Corps. Commanders must leverage the experience of their senior NCOs and find creative ways to properly train the fundamentals despite resource constraints. We’ve successfully done it before in our Army, and we are counting on our young leaders to do it again.

Conclusion

It was often platoon and company leaders who took the lead in solving strategic issues in Iraq and Afghanistan. It will continue to be platoon and company leaders who keep the Army the well-trained and globally responsive force that our Nation needs to deter our adversaries, protect our friends, and defeat our enemies in the 21st century. The U.S. Army must have company commanders who understand strategic landpower and their role in it. Seek out opportunities to ingrain your training events within the framework of strategic landpower. Write articles for your branch professional bulletins, discussing the impacts of strategic landpower for your specialty. You can find the strategic landpower white paper on the TRADOC Web site at <http://www.arcic.army.mil/app_Documents/Strategic-Landpower-White-Paper-06MAY2013.pdf>³ and on company commander discussion forums. This white paper is the primary reference for strategic landpower concepts and the one jointly approved by the Army Chief of Staff, the Marine Corps Commandant, and the commander of U.S. Special Operations Command.

It is the responsibility of senior Army leaders to set the conditions to make you and our Army successful. Your senior leaders appreciate what you do every day. These will be challenging, but exciting times; and I thank you for your service and sacrifice as we move toward making the Army of 2020 and beyond the best in the world.

Acknowledgement: Captain Jon D. Mohundro, Commander’s Planning Group, U.S. Army Training and Doctrine Command, contributed to the development of this article. 

Endnotes:

¹TRADOC Pam 525-3-0, *The U.S. Army Capstone Concept*, 19 December 2012, <<http://www.tradoc.army.mil/tpubs/pams/tp525-3-0.pdf>>, accessed on 7 November 2013.

²Although this quote is widely attributed to the Greek philosopher Plato, the source has never been definitively confirmed.

³“Strategic Landpower: Winning the Clash of Wills,” Strategic Landpower Task Force, <http://www.arcic.army.mil/app_Documents/Strategic-Landpower-White-Paper-06MAY2013.pdf>, accessed on 7 November 2013.

NO WARFIGHTER LEFT BEHIND

By Ms. Cynthia J. Learn, Dr. John R. Kennedy, and Mrs. Mary P. "Trish" Weiss

Chemical and biological (CB) agents, toxic industrial chemicals, and toxic industrial materials are threats to American warfighters in the modern battlespace. The warfighter's first line of defense against these threats is the protective mask, which for most is the M40 series protective mask or the M50 series Joint Service General-Purpose Mask (JSGPM). The mask must fit properly to perform the intended mission and to protect the warfighter from the hazards associated with exposure to CB agents, toxic industrial chemicals, and toxic industrial materials. Warfighters who cannot be properly fitted with a mask may be declared nondeployable, which can affect their careers. The Hard-to-Fit Team from the Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, Maryland, is committed to ensuring the deployability of warfighters and has taken on the mission of accommodating those who fall outside standard protective mask sizing. ECBC has been overwhelmingly successful in accomplishing its hard-to-fit mission, and the Hard-to-Fit Team lives up to its motto of "No Warfighter Left Behind."

Before 2003, warfighters who could not be fitted with a protective mask—and for whom efforts to resolve the issue were unsuccessful—were deemed nondeployable. Such news can be devastating to a warfighter. It means the loss of an opportunity for the warfighter to fully pursue his or her career. And more

importantly, it denies the warfighter the chance to contribute to his or her maximum potential. However, Army Regulation (AR) 600-8-101, *Personnel Processing (In-, Out-, Soldier Readiness, Mobilization, and Deployment Processing)*,¹ and the supporting Department of the Army (DA) Form 7425, *Readiness and Deployment Checklist*,² eliminated this concern. There is currently no regulation stating that a member of the U.S. Army will be considered nondeployable if he or she cannot be fitted with a protective mask. The decision regarding whether a warfighter is deployable is made by the commanding officer and is based on the theater of operations, the risk associated with the threat in that theater of operations, and the specific job position of the warfighter.³ Given that CB agents, toxic industrial chemicals, and toxic industrial materials represent potential threats to warfighters around the world, it seems that a commanding officer would have little choice but to declare a Soldier nondeployable if he or she could not be fitted for a protective mask.

The current, standard-issue equipment consists of the M40 or M42 personal protective mask; both are designed to fit the range of faces from the smallest 5th percentile female to the largest 95th percentile male. The JSGPM is designed to fit a slightly broader range of faces—from the smallest 2d percentile female through the largest 98th percentile male. But even



those whose faces fall within the 2d to 98th percentile may prove difficult to fit. A proper fit may be hindered by facial features such as unique nose sizes or shapes, long or narrow facial shapes, sharp or protruding jaws, cheek or temporal depressions, or low hairlines. In addition, for optimal visual performance and a proper fit, the pupils of the eyes must fall near the center of the mask lenses. Statistics indicate that a small percentage of warfighters cannot achieve a proper fit with a standard-issue mask. Given the large number of warfighters, even a small percentage of hard-to-fit individuals can add up to a significant number.

For those who are hard to fit with the M40 series protective mask and the M50 series JSGPM, the M45 CB protective mask can offer a possible solution. Originally designed for aircrew applications, the M45 mask is available in four sizes, with five sizes of interchangeable nose cups. This makes the M45 mask more adaptable and better able to accommodate hard-to-fit individuals. As the primary, hard-to-fit solution, the M45 mask is supplied with the same C2A1 canister and common spare and repair parts that are used with the M40 series protective mask, thereby minimizing the logistics footprint.

During the development of the M40 series protective mask, information was obtained from existing anthropometric measurement⁴ databases and analyzed to determine whether standard anthropometric measurements could be used as a tool to reliably predict mask size.⁵ Various teams of researchers measured 16 standard anthropometric variables, including head circumference, Menton-Sellion length, maximum frontal diameter, bitemporal fossa diameter, bizygomatic diameter (breadth), bigonial diameter, interpupillary distance, nasal root breadth, and nasal breadth. Analyses indicated that no single, standard anthropometric measurement or combination of standard anthropometric measurements could be used to reliably characterize the complex contour of the human face where it interfaces with the peripheral seal of the mask.⁶ The best way to ensure a proper mask fit involves the experienced eye of an expert mask fitter.

Elements of a Proper Fit

A proper fit is achieved when a mask seals around the face in such a manner that 100 percent of the incoming air passes through the filter canister(s) to remove harmful CB agents, toxic industrial chemicals, and toxic industrial materials and 100 percent of the expelled air passes through the outlet valve. When the mask is properly fit, the eyes are centered horizontally in the eye lenses, the nose cup is snug and does not block vision, and the hairline is outside the peripheral seal. A mask that does not fit properly cannot properly protect the warfighter during an operational mission.

A proper fit should be based on hard evidence. There are two factors used to describe how well a mask fits—the protection factor and the fit factor. Unfortunately, these terms are often used synonymously; however, they are not equivalent:

- *Protection factor* is an overarching term that encompasses the two components of protection—mask fit and mask leakage.



A properly fitted mask

- *Fit factor* is defined as the challenge aerosol concentration outside the protective mask, divided by the challenge aerosol concentration that leaks inside the respirator during testing, or—

$$\text{fit factor} = \frac{\text{aerosol concentration outside mask}}{\text{aerosol concentration inside mask}}$$

The fit factor is a concrete number that is based on quantitative measurements.⁷ For a mask that fits, the aerosol concentration inside the mask will be very small; consequently, the fit factor will be large. Any aerosol leakage into the mask decreases the fit factor. For U.S. Soldiers, Sailors, and Airmen, the minimum fit factor for M40 series protective masks is 1,667; for U.S. Marines, the minimum fit factor is 2,000.⁸

Fit Tests

The methods used to verify the integrity of an M40 series protective mask fit have historically involved two simple tests—the negative pressure test and the vapor challenge test.

To conduct the negative pressure test, the warfighter dons the mask, covers the air inlet with the palm of his or her hand, and inhales, causing the mask to collapse slightly (negative pressure). The warfighter then holds his or her breath for about 10 seconds. If the mask remains collapsed, the fit is considered to be good.⁹ Routinely used as a field-expedient test to ensure that the mask is properly donned, the negative pressure test is, by nature, highly subjective and cannot be used to detect small leaks. Furthermore, the test is not completely reliable because the mask tends to become seated too tightly against the face, creating the potential for leakage. And when the mask returns to its normal state, the fit is not always as tight as it had been, resulting in another potential for leakage.¹⁰



Oversized mask: The nose cup overlaps the eyes and field of vision.

For the vapor challenge test, the warfighter dons the mask and breathes normally while a piece of cotton or cloth wetted with isoamyl acetate (better known as banana oil) is passed around the edges of the mask. If the warfighter is unable to smell the banana oil, the mask fit is considered to be tight. Although it is impossible to take actual quantitative measurements using the vapor challenge test, a successful test is said to offer a fit factor of about 300.¹¹ Like the negative



Oversized mask: The eyes fall below the center of the mask, and the hairline is under the periphery.

pressure test, the vapor challenge test is highly subjective. Not everyone has an acute sense of smell. Furthermore, the sense of smell can be diminished by any number of factors such as a head cold, allergies, and repeated exposure to cigarette smoke or certain odors. An incident that occurred in the 1980s clearly demonstrates the subjectivity of the vapor challenge test. An individual who was being fitted for an M40 series protective mask indicated that he was unable to detect the smell of the banana oil; consequently, the fit was declared to be tight. However, a person who was smoking a cigarette then entered the area and the individual wearing the mask reported that he could smell tobacco smoke. Obviously, the mask did not fit tightly after all.¹²

For an initial fit, the modern fit test is far more reliable than the negative pressure test or the vapor challenge test. It makes use of the M41 Protection Assessment Test System (PATS) (National Stock Number [NSN] 4240-01-365-8241) to test the fit of the mask. The PATS contains a condensation nucleus counter that simultaneously samples and counts individual aerosol particles inside and outside the mask during the fit test. The counts are then used to compute the fit factor. The fit factor provided by the PATS is quantitative, as opposed to the subjective, qualitative results of the negative pressure and vapor challenge tests.

Mask-Fitting Procedures

To ensure the best mask fit test possible, several factors should be considered before testing begins. For example, the PATS equipment should be properly functioning and calibrated according to procedures outlined in TM 3-4240-349-12&P, *Operator and Unit Maintenance Manual for Protection Assessment Test System M41*.¹³ Next, preventive



Undersized mask: The eyes are too high, and the hairline is exposed.

maintenance checks and services should be performed on the mask according to the procedures outlined in TM 3-4240-346-10, *Operator's Manual for Chemical-Biological Mask: Field, M40A1; Chemical-Biological Mask: Combat Vehicle, M42A2*,¹⁴ or on the preventive maintenance checks and services cards for the M40 series protective mask.¹⁵ Loose or dirty parts, incorrect or missing gaskets, improperly installed components, and deteriorated head harnesses can cause the mask to leak. The individual being fit-tested should not wear cologne, perfume, or makeup and should not eat, drink, smoke, or chew gum within 30 minutes of the test. The individual should also be clean-shaven.



A JSGPM user requiring a customized head harness for a large head

Once the preliminary considerations have been addressed, the fitting of an M40 series protective mask is routine. The warfighter dons the mask; and the unit chemical, biological, radiological, and nuclear (CBRN) specialist tests for a proper fit using the PATS. The PATS quickly calculates the fit factor; the fit is then determined to be satisfactory or unsatisfactory. If the fit is initially determined to be unsatisfactory, the warfighter is instructed to readjust and tighten the head harness and the fit test is repeated. If a satisfactory fit still cannot be achieved, the warfighter and the CBRN specialist recheck the head harness, as it may have lost elasticity and may need to be replaced. If replacing the head harness does not result in a satisfactory fit, the harness may be replaced with a more form-fitting skull cap head harness (NSN 4240-01-390-057).¹⁶ If a satisfactory fit still cannot be achieved—or if a warfighter's protective mask is excessively uncomfortable or irritating or causes undue headaches—it is time to call upon the Hard-to-Fit Team.

Hard-to-Fit Team

The ECBC Hard-to-Fit Team is comprised of mask equipment specialists; mask support personnel; systems engineers; M40 series protective mask and JSGPM program managers; representatives from the Joint Project Manager for Protection, Joint Program Executive Office for Chemical and Biological Defense; logisticians; supply depot and transportation personnel; and funding personnel provided by the U.S. Army Deputy Chief of Staff for Resource Management (G-8). Team members are located across the country, but primarily at Edgewood, Maryland; Warren, Michigan; Stafford, Virginia; and Washington, D.C. The team provides information about equipment, suggests methods for achieving a proper fit, performs fit testing, orders and tracks shipments of hard-to-fit masks, and answers questions regarding masks or fitting needs.

Since its inception in 2001, the ECBC Hard-to-Fit Team has provided masks to more than 1,150 warfighters and civilians (including a brigadier general and a command sergeant major)—an average of more than 96 masks per year. During that time, only one individual has been declared nondeployable as a result of failure to achieve a satisfactory fit. Thanks to funds provided by the Joint Project Manager for Protection and the G-8, initial M45 hard-to-fit masks have been designated as free issue to warfighters in need.

The Hard-to-Fit Team is also capable of providing unique solutions. For example, two individuals who were unable to achieve a satisfactory fit with an extra-small M45 mask were able to satisfactorily fit into the British S10 mask, which has an even smaller periphery. The Hard-to-Fit Team assisted in the approval process that allowed the purchase and supply of British equipment for the battlefield. The Hard-to-Fit Team was also called upon to assist in the fitting of a large JSGPM. The JSGPM fit the individual's face, but the head harness was not large enough to comfortably fit the head. The JSGPM systems engineer and program manager worked with the manufacturer to create a special, larger head harness that solved the problem, and the item was added to the supply system. As the M45 mask nears the end of its life cycle, the Hard-to-Fit Team explores replacement hard-to-fit mask solutions, including the M53 chemical-biological protective mask.

As the M40 series protective mask begins to undergo large-scale replacement by the JSGPM, the focus turns toward the future. What will happen when the M45 aircrew mask is eventually replaced by the Joint Service Aircrew Mask—Rotary Wing? Once the replacement is complete, the M45 land warrior mask will no longer be produced or supported. The Hard-to-Fit Team has already considered this scenario and is currently developing a solution. In addition, future funding sources are being identified so that the Hard-to-Fit Team can continue to support all Services.

Conclusion

Are you—or someone you know—hard to fit with a protective mask? If so, follow the guidelines contained in Technical Bulletin (TB) 3-4240-341-20-1,

Chemical-Biological Protective Mask for Hard-to-Fit Service Members.¹⁷ The Hard-to-Fit Team will receive the order request and verify that the requester has not already been issued a mask via the Hard-to-Fit Program. (Hard-to-fit replacement masks are requisitioned through normal unit channels.) The team will then verify that all required information has been submitted and ensure that enough information is available to suggest the proper mask size. A representative may get in touch with the point of contact to obtain additional information and to answer questions about the process. The logisticians will place the mask order, contact the supply depot to ensure that the mask was shipped, and provide a tracking number upon request.

For more information or assistance regarding the Hard-to-Fit Program, contact the ECBC Corporate Communications Office by e-mail at <ecbc-communications@apea.army.mil>, by phone at (410) 436-7118, or by facsimile at (410) 436-6529.

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Endnotes:

¹AR 600-8-101, *Personnel Processing (In-, Out-, Soldier Readiness, Mobilization, and Deployment Processing)*, 18 July 2003.

²DA Form 7425, *Readiness and Deployment Checklist*, September 2010.

³Personal communication with Troy L. Sullens, Capabilities Development Integration Directorate, Maneuver Support Center of Excellence, Fort Leonard Wood, Missouri, 9 April 2013.

⁴The word *anthropometry* is derived from the Greek words *anthropos*, meaning “man” or “human being” and *metron*, meaning “measure.” (“Anthropometry,” *Medical Dictionary*, <<http://www.medical-dictionary.com>>, accessed on 24 September 2013, and “Anthropometry,” *Online Etymology Dictionary*, <http://etymonline.com/index.php?term=anthropometry&allowed_in_frame=0>, accessed on 24 September 2013.) As used here, anthropometric measurements refer to the statistical data of facial/head dimensions.

⁵Lisa Jackson et al., *Sizing Determination Final Report*, Chemical Research, Development, and Engineering Center, Aberdeen Proving Ground, Maryland, February 1988.

⁶Ibid.

⁷Personal communication with Gerald P. Young, Protection Engineering Division, ECBC, 4 April 2013.

⁸“Individual Protection Testers: M41 Protection Assessment Test System (PATS),” *CBRN Handbook: An Industrial Base Product Guide for Chemical, Biological, Radiological, and Nuclear Items for the U.S. Army*, Industrial Base Team, ECBC,

Rock Island, Illinois, June 2009, p. 219, <<https://www.ecbc.army.mil/cr/docs/A9RBA4D.pdf>>, accessed on 24 September 2013.

⁹P. N. Krishman et al., *A Potential Field Expedient Test for Face Mask Integrity*, Chemical Research, Development, and Engineering Center, Aberdeen Proving Ground, Maryland, October 1987.

¹⁰Ibid.

¹¹Ibid.

¹²Ibid.

¹³TM 3-4240-349-12&P, *Operator and Unit Maintenance Manual for Protection Assessment Test System M41*, 30 November 1999.

¹⁴TM 3-4240-346-10, *Operator's Manual for Chemical-Biological Mask: Field, M40A1; Chemical-Biological Mask: Combat Vehicle, M42A2*, 31 August 2010.

¹⁵“Mask, Chemical-Biological, Protective, M40A1/M42/A2,” Instruction Card Set (NSN 7690-01-491-9282), ECBC, Aberdeen Proving Ground, Maryland, 6 November 2001.

¹⁶“M40/M42 Series Masks . . . Easy Hard-to-Fit Solutions,” *PS: The Preventive Maintenance Monthly*, December 2011, pp. 48–49.

¹⁷TB 3-4240-341-20-1, *Chemical-Biological Protective Mask for Hard-to-Fit Service Members*, 1 June 2002.

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CATSs:

Time-Saving Tools for Trainers



By Mr. Mike E. Long

Are you still spending time developing team or unit training from scratch? Did you know that there is a better, more efficient way? Since February 2007, digitally available combined arms training strategies (CATSs)—the exclusive Army training strategies—have served as time-saving training tools for commanders and trainers. However, a significant percentage of officers, warrant officers, and noncommissioned officers attending professional courses at the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) have never heard of CATSs.

According to Army Regulation (AR) 350-1, *Army Training and Leader Development*, the commander **will use** CATSs to prepare the unit to perform those core missions for which the unit was doctrinally designed.¹ And according to Army Doctrine Reference Publication (ADRP) 7-0, *Training Units and Developing Leaders*, “Commanders also familiarize themselves with training enablers such as the Army Training Network (ATN), the Digital Training Management System (DTMS), [CATSs], and relevant training support and training development capabilities.”² In spite of this, and in spite of the fact that the Collective Training Division, Directorate of Training and Leader Development, USACBRNS, has been conducting CATSs briefings for all USACBRNS professional course students for several years, large numbers of incoming students continue to have no knowledge of CATSs and—in some cases—no knowledge of the availability of proponent-developed collective tasks designed to help them train Soldiers.

The Summer 2012 issue of *Army Chemical Review* contains an article entitled “CATS: The Army’s Unit Training Strategy”³ that provides background information on CATSs, including information about how CATSs are developed and where they are located. The article also contains a sample task selection from a chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) battalion CATS. I recommend that you read this article to gain a better understanding of the various components of a CATS task selection.

CATSs Basics

CATSs are proponent-developed, Army-approved, digitally delivered training strategies that assist commanders in the development of unit training plans. Commanders can use CATSs to extract a training plan for their specific unit based on their mission and on guidance from their higher command. CATSs—which make use of the crawl-walk-run training methodology and include recommendations regarding who,

what, and how to train—focus on Regular Army and Reserve Component unit training throughout the Army force generation (ARFORGEN) cycle. Furthermore, CATSs are designed to be easily modified during unit training plan development in DTMS to meet specific training requirements based on the unit mission and the commander’s assessment.

The CATS development process is illustrated in Figure 1. At selected points throughout the process, the Collective Training Division requests that the unit review and provide input on the CATS under development. The ultimate goal is to ensure that units are a part of the CATS development process. Unit involvement is expected to lead to better, more stable training products and to a better understanding of CATSs and how they help units conduct training. Upon receipt and adjudication of the unit comments, the Collective Training Division makes appropriate adjustments to the CATS before it is finalized and published.

There is limited time available for Regular Army and Reserve Component units to train; therefore, CATS are designed to train on multiple collective tasks during regular training events. U.S. Army Forces Command guidance indicates that Regular Army units have about 120 training days available per year, while Reserve Component units have about 39. It is impossible for a unit to conduct the frequency and duration of training recommended within a given CATS. Although the full range of progressive training events that support various unit readiness assessments must be provided, units are not required to complete every training event. CATSs are descriptive, task-based, and event-driven to provide unit commanders with training strategies that assist them in developing unit training plans. CATSs offer options for commanders to accommodate training at the appropriate level of difficulty based on training readiness assessments.

Unlike the obsolete, printed mission training plans and drill books that were difficult and impractical to change, the digital CATS provides units with the most current tasks in near real time. As proponents make changes to tasks, the tasks are digitally updated. This ensures that CATSs are living documents and that the most current tasks are always available to trainers.

Tools Available

The Collective Training Division has developed CATSs for every Standard Requirements Code 03 (chemical, biological, radiological, and nuclear [CBRN]) unit and several Standard

Requirements Code 37 (Maneuver Support Center of Excellence) units. The division also works very closely with other proponents that have CBRN formations in their units—such as the Maneuver Center of Excellence—to ensure that they use the correct proponent collective tasks for these formations. Table 1 lists the CATSs for which the Collective Training Division is responsible.

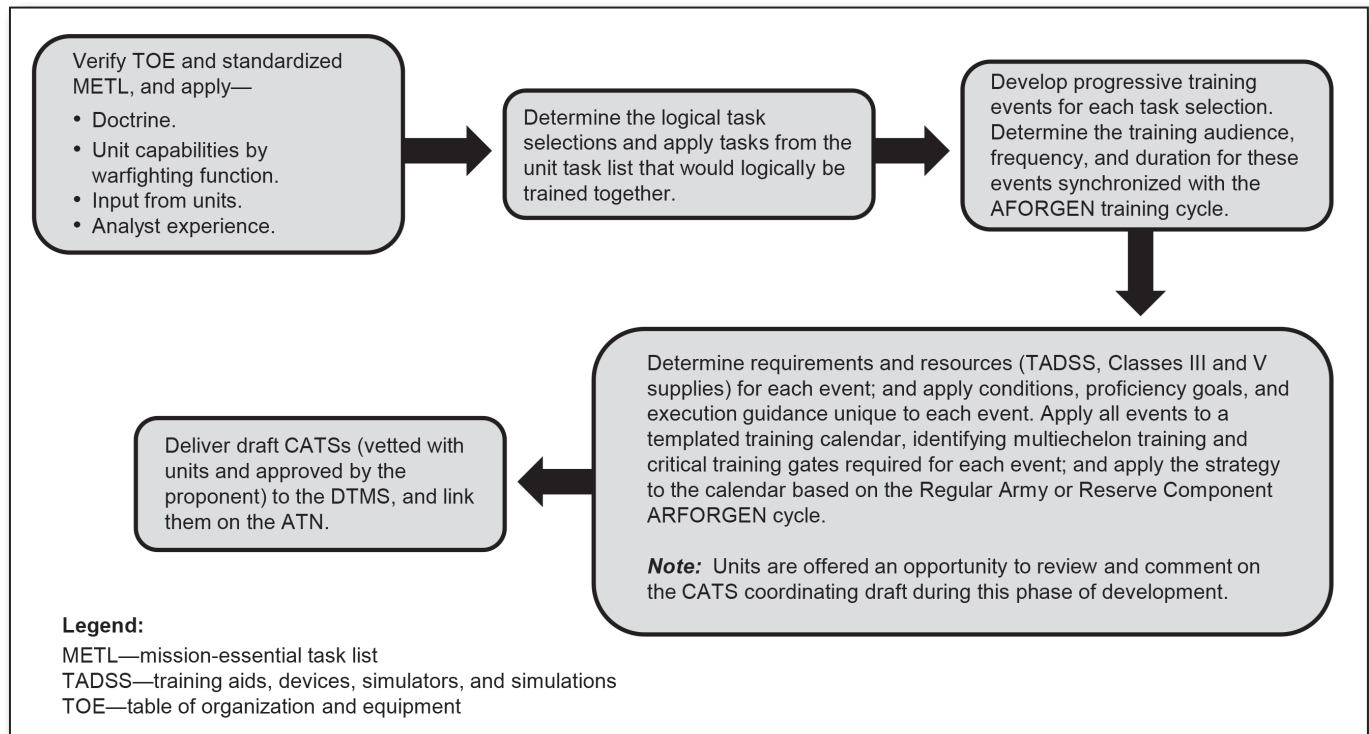


Figure 1. CATS developmental process

Unit Title	TOE/TDA Number	Date Published to DTMS
CBRNE Operational Headquarters	37800R000	12 April 2013
Nuclear Disablement Team	37507R000	20 March 2013
WMD Coordination Element	37517R100	25 February 2013
CBRN Brigade	03492R000	20 May 2013
CBRN Battalion	03496R000	24 April 2013
CBRNE Battalion (Technical Escort)	03636R000	25 April 2013
CBRN Company (Area Support)	03420R300	25 February 2013
CBRN Company (Biological)	03470R000	25 February 2013
CBRN Company (Maneuver Support)	03410R000	12 March 2013
CBRN Company (Obscuration)	03440R100	26 February 2013
CBRN Coordination Element	03579RA00	1 March 2013
CBRN Reconnaissance Detachment	03529R000	25 January 2013
CBRNE Company (Technical Escort)	03530R000	24 April 2013
WMD—Civil Support Team	300627-35	22 May 2013

Legend:
 TDA—table of distribution and allowances
 TOE—table of organization and equipment
 WMD—weapons of mass destruction

Note: As of the date of this article, the date published to DTMS is current; however, CATSs are reviewed and updated on an annual basis to ensure that they include unit input and remain current.

Table 1. CBRN CATSs

	DTMS < https://dtms.army.mil >	ATN < https://atn.army.mil >	CAR < https://atiam.train.army.mil/catalog/catalog/search.html >	CKN < https://www.us.army.mil/suite/designer >
CATSS	X	X		
Assessment of tasks and task selections	X			
Individual tasks	X	X	X	
Collective tasks	X	X	X	
Unit task lists	X	X		X
DTMS tutorials		X		
Unit training “how to” information		X		
Doctrine		X	X	X
Quick reference codes (tasks)			X	
METL viewer		X		
Collaboration among users		X		
FM 7-15, <i>The Army Universal Task List</i> ⁴		X		
Legend: CAR—Central Army Registry CKN—Chemical, Biological, Radiological, and Nuclear Knowledge Network FM—field manual METL—mission-essential task list				

Table 2. Information available from digital sources

Numerous Web sites are available to assist with unit training. Table 2 contains a list of digital resources and describes the information available within each of the resources. Time spent reviewing these sites will be of great benefit to you in leveraging the many tools available.

Conclusion

Not all change is good. But after personally observing the benefits of CATSS, I have concluded that this was a much-needed change for our Soldiers and units in the field. However, the benefits of CATSS will not be fully realized until the change is embraced and CATSS are used effectively.

CATSS are living documents that are capable of being quickly and readily adapted to the needs of the unit and the Army; they are updated on an annual basis to ensure that they remain accurate. CATSS assist unit training managers in the development, conduct, and evaluation of training, thus reducing planning time and helping warfighters achieve their missions. Therefore, Army leaders and trainers should be knowledgeable about CATSS and their value to unit training management.

For more information about CATSS, contact Mr. Mike Long at <mike.e.long.civ@mail.mil> or (573) 563-6318. 

Endnotes:

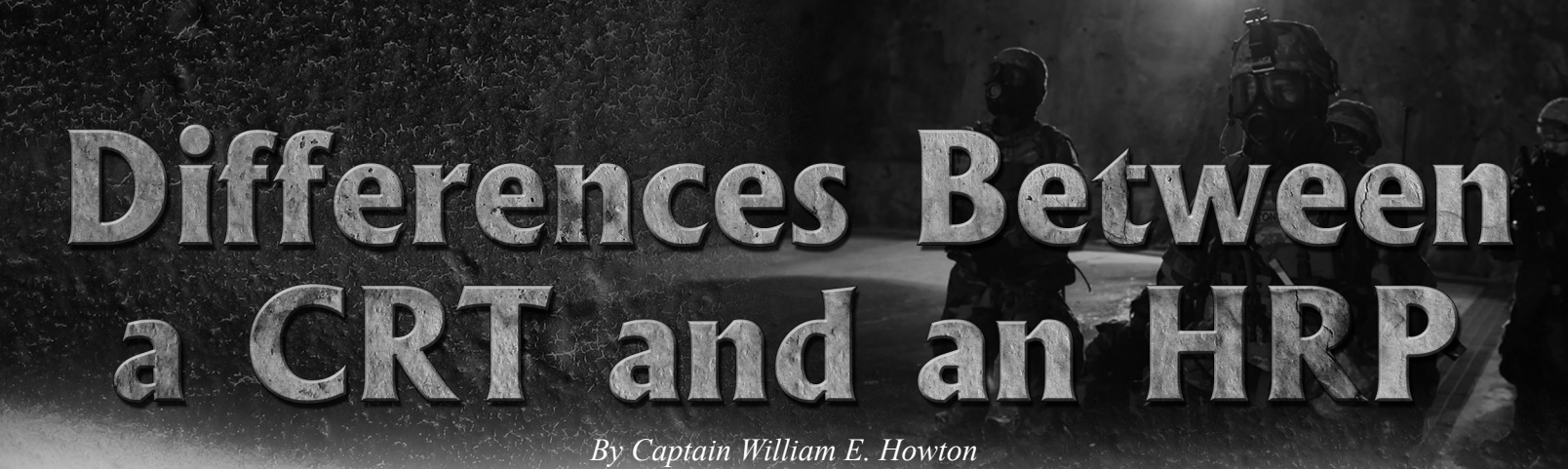
¹AR 350-1, *Army Training and Leader Development*, 18 December 2009.

²ADRP 7-0, *Training Units and Developing Leaders*, 23 August 2012.

³Todd R. Ruggles, “CATS: The Army’s Unit Training Strategy,” *Army Chemical Review*, Summer 2012, <<http://www.wood.army.mil/chmdsd/issues/summer2012/CM%20Ruggles.pdf>>, accessed on 30 July 2013.

⁴FM 7-15, *The Army Universal Task List*, 27 February 2009.

Mr. Long, who retired as a sergeant major after 24 years of service with the U.S. Army, is currently the chief of the Collective Training Division. He holds bachelor’s degrees in computer information systems and business administration from Columbia College, Fort Leonard Wood, Missouri.

The background of the page features a dark, grainy image of soldiers in full chemical, biological, radiological, and nuclear (CBRN) protective gear. They are standing in a line, facing forward, with their hands at their sides. The lighting is dramatic, highlighting the contours of their suits and helmets against a dark, smoky or dusty environment.

Differences Between a CRT and an HRP

By Captain William E. Howton

The mission of a chemical, biological, radiological, nuclear, and high-yield explosives response team (CRT) is to serve as the combatant commander's expert in the identification, remediation, transport, and destruction of state-sponsored and clandestine weapons of mass destruction. From December 2008 to November 2011, I served as the assistant team leader or primary team leader of various CRTs within the 110th Chemical Battalion (Technical Escort). During that time, I participated in months of rigorous on- and off-site training to develop the high level of technical proficiency required of CRT members. And after about a year and a half of on-the-job training, live-agent training exercises, and continuous technical training provided by some of the country's best doctors and forensic specialists, I felt that I had attained a reasonable state of proficiency.

Accompanied to Korea by a hazmat response platoon (HRP) from the 23d Chemical Battalion, I led CRTs through joint exercises held in the Republic of Korea from March 2010 to October 2011. Based on discussions with the platoon leader and with my superiors, it seemed to me that an HRP was equipped to serve as the combatant commander's mobile assessment team, quickly conducting assessments throughout theaters in advance of the mobilization of highly limited resources such as CRTs. Despite my own understanding of the differences between a CRT and an HRP, the HRP and its leaders were interested in portraying themselves to combatant commanders as a CRT—minus the explosive ordnance disposal (EOD) capability. Fearing that without extensive HRP training, my opinion might be biased, I looked to my superiors for guidance. But when I saw my battalion commander's reaction following the realization that the HRP message had been conveyed throughout a month-long exercise, I knew that there was a division of opinion within the Chemical Corps. Therefore, my company commander and I set out to learn everything we could about HRPs. We wanted to determine the differences between CRTs and HRPs so that each unit could be used effectively.

We spent 6 months gathering the tools and information (standing operating procedures, tables of organization and equipment, mission-essential task lists) necessary to achieve our goal. In addition, we followed a CRT and an HRP through a month's worth of exercises conducted in the Republic of Korea during October 2011. During that time, we gathered information on personnel, equipment, and training and we

discovered great similarities and differences between the two types of units. This information should be used to establish effective doctrine for the use of the units.

The proposed Corps force structure for Fiscal Year 2014 calls for adding more technical escort companies and for officially providing doctrine and a table of organization and equipment for an HRP—a decontamination platoon that has been supplied with the Joint Project Equipment Manager Set 2 (JPME2), which consists of a man-portable reconnaissance robot and an array of detection equipment. Enough JPME2s have been fielded to each of the three active duty chemical, biological, radiological, and nuclear (CBRN) battalions to allow one platoon per company to receive the JPME2—along with the new equipment training necessary to establish an HRP. The HRPs must simultaneously maintain their proficiency with assigned, mission-essential task list decontamination tasks. A CRT—the tactical element of a technical escort company—has equipment similar to that of an HRP, but with a multitude of distinct differences. And the differences between CRTs and HRPs stretch far beyond equipment. They extend to command and personnel structure, capabilities, purpose, size, and tactical employment and mobility.

The rank structure of a CRT, which is led by a captain, allows for autonomy and provides that the Soldiers assigned to the CRT are experienced or are surrounded by others who are experienced to ensure precise execution. In contrast, the Soldiers assigned to an HRP—which is led by a lieutenant—are structured just as they would be in a CBRN company. The unfortunate truth is that a captain's rank carries with it the assumption of competence and experience, while a lieutenant is viewed with mild skepticism until that skepticism is proven unwarranted.

CRTs receive more than 14 weeks of specific, individual training—excluding the 5-week L3 (Technical Escort) additional skill identifier course. At least some—but preferably all—Soldiers are required to receive the specific, individual training to become proficient members of the CRT before executing any missions. This allows flexibility in the employment of CRT Soldiers and decreases the time on target and the time spent in the various levels of protective equipment required. CRT members are screened to ensure that they are eligible to receive certain briefings and that the investment in training and proficiency is more retainable than it is for Soldiers who have just completed advanced individual

training. As with individual training, collective training is also measured in months, rather than days. This provides combatant commanders with the skill sets they need when they need them. In contrast, HRP receive a week of new-equipment training; they then train according to training plans established by separate battalions. Because there is currently no doctrine, there are differences in the training outlines and employment capabilities of each HRP. Based on my experience, HRP attempt to attain a skill level that is on par with CRTs. However, while this may generally be plausible, a short-term concern is that Soldiers, leaders and, ultimately, customers (combatant commanders) might be confused about what it is that CRTs do versus what it is that HRP do.

The Chemical Corps is moving in a perfect direction with regard to the proposed force structure. By providing tactical commanders with small-scale reconnaissance and assessment capabilities, it is possible to supply them with immediate feedback concerning whether Soldiers in the battlespace are in imminent danger. If they are, any attempt to employ them as a sample-collecting attribution force will likely result in poor samples and—if explosive hazards are present—in unnecessary casualties. CRTs currently fill the Army requirement for reconnaissance and assessment capabilities. HRP should be trained in the area of toxic industrial materials and provided with the skills necessary to enter a site in appropriate protective equipment to provide a solid tactical picture for follow-on forces, which might include a CRT.

Each CRT includes a resident, three-Soldier EOD team that is responsible for the render-safe and elimination CRT core capabilities. This allows the CRT the autonomy to continue its mission when explosive hazards are encountered. No such structure exists within HRP. Therefore, when an HRP encounters an explosive hazard, it—like all other units within the Army—must stop and await the arrival of an EOD team. HRP sometimes perform leak, seal, and pack procedures on inert, unexploded ordnance in a training environment without first having it rendered safe by EOD technicians. This practice does not reflect adequate respect for dangers encountered on the battlefield, and it sets the HRP Soldiers up for failure. As HRP doctrine is established and continually refined, it should be made explicitly clear that HRP Soldiers who encounter an explosive hazard must immediately stop and call higher headquarters for support. Once a round or pallet of rounds is considered or rendered safe by an EOD technician, the HRP Soldier can then safely perform leak, seal, and pack procedures. To summarize, the importance of the EOD team to the CRT cannot be overstated; without it, the CRT would be unable to accomplish essential core missions. Referring to an HRP as “a CRT minus the EOD capability” is like calling it “an antitank platoon minus javelins.”

The CRT equipment is considerable. When the hazard is unknown or unclear, the transport of multiple pieces of equipment requiring no less than eight Chinook (or equivalent rotary-wing platform) lifts is necessary. Based on the threat, the CRT equipment set can be pared down to fit the assigned mission. But an HRP can also be beneficial here. An HRP has

the ability—however cumbersome—to man-pack all of its equipment. This allows the relatively agile HRP to be moved to any portion of the battlespace to execute assessment operations. In this respect, HRP are well suited as first- or second-entry capabilities. The heavy saws and tactical torch-cutting capabilities of CRTs often lend credence to their first-entry capability. While CRTs may serve as first-entry capabilities in limited instances (such as when explosive hazards are present on the other side of a door), they are designed more for entry denial following the completion of on-site operations.

When a combatant commander has an attached CRT and HRP, he or she should be aware of their differences and the differences in how they are employed. Because doctrine dictates the operation and proficiency requirements of an established CRT and those of an HRP under development, HRP must be described truthfully and accurately. HRP are not simply CRTs without EOD assets; and when they are described as such, the maneuver commander expects an HRP with an EOD team to be capable of accomplishing all that a CRT is capable of accomplishing. CRT and HRP doctrine, training, and leadership must clearly articulate to the employing forces that—

- HRP are agile reconnaissance assets that are capable of quick toxic industrial material assessments and limited suspected chemical and biological agent assessments.
- CRTs are bulky exploitation forces that are designed to confirm the existence of weapons of mass destruction within the battlespace, to provide for their transport and elimination, and to coordinate their final civilian confirmation through nationally recognized reference laboratories.

Editor's note: Doctrine governing the organization and capabilities of HRP will be established once the CBRN Force Design Update is approved and implemented. At that time, HRP will operate using the tactics, techniques, and procedures outlined in Army Techniques Publication (ATP) 3-11.37, *Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Reconnaissance and Surveillance* (published 25 March 2013), to enter a site and conduct an assessment so that follow-on technical forces can conduct site exploitation. The follow-on forces (CRTs) will conduct operations according to ATP 3-11.23, *Multi-Service Tactics, Techniques, and Procedures for Weapons of Mass Destruction Elimination Operations* (published 1 November 2013). The CRT mission, organizational layout, capabilities, and employment considerations will be listed in ATP 3-11.24, *Technical Chemical, Biological, Radiological, Nuclear, and Explosive Force Employment*, once that document is published.



Captain Howton has served as an assistant team leader, a primary team leader, an observer/controller, and a company executive officer with the 110th Chemical Battalion. He is currently attending UH-60 pilot training at Fort Rucker, Alabama. Captain Howton holds a bachelor's degree in chemistry from the University of West Florida.

THE 501st CBRNE Company Paves the Way for the Combined Arms Prosecution of WMD Sites and Facilities

By First Lieutenant Shaun K. Tateishi

For decades, the Democratic People's Republic of Korea has attempted to acquire chemical, biological, radiological, and nuclear (CBRN) weapons. Today, the Democratic People's Republic of Korea represents one of the most significant security threats in the world, as it conducts nuclear tests and likely maintains stockpiles of chemical and biological weapons.¹ If the current political situation were to collapse—due to a civil war or a major Northeast Asian conflict—the Democratic People's Republic of Korea would not likely prevail through the use of conventional weapons alone. This would exponentially increase the chances that North Korean leaders would use CBRN weapons.²

The arrival of the 501st Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Company (Technical Escort)—with multiple validated chemical, biological, radiological, nuclear, and high-yield explosives response teams (CRTs)—to the Republic of Korea (ROK) fulfilled an immediate requirement for CBRNE expertise to deter the use of CBRN weapons and, if needed, fight alongside maneuver forces in the prosecution of weapons of mass destruction (WMD) sites and facilities in North Korea. This article highlights the operational capabilities that the 501st provides to U.S. Forces Korea through the combined arms mission of WMD sensitive-site exploitation (SSE).

Combined Arms Prosecution of WMD Sites

The arrival of the 501st CBRNE Company in the ROK sparked an unprecedented integration of technical escort assets into combined arms battalions. With the prosecution of WMD sites a key focus on the peninsula, each of the CRTs has been partnered with a combined arms battalion within the 1st Armored Brigade Combat Team, 2d Infantry Division. The 501st has conducted combined training missions with the 2d Battalion, 9th Infantry Regiment; the 1st Battalion, 72d Armor Regiment; the 4th Squadron, 7th Cavalry Regiment; and the 1st Battalion, 102d ROK Infantry Regiment. These partnerships



U.S. and ROK CRTs participate in a combined mission.

have resulted in numerous collaborative training missions featuring unified land operations in support of WMD SSE.

The regular collaborations have increased capabilities for maneuver battalions and the 501st CBRNE Company. Because maneuver units have been clearing suspected facilities before CRT entry, they have been confronted with challenging CBRNE scenarios and with hurdles in relaying the information they have collected to the CRTs. Meanwhile, the CRTs have been developing tactically through close-quarter battle training and the development of procedures for integration into combined arms battalions during unified land operations.



ROK CRT soldiers decontaminate a U.S. CRT member.

ROK Alliance

In addition to collaboration with U.S. maneuver forces, the 501st CBRNE Company has also formed strong bonds with its ROK army counterparts—specifically, the 24th Chemical Special Forces Battalion. The units have collaborated for field training exercises and strengthened their operational capabilities through combined missions that integrate the teams and their resources. The benefits of the alliance include expanded operational capability, increased combat effectiveness, and cultural and language readiness.

Early in the collaboration, the U.S. and ROK CRTs worked side by side, completely integrating into one unified team to conduct SSE exercises. This allowed the individual teams to gain a firm understanding of the capabilities, tactics, techniques, and procedures of each. Since then, the two partners have produced CRTs that are comprised of half U.S. and half ROK troops and are capable of conducting multiple missions simultaneously—effectively increasing CRT capacities. These combined CRTs also help resolve problematic language barriers that often arise when conducting SSE in a foreign country.

Air Capabilities

As the integration of CRTs with combined arms battalions became a proven concept, the next hurdle to be conquered during exercises was the movement of teams to high-priority targets. With a limited number of CRTs, combined with potentially challenging overland movement through the mountainous terrain of North Korea, air movement emerged as a key capability. The 501st CBRNE Company is prepared to execute several air movement packages, ranging from



A CRT at work



A CRT sling load mission

packages with personnel only to packages including all vehicles and equipment.

During the early integration of CRTs and maneuver battalions, CRT personnel were transported to the target area via helicopter as part of an air assault operation exercise. This means of CRT transportation has proven to be simple and effective, though limited due to the lack of equipment that can be carried and the lack of ground transportation available once the aircraft has landed. To address these limitations, the company organized and executed the air movement of a CRT—with all its associated vehicles and equipment—to a training mission by loading the vehicles with the full team set and transporting them by sling load, along with the CRT, to the target area. Once it reached the target area, the team was immediately mobile and prepared to execute WMD SSE.

Conclusion

Given suspected WMD and increased political tensions, the Democratic People's Republic of Korea is considered one of the most significant security threats in Northeast Asia. The realignment of the 501st CBRNE Company to the ROK filled a critical shortage in CBRNE expertise and response capability. However, not content to rest on its laurels, the company has aligned itself with combined arms battalions of the 1st Armored Brigade Combat Team and with ROK army allies. In addition, it has pushed the tactical boundaries of technical

escort operations through air movements of CRT personnel and equipment. The capabilities that the 501st CBRNE Company brings to U.S. Forces Korea are unique and of vital importance, and the presence of the 501st on the Korean peninsula directly supports the 2d Infantry Division motto of "Fight Tonight."

Endnotes:

¹*Military and Security Developments Involving the Democratic People's Republic of Korea—2012: A Report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2012*, U.S. Department of Defense, 15 February 2013, <http://www.defense.gov/pubs/Report_to_Congress_on_Military_and_Security_Developments_Involving_the_DPRK.pdf>, accessed on 16 September 2013.

²Bruce W. Bennett, "Deterring North Korea From Using WMD in Future Conflicts and Crises," *Strategic Studies Quarterly*, Vol. 6, No. 4, Winter 2012, pp. 119–151, <<http://www.au.af.mil/au/ssq/2012/winter/bennett.pdf>>, accessed on 17 September 2013.

First Lieutenant Tateishi is a CRT leader, 501st CBRNE Company. He holds bachelor's and master's degrees in communication from Hawaii Pacific University and a graduate certificate in museum studies from the University of Hawaii.

Joint U.S. Forces Korea Portal and Integrated Threat Reduction Advanced-Technology Demonstration

By Ms. Sharon McCann

In response to the President's National Strategy for Biosurveillance,¹ various agencies are analyzing the most cost-effective solutions to developing a global surveillance network that is capable of providing early warnings of the occurrence of natural or deliberate biological threats. The Armed Forces Health Surveillance Center and the National Center for Medical Intelligence command much of the attention in the strategic biosurveillance arena; but chemical, biological, radiological, and nuclear (CBRN) forces, equipment, and doctrine also play an important role. Without CBRN forces to collect and process samples, sensors to detect threats and provide warnings, and Soldiers to evaluate the resultant information and advise the commander, the biosurveillance mission is incomplete. The Chief of Chemical has charged CBRN Soldiers with serving as technical experts in their field, which includes biological operations. This directive comes at a time when the Army has removed the Biological Integrated Detection System from the Regular Army and when biological detection no longer commands the attention that it once did and still should.

The need for early warnings of biological agents cannot be fulfilled by technology alone. In particular, U.S. Forces Korea (USFK) identified several biosurveillance-related capability gaps and submitted an operational-needs statement to request a solution for addressing these gaps.

The Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD) designed the Joint U.S. Forces Korea Portal and Integrated Threat Reduction (JUPITR) advanced-technology demonstration to address USFK capability gaps and operational needs. Only by developing a biosurveillance network that leverages new technologies and data fusion capabilities can military forces accomplish the task. By combining the capabilities of detection equipment, observances of Soldiers on the ground, and disease indicators discovered by the medical community and by fusing the resulting information, military commanders can achieve the situational understanding they need to make crucial decisions. The goal of the JUPITR advanced-technology demonstration, which officially kicked off in September 2013 and is expected to continue into fiscal year 2015, is to demonstrate potential materiel solutions and tactics, techniques, and procedures that may serve as a road map to achieving USFK biosurveillance requirements. JUPITR consists of the following components:

- **Biosurveillance portal.** The biosurveillance portal integrates environmental, medical, and other relevant information from sensors, reports, and open sources and shares hazard analyses for biological warfare agents and information about public health threats with Republic of Korea forces. This component fuses data and provides commanders with the information they need to make decisions. The Joint Program Manager for Information Systems, JPEO-CBD, provided an early demonstration of the first generation of the biosurveillance portal during Able Response 13, held 19–21 June 2013 in Seoul, South Korea. This well-received initial demonstration of the portal laid the groundwork for involvement in Able Response 14.
- **Biological integrated capability sets.** Four capability sets increase the capacity of existing laboratories and analyze the increased number of samples produced in environments with elevated biological threats. The sets identify biological toxins and pathogens of operational concern, augment up to three laboratory sites, and increase the number of samples that can be processed (up to 100 samples within 6 to 24 hours). During the demonstration, the four sets will be introduced in stages that are coordinated with corresponding exercises and facilitated by subject matter experts from the Joint Program Manager for Contamination Avoidance, JPEO-CBD.
- **Assessment of environmental detection.** This component provides sensors that can detect, collect, and identify biological aerosol threat agents. Several new technologies will be tested alongside the current joint portal shield and the dry filter unit systems. The operational demonstration will be conducted in the Republic of Korea so that the Joint Program Manager for Contamination Avoidance can test the reliability and false alarm rate of each system in that environment. In addition, the new technologies will be challenged with interferents and agent aerosol releases in the ambient breeze tunnel at Aberdeen Proving Ground, Maryland, in order to determine which system best meets the Army's needs.

- **Early warning.** The networking of chemical and biological sensors with a force protection early warning defense system will be demonstrated through the early warning component. The Joint Program Manager for Guardian, JPEO-CBD, fielded the Combat Outpost Surveillance and Force Protection System capability to demonstrate this integration for military police. The early warning component provides a means for data fusion of force protection systems that cue CBRN detection systems to expedite the decisionmaking process following a biological attack.

The advanced-technology demonstration will culminate with the joint military utility assessment. The assessment will represent the warfighter's perspective on the JUPITR components and will identify the capabilities and limitations of the completed operational demonstration. It will help the USFK determine how technology supports its needs and how to use the demonstrated capabilities. The USFK will be able to use the residual capability left behind by the advanced-technology demonstration as a cornerstone to expand the biosurveillance capability in Korea and to fulfill the Army-approved, operational-needs statement.

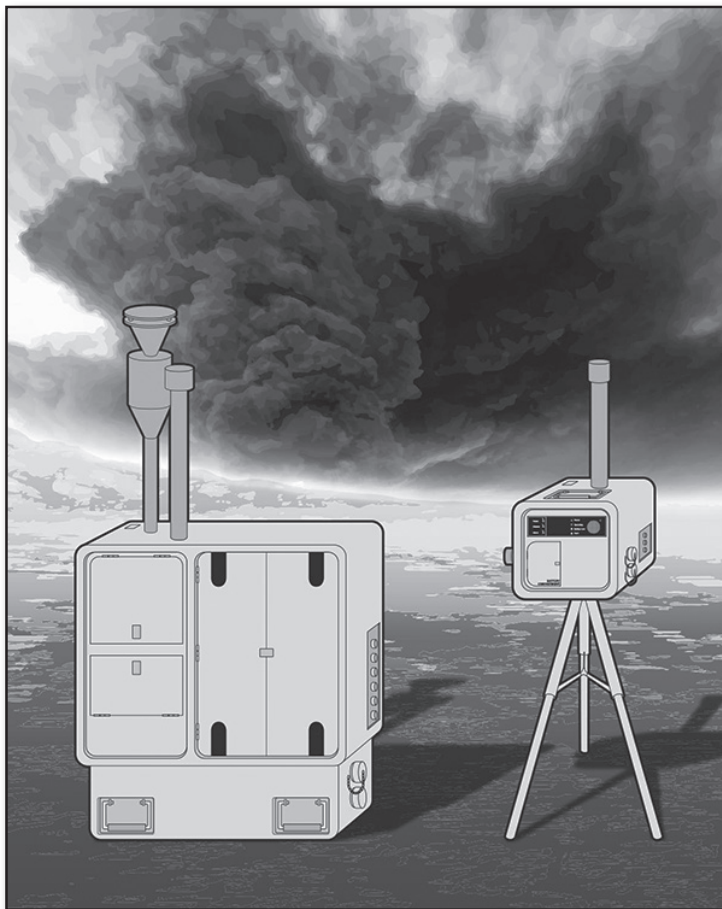
The strategic concept of biosurveillance requires the gathering, integrating, interpreting, and communicating of essential information to achieve early detection and warning and to contribute to overall situational awareness, thereby enabling better decisionmaking. This is in alignment with the ultimate goal of synergizing all available data to produce information that commanders can use to make better decisions. The purpose of the JUPITR advanced-technology demonstration is to demonstrate potential materiel capabilities that might be used to meet this goal. In addition, it allows the testing of existing concepts of operation to refine tactics, techniques, and procedures.

Various systems that are capable of handling some of the process areas already exist, but they are lacking an efficient means of integrating diverse perspectives into products that enable better decisionmaking. For example, the medical community interprets biosurveillance from a distinctly different perspective than the CBRN community. While the medical community focuses on medical countermeasures, the CBRN community focuses on sensors and capabilities that are designed to detect and identify agents. The CBRN community then provides the resulting information to commanders so that they can make protection decisions.

The Chief of Chemical has charged CBRN Soldiers with serving as all-hazards experts. This includes serving as experts in biological surveillance. Therefore, it is important that CBRN Soldiers be aware of advancements, such as JUPITR, which provide materiel solutions for future biosurveillance missions. This will strengthen the Army's capability to respond to biological threats and thereby meet the Chief of Chemical's objective. 

Endnote:

¹National Strategy for Biosurveillance, July 2012, <http://www.whitehouse.gov/sites/default/files/National_Strategy_for_Biosurveillance_July_2012.pdf>, accessed on 27 August 2013.



Competing technologies—including the Tactical Detection System prototype and the Joint Biological Point Detection System technology refresh effort—will be demonstrated during the JUPITR advanced-technology demonstration.

Ms. McCann, who is a retired CBRN first sergeant, currently serves as a capability developer; Combating Weapons of Mass Destruction Branch; Requirements Determination Division; Capabilities Development and Integration Directorate; Maneuver Support Center of Excellence, Fort Leonard Wood, Missouri. She is working toward an associate's degree in homeland security from Central Texas College and a bachelor's degree in emergency management from Ashford University, Clinton, Iowa.

2013 Honorees of the U.S. Army Chemical Corps

Compiled by Ms. Christy Lindberg

Hall of Fame Inductees

The U.S. Army Chemical Corps Hall of Fame award is the highest form of recognition offered by the Regiment. This coveted award honors those who have made landmark contributions to the overall history and traditions of the Chemical Corps or continue to work in ways that benefit the Corps. These individuals have distinguished themselves through advances in science and technology, a lifetime of service and devotion to the Corps, or gallantry in battle. The ranks of the Hall of Fame are inundated with scientists who tirelessly worked to protect the force through innovations and with Soldiers who exemplified the tenets of courage and honor. Two individuals were inducted into the Hall of Fame on 28 June 2013.

Major General Stephen V. Reeves (Retired)

Stephen V. Reeves was born 15 May 1952 in Topeka, Kansas. He received a bachelor of science degree in engineering from the University of Kansas, where he was named the U.S. Army Reserve Officer Training Corps distinguished military graduate; a master of business administration degree from Central Michigan University; and a master's degree in national security strategic studies from Syracuse University, Syracuse, New York. He also attended the Defense Acquisition University, Fort Belvoir, Virginia, and the Dwight D. Eisenhower School for National Security and Resource Strategy, National Defense University, Fort Lesley J. McNair, Washington, D.C., where he was named the distinguished honor graduate.

While spending more than a decade serving as the Chemical Corps principal materiel developer, Reeves developed and fielded more than 100 new systems, medical devices, pharmaceuticals, and vaccines for the U.S. Army Chemical Corps; his accomplishments include the development and fielding of the M92A1 Fox vehicle upgrade, the Analytical Laboratory System, and the Critical Reagents Program. He established and, for 7 years led, the Joint Program Executive Office for Chemical and Biological Defense. In the wake of the 11 September 2001 terrorist attacks, Reeves designed and established the first chemical and biological defense sensor systems for use at the Pentagon and other official government buildings and critical facilities throughout the National Capital Region. When U.S. Army Training and Doctrine Command funding for training equipment at the new First Lieutenant Joseph Terry Chemical, Biological, Radiological, and Nuclear (CBRN) Responder Training Facility became an issue, Reeves located and secured alternate funds to procure the necessary equipment. He also directed the development of, and rapidly responded to, numerous operational urgent needs statements for CBRN Soldiers preparing for, and participating in, operations in Iraq and Afghanistan. In addition, he established new chemical and biological defense project management offices in direct support of specialized Chemical Corps units, including the 20th Support Command (Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives [CBRNE]), Army National Guard civil support teams, and Special Forces.

Major General Reeves's awards include the Distinguished Service Medal, the Legion of Merit with three oak-leaf clusters, the National Partnership for Reinventing Government Hammer Award for Innovation in Defense Contracting, and two David Packard Excellence in Acquisition Awards.

Articles by Reeves that are published in major Armed Forces journals promote the need to fund and support CBRN defense.

Major General Reeves (Retired) currently resides in Virginia, where he serves as a strategic consultant.



Staff Sergeant John E. Thiel (Retired)

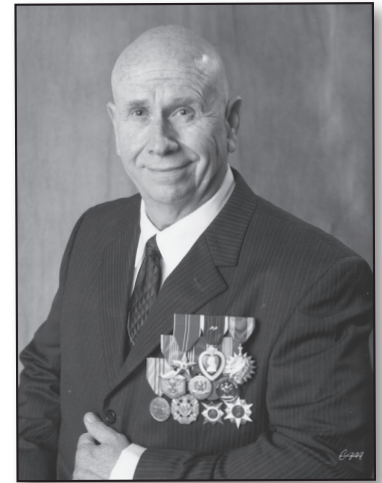
John E. Thiel was born 29 June 1947 in Davenport, Iowa. He enlisted in the U.S. Army in 1967. He completed the Chemical Staff Specialist Course and was named the honor graduate.

Thiel served two tours as a chemical staff specialist in Vietnam—with the 26th Chemical Detachment and the 184th Chemical Platoon, 1st Cavalry Division (Air Mobile). His specialty was the detection and clearing of tunnels and underground caches. Severely wounded during both tours, Thiel was medically retired at the rank of staff sergeant in 1971.

Staff Sergeant Thiel's military awards include the Bronze Star Medal, three Purple Hearts (resulting from wounds received during action in Vietnam on 25 March 1968, when he was hit during a mortar attack on Camp Evans; 26 April 1969, during a firefight in Tây Ninh; and 2 May 1969, during a mortar attack on the unit night camp), the Air Medal (for meritorious achievement while participating in aerial flight from February to April 1969), the Army Commendation Medal, the Good Conduct Medal, the National Defense Service Medal, the Vietnam Service Medal with silver campaign star, and the Honorable Order of the Dragon Award.

Staff Sergeant Thiel (Retired) earned a bachelor of science degree (graduating magna cum laude) in 1974, a master of business administration degree in 1976, and a doctorate of business administration degree in 1978. He then taught at Indiana University, the University of Tennessee, Butler University, and Indiana State University. His publications include "We Remember Them As If It Was Yesterday" and "The History and Evolution of the 26th Chemical Company."¹ As a result of Thiel's research, a plaque bearing the names of 39 Dragon Soldiers who died in Vietnam now hangs in the Chemical Corps Regimental Room, U.S. Army Chemical Corps Museum, John B. Mahaffey Museum Complex, Fort Leonard Wood, Missouri.

Dr. Thiel remains a steadfast contributor to the incredible history and legacy of the Chemical Corps by ensuring that those who made the ultimate sacrifice will never be forgotten. He resides in Dyersville, Iowa, where he is currently developing and preserving the histories of the units in which he served in Vietnam.



Distinguished Members of the Chemical Corps Inductees

Five names were added to the list of outstanding individuals serving the U.S. Army Chemical Corps. The award of the Distinguished Member of the Chemical Corps title signifies that these individuals have not only contributed a lifetime of service in the Corps, but also support the Chief of Chemical in implementing her vision of what the Corps is and where it is going in the future. The following individuals were inducted into the 2013 Distinguished Members of the Chemical Corps on 28 June 2013.

Colonel Raymond T. Van Pelt (Retired)

Raymond T. Van Pelt was born 16 March 1956 in New York City, New York. He received a bachelor's degree in psychology from the State University of New York College at Cortland and master's degrees in leadership development from the U.S. Military Academy—West Point, New York, and in national resource strategy from the National Defense University.

After holding progressive staff and leadership positions as a Chemical Corps officer, one of Van Pelt's first key assignments was as the commanding officer, 83d Chemical Battalion, XVIII Airborne Corps. There, he was responsible for restationing the unit from Fort Bragg, North Carolina, to Fort Polk, Louisiana—a move in which he implemented an organizational change strategy to ensure that human resource management, operations, training, supply accountability, and maintenance systems were effectively transferred and rendered operational with minimal mission disruption. His other key assignments include military planner, Counterproliferation Policy, Office of the Secretary of Defense; chief, Operations and Plans, Exploitation Task Force and Iraq Survey Group (where he was deployed as an operations and plans officer in support of the U.S. Central Command effort to find, exploit, and eliminate weapons of mass destruction in Iraq); commanding officer,

Deseret Chemical Depot; and operations officer and deputy commanding officer, 20th Support Command.

Colonel Van Pelt's military awards and decorations include the Legion of Merit, the Bronze Star Medal, the Defense Meritorious Service Medal, the Joint Service Commendation Medal, the Meritorious Service Medal (4th Award), the Army Commendation Medal with five oak-leaf clusters, the Iraq Campaign Medal with arrowhead device, and the Global War on Terrorism Service Medal.

Van Pelt's article entitled "JTF-WMD Elimination: An Operational Architecture for Future Contingencies"² was published by the Industrial College of the Armed Forces (now the Dwight D. Eisenhower School for National Security and Resource Strategy), National Defense University.



Colonel Van Pelt (Retired) has more than 27 years of extensive experience in all facets of Department of Defense weapons of mass destruction/CBRNE policy, planning, operations, training, program management, and resources management. He resides in Forest Hill, Maryland, where he continues to work as a senior CBRN advisor to the 20th Support Command, implementing strategic initiatives, synchronizing key programs, representing the command in interagency efforts, and serving as the senior civilian mentor within the command.

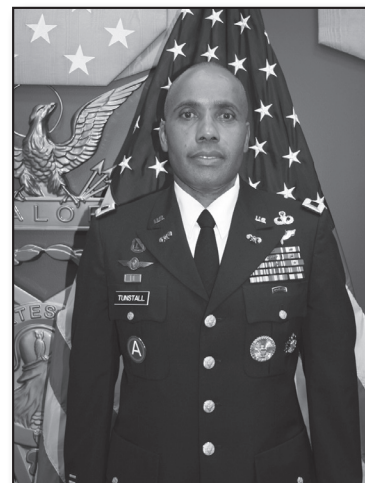
Colonel Stanley Q. Tunstall (Retired)

Stanley Q. Tunstall was born 5 October 1956 in Fayetteville, North Carolina. He holds a bachelor of science degree from the University of Georgia and master's degrees from the University of Southern California, the Florida Institute of Technology, and the U.S. Naval War College, Newport, Rhode Island. His military education includes the Chemical Officer Basic Course, the Chemical Officer Advanced Course, the College of Naval Command and Staff, and a Senior Service College Fellowship at the U.S. Institute of Peace.

During his fellowship with the U.S. Institute of Peace, Tunstall was appointed to a special legislative task force, which Congress tasked to conduct a comprehensive security assessment and make recommendations to mitigate or prevent the effects of an attack against the U.S. Capitol and surrounding federal buildings following the terrorist attacks of 11 September 2001. At the same time, he served as a liaison officer with the U.S. Capitol Incident Management Team following the delivery of anthrax-tainted mail to Senate offices in October 2001. His other key assignments include commander, 83d Chemical Battalion; chief, Chemical Branch, U.S. Army Personnel Command; commander, 45th Corps Support Group (where he executed the reorganization and transformation of the unit into a theater sustainment command); deputy commander, 8th Theater Sustainment Command; Deputy Chief of Staff for Logistics (G-4), U.S. Army Central Command; and chief, Full-Dimension Protection Division, Deputy Chief of Staff for Resource Management (G-8), Department of the Army. Tunstall led, trained, coached, and mentored thousands of Soldiers and civilians as he served with distinction in a combat theater and in other commands and assignments critical to the defense of the Nation.

Colonel Tunstall's awards and decorations include the Distinguished Service Medal, the Legion of Merit, the Defense Meritorious Service Medal, the Meritorious Service Medal (5th Award), the Army Commendation Medal, and the Joint Service Achievement Medal.

Colonel Tunstall (Retired) is recognized as a subject matter expert in all aspects of CBRN defense operations, consequence management, U.S. counterproliferation policy, weapons of mass destruction contingency planning, emergency management operations, and strategic logistics and sustainment operations. He currently resides in Springfield, Virginia, where he serves as a senior CBRN defense and logistics manager for Camber Corporation.



Colonel Thomas R. Woloszyn (Retired)

Thomas F. Woloszyn was born 2 November 1958 in Dunkirk, New York. He received a bachelor's degree in biochemistry and a master's degree in analytical chemistry from Pennsylvania State University and a master's degree in national security strategy from the National War College, National Defense University.

During his Army career, Woloszyn served in many significant positions, including division chemical officer, 82d Airborne Division; commander, Umatilla Chemical Depot (where the emergency operations center in which he worked was recognized as the best in the U.S. Army Soldier and Biological Chemical Command and where he led the reestablishment of a special-reaction team, which was responsible for responding to any chemical incident that might occur at the depot); nuclear, biological, and chemical operations officer, Central Command (during Operation Iraqi Freedom and Operation Enduring Freedom); commander, Pine Bluff Arsenal; deputy director, Combating Weapons of Mass Destruction, Office of the Secretary of Defense (Policy); and chief of staff and director, Chemical and Biological Defense Programs, Office of the Secretary of Defense (Acquisition, Technology, and Logistics). In his position as chief of staff and director of Chemical and Biological Defense Programs at the Office of the Secretary of Defense (Acquisition, Technology, and Logistics), Woloszyn advocated, developed, and coordinated the Joint Elimination Coordination Element. He played a critical role in improving the Allied defense against CBRN threats by ensuring that Japan understood Allied capabilities. He also worked with South Korean officials on the development of a policy regarding the disposition of North Korean weapons of mass destruction and on an agreement to hold consequence management discussions.

Colonel Woloszyn's awards include the Legion of Merit, the Defense Meritorious Service Medal, the Joint Service Commendation Medal, the Meritorious Service Medal (5th Award), the Army Commendation Medal with two oak-leaf clusters, and the Joint Meritorious Unit Award.



Woloszyn has served as vice president of the National Capital Region Chemical Corps Regimental Association and is now on the national Chemical Corps Regimental Association board. His article entitled “Chemical Depot Command: A Primer”³ was published in the *Army Chemical Review*.

Colonel Woloszyn’s (Retired) spotless chemical demilitarization safety record, his contributions to chemical publications, and his mentorship to young officers exemplify his leadership abilities. He currently resides in Woodbridge, Virginia, where he is deputy, Concepts and Capabilities, U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency.

Command Sergeant Major Bobby J. Vinson (Retired)

Bobby J. Vinson was born 31 March 1948 in Etowah County, Alabama. He received a bachelor’s degree with emphasis on education, history, guidance counseling, administration, and supervision from Jacksonville State University, Jacksonville, Alabama.

After attending the Nuclear, Biological, and Chemical Defense Course, Vinson served as the nuclear, biological, and chemical noncommissioned officer, 1208th Quartermaster Company. He went on to serve as a platoon sergeant, a first sergeant, and the battalion command sergeant major, 1200th Quartermaster Battalion. As the Alabama National Guard stood down the 31st Armored Brigade, it stood up the 31st Chemical Brigade; and Sergeant Major Vinson was appointed the brigade command sergeant major, inheriting more than 1,800 Soldiers—none of whom had a chemical military occupational specialty qualification. Command Sergeant Major Vinson took command of the armor, infantry, engineer, and artillery Soldiers and began developing a plan to get them chemical-qualified. He coordinated with the U.S. Army Chemical School in the development of a plan to deliver courses to Soldiers in phases designed to work well with their civilian jobs. As a result of Command Sergeant Major Vinson’s planning and hard work, the chemical military occupational specialty qualification rate for Soldiers of the 31st Chemical Brigade is now 90 percent.

Command Sergeant Major Vinson’s military awards include the Legion of Merit, the Distinguished Service Medal, the Meritorious Service Medal, the Army Commendation Medal with two oak-leaf clusters, the National Defense Service Medal with service star, the Southwest Asia Service Medal with three bronze service stars, and the Army Reserve Components Achievement Medal with a bronze oak-leaf cluster.

Vinson belongs to the Alabama Education Association, the Enlisted National Guard Association of Alabama, and the Enlisted Association of the National Guard of the United States and is a lifetime member of the Chemical Corps Regimental Association.

Command Sergeant Major Vinson (Retired) resides in Clay County, Alabama, where he remains dedicated to education. For the past 30 years, he has worked as teacher, principal, and supervisor/administrative assistant in Clay County Schools. In addition, he continues to mentor first sergeants and sergeants major serving with the 31st Chemical Brigade.



Master Sergeant Richard P. Mettke (Retired)

Richard P. Mettke was born 13 February 1958 in Akron, Ohio. He received an associate’s degree in liberal arts from the University of the State of New York and a bachelor’s degree in business management from Columbia College, Columbia, Missouri. In addition to completing numerous U.S. Army technical and leadership courses, Mettke also completed the Defense Systems Acquisitions Management Course and the Battelle Memorial Institute Project Management Course.

Mettke has spent more than 30 years providing support to the Chemical Corps through his service to the Army and his involvement in industry. He has executed many CBRN programs and served as program manager and senior line manager in others. Some of his key Army assignments include combat development analyst and operations manager, U.S. Army Engineer School; operations manager, 197th Ordnance Battalion (Special Weapons), 59th Ordnance Brigade; and chief, Chemical Basic Noncommissioned Officer Course (where he supervised 20 classes—each consisting of 645 hours of technical and leadership training—per year and the daily professional development and conduct of 21 instructors and 140 students and where he was responsible for the development of course content, lesson plans, and examinations in preparation for course accreditation); and chief, Program Management Office, Directorate of Combat Development, U.S. Army Chemical School (where he served as the principal advisor and manager to the director for Resource Management, Manpower, Personnel, Administration, Security, and Logistics/Maintenance).

Master Sergeant Mettke’s awards include the Meritorious Service Medal (3d Award), the Army Commendation Medal with three oak-leaf clusters, and the Army Achievement Medal with three oak-leaf clusters.



Mettke belongs to the Association of the U.S. Army and is a lifetime member of the Chemical Corps Regimental Association.

Since his retirement, Master Sergeant Mettke (Retired) has dedicated himself to the improvement and sustainment of equipment and programs that support the CBRN warfighters of today's Army. He currently serves as manager and vice president, CBRNE Defense Group Mission Support Services, Battelle Memorial Institute, Columbus, Ohio. He also holds a patent letter for an online communication terminal/apparatus.

Endnotes:

¹John Thiel, "The History and Evolution of the 26th Chemical Company," <<https://www.facebook.com/pages/26th-Chemical-Detachment-1st-Cavalry-AM/391806207529134?sk=info>>, accessed on 24 July 2013.

²Raymond T. Van Pelt, "JTF-WMD Elimination: An Operational Architecture for Future Contingencies," Industrial College of the Armed Forces, Washington, D.C., 31 August 2005.

³Tom Woloszyn, "Chemical Depot Command: A Primer," *Army Chemical Review*, July 2002.

Ms. Lindberg is the assistant historian at the U.S. Army Chemical, Biological, Radiological, and Nuclear School History Office, Fort Leonard Wood.



2014 CCRA Nominations for Hall of Fame and Distinguished Member of the Corps

Nominations are being accepted for the 2014 Chemical Corps Regimental Association (CCRA) Hall of Fame and Distinguished Member of the Corps honors.

- **Hall of Fame.** This award is extended to chemical, biological, radiological, and nuclear personnel (living or deceased) who spent their professional careers serving the Chemical Corps in an exceptional manner or who performed a significant act of heroism. Nominations are open to military and Department of Defense civilian personnel who have been retired from active federal service for at least 2 years. Their service to the Corps must have been extraordinary.
- **Distinguished Member of the Corps.** This award is extended to living or deceased members who served the Corps in their professional lives and continued to serve it in their personal lives. Nominations are limited to personnel who have been retired from active federal service (military or civilian) for at least 2 years. Active Army military and current (nonretired) federal civilian personnel are not eligible for the program.

Nomination packets should be sent to—

Commandant
U.S. Army Chemical, Biological, Radiological, and Nuclear School
ATTN: ATSN-CM-H (Regimental Historian)
401 MSCoE Loop, Suite 1041
Fort Leonard Wood, MO 65473-8926

All packets must arrive before 14 February 2014. For more information, see the CCRA Web site at <<http://www.ccrassn.org>>, call (573) 563-7339, or e-mail <david.c.chuber.civ@mail.mil> or <christy.l.lindberg.civ@mail.mil>.

CRT Transition

By First Lieutenant Kenneth F.M. Coleman

There are only two technical escort (TE) battalions in the U.S. Army Chemical Corps—the 22d Chemical Battalion (TE) and the 110th Chemical Battalion (TE). These battalions are designed to conduct weapons of mass destruction–elimination operations. Since its inception, the TE battalion has been considered one of the top assets that the Chemical Corps has to offer the modern Army. The task organization for TE battalions currently consists of four chemical, biological, radiological, nuclear, and high-yield explosives response teams (CRTs) per line company; these CRTs are prepared to deploy at a moment's notice to support combatant commanders abroad. However, conventional chemical, biological, radiological, and nuclear (CBRN) battalions are currently being redesigned in an attempt to provide each with a minimum of one CRT. This article contains a discussion about the pros and cons of the transition, as assessed by current officer, noncommissioned officer, and junior enlisted members of the TE community during the course of multiple leadership professional development sessions. According to TE personnel, the transition is a great challenge—yet also a great opportunity—for the Chemical Corps.

The Army prides itself on being able to prevent, shape, and win all conflicts that could be detrimental to the freedoms and sanctity of the American people.¹ The placement of CRTs within conventional CBRN battalions will specifically address the *shape* and *win* concepts outlined in Army Doctrine Publication (ADP) 1, *The Army*. Shaping the task organization of each battalion will increase the likelihood of survivability for various supporting units. According to the modified table of organization and equipment, each CRT is authorized one commander and one noncommissioned officer in charge. This will allow a single CRT to deploy and acquire task organization from other organizations—which, in turn, will increase the deployability of units and enhance the ability of combatant commanders to, with the support of CRTs, win fights. CRTs are to be placed throughout the United States—not confined to the locations of the two existing TE battalions.

Subteams within each TE CRT assist in the completion of specific CRT missions. Therefore, TE Soldiers must be trained in the various mission areas, including initial-entry procedures,

sampling, transloading, decontamination, and analysis. This training is essential to the success of the CRT. Under the TE battalion concept, Soldiers attend all required TE training at one time—one class right after another—so that they become the subject matter experts in their respective areas. When the CRTs are embedded in conventional CBRN battalions, each time a Soldier is added to a CRT, that Soldier will be sent to all schools necessary for the particular job that he or she is to assume.

The Army has begun transitioning to a minimum 24-month stay at an installation. In order to be effective at their jobs, CRT members will be required to spend nearly the first year of that time attending schools. Therefore, master trainers will be keys to achieving training continuity within an organization. And because the new organization is so unique, each conventional battalion master trainer program should be replanned and modified to maintain an effective “train the trainer” program. In addition, the minimum time that a Soldier should spend on a particular CRT and at a particular duty station should be mandated before the Soldier is accepted into the CRT. Otherwise, the money spent to build a fully loaded CBRN battalion could be wasted.

In conclusion, the Army must be committed to shaping itself to win every battle that is encountered. The reshaping of CBRN battalions will be a challenge—but, once achieved, a great accomplishment. The planning to shape the future of the CBRN battalion in defense of weapons of mass destruction has already begun. The pros and cons will be further assessed during the actual modification of Army CBRN assets. In the meantime, we will continue to train to win—and to execute when called. 

First Lieutenant Coleman is the executive officer, 9th Chemical Company, 110th Chemical Battalion. He holds a bachelor's degree in political science from Fayetteville State University, Fayetteville, North Carolina.

Endnote:

¹ADP 1, *The Army*, 7 November 2012.

INCREASING CBRN PROFICIENCY WITH DUAL-PURPOSE TRAINING AT THE COMPANY LEVEL

By Captain Spenser Weddington

Annual chemical, biological, radiological, and nuclear (CBRN) training objectives are standardized in Section 4-13, “Chemical, Biological, Radiological, and Nuclear Defense Training,” Army Regulation (AR) 350-1, *Army Training and Leader Development*.¹ But as a CBRN officer who has been assigned to non-CBRN units, I have often seen CBRN training overlooked due to priorities or the lack of time. Fortunately, it is not necessary for company level units to wait for major CBRN training events to accomplish the specified training objectives.

Company leaders can develop CBRN skills by incorporating simulators, making dual-purpose use of routine training events, and avoiding common CBRN training pitfalls. As the CBRN officer for 1st Battalion, 38th Field Artillery Regiment, 210th Fires Brigade, 2d Infantry Division, Camp Casey, South Korea, I have been using these practices for the past year to better prepare companies for the culminating CBRN exercise known as Steel Zenith.

Simulators are a great addition to any training arsenal. They allow units to train on mission-essential tasks without the need to weigh and mitigate additional safety issues. For example, Soldiers wearing Joint Service Lightweight Integrated Suit Technology (JSLIST) and masks can operate simulators without endangering themselves, others, or their equipment. They can practice responses to simulated vehicle rollovers in chemically contaminated environments. They can use the Engagement Skills Trainer to become familiar with chemical weapons fire without expending additional ammunition. Completing this training without the use of simulators can be very risky due to reduced sensory input, a limited field of vision, and difficulty with communication. Making use of simulators to incorporate CBRN elements allows units to maximize training while avoiding high-risk scenarios.

The training for many of the CBRN tasks outlined in AR 350-1 can be combined with other routine training. For example, when conducting a recall, Soldiers can be ordered to report in JSLIST. This helps educate them in the proper use of JSLIST and fosters a better understanding of the difficulties that they are likely to face when operating in a typical CBRN

environment—where they are apt to experience increased stress, increased fatigue, and difficulty in communication. When conducting communication validations, Soldiers can wear protective masks to gain a better understanding of the difficulty in maintaining communication while wearing a mask. When conducting physical training, Soldiers can wear JSLIST to acquire a better understanding of the difficulty of “combat speed” movement while in JSLIST. And following physical training, Soldiers can practice the important Soldier skill of drinking water while wearing a mask.

Ultimately, company level leaders who oversee these tasks are responsible for them. Unfortunately, I once observed a platoon sergeant at Fort Bliss, Texas, falsely assume that the Soldiers of the platoon knew how to drink water from their canteens—only to later have a Soldier who had a full canteen of water in his rucksack become a heat casualty. Incorporating basic CBRN task training into routine training events allows units to maximize training value and to ensure that Soldiers have an opportunity to practice individual CBRN tasks.

The ability to successfully conduct collective CBRN tasks, such as operational decontamination and thorough decontamination, relies on the ability of Soldiers to master individual CBRN tasks. If Soldiers are learning to accomplish individual tasks the day before they are expected to execute a collective task, the leaders are failing. Extensive, last-minute training conducted right before a major evaluation is like cramming for an exam; it often creates unnecessary risks and produces lackluster results. Furthermore, rapidly training for a singular event often leads to the mental and physical dumping of the skills once the training and evaluations are complete.

Building proficiency through proper crawl-walk-run phases and multiple CBRN evaluations constitutes organized and effective training. During the Steel Zenith exercise, external evaluators noted obvious differences among the companies of the 1st Battalion, 38th Field Artillery Regiment. The companies that had actively trained and prepared throughout the year were organized, knowledgeable, and proficient; they required little additional training; and they executed CBRN operations at the highest levels. On the other hand, companies that did

“The ability to successfully conduct collective CBRN tasks . . . relies on the ability of Soldiers to master individual CBRN tasks.”



Soldiers practice proper decontamination procedures during CBRN training.

not actively train throughout the year—but spent up to 5 days preparing for Steel Zenith—received mediocre evaluations. The 5 days that those companies spent rapidly training for Steel Zenith could have been used for field preparation or other tasks.

Once the recommended training practices are adopted, CBRN training is integrated into all unit training and does not require an exorbitant amount of additional time. Regular CBRN training allows better unit preparation by implementing crawl-walk-run phase training; drastically reducing the number of last-minute, train-up days required immediately before evaluations; and familiarizing Soldiers with hazards and mitigation measures, thereby effectively minimizing risks.

Endnote:

¹AR 350-1, *Army Training and Leader Development*, 18 December 2009.

At the time this article was written, Captain Weddington was the CBRN officer, 1st Battalion, 38th Field Artillery Regiment. He is now a student in the CBRN Captain's Career Course, Fort Leonard Wood, Missouri. He holds a bachelor's degree in microbiology with a minor in chemistry from Oklahoma State University. He is also working toward a master's degree in environmental management from American Military University.



A Soldier conducts decontamination on a tactical vehicle during the Steel Zenith exercise.

Evaluating the Biological-Agent Threat: A Case for Increased Training Focus on CBRN Defense in the Regular Army

By First Lieutenant Daniel C. Kiernan

Threats to U.S. national security continue to evolve in the 21st Century. Islamic terrorist groups, especially al-Qaida, have dominated the security arena during the past decade—not only by conducting innovative strategic attacks, but also by establishing the high-tempo use of improvised explosive devices in the Middle East. Consequently, the modern terrorist is well educated in the construction and employment of improvised explosive devices. The April 2013 Boston Marathon bombings provide the most recent evidence of improvised explosive device use on U.S. soil, and this tactic is expected to remain prevalent among violent extremist groups with limited funds.

However, as the military drawdown in Afghanistan continues and U.S. forces begin preparing for the next significant threats, military planners must reassess the threat environment and determine which of the potential threats are most likely to require military intervention. The use of explosive devices within the United States would be addressed by local authorities and domestic federal agencies. Chemical, biological, radiological, and nuclear (CBRN) events would be the most likely to generate requests for the defense support of civil authorities (DSCA); and biohazardous agents would be the most likely to initiate large-scale DSCA responses upon request. Published doctrine regarding DSCA in the event of a CBRN incident indicates that specialized Chemical Corps units would be the primary proponents for response task forces; however, large-scale events might require the additional deployment of Soldiers from maneuver and support units. To be effective while deployed on a DSCA mission, these additional Soldiers must complete further CBRN defense training. This article assesses the biological weapon threat and describes steps that can be taken to improve CBRN defense capabilities within the Regular Army.

There is extraordinary potential for widespread human casualties and economic destruction following the natural emergence of an infectious disease or the deliberate release of a biological agent. Although the natural environment allows for the dissemination of chemical and radiological contamination, biological agents are uniquely capable of spreading throughout populations. The transmissibility of biohazards renders them the most significant CBRN threat of the 21st century. Despite

the seriousness of the biohazard threat, the long-standing debate regarding the likelihood of large-scale biological events may result in complacency among national security planners. To prevent the dismissal of biological agents as a significant planning priority, we must examine the existing conditions that create a permissive environment for the use of biological agents.

“There is extraordinary potential for widespread human casualties and economic destruction following the natural emergence of an infectious disease or the deliberate release of a biological agent. . . . The transmissibility of biohazards renders them the most significant CBRN threat of the 21st century.”

Despite the availability of highly effective medical treatments, the rapid mutation of microbial and viral organisms allows for the emergence of novel diseases that may resist established remedies. Globalization trends in transportation and trade allow for the rapid spread of infectious disease via humans, livestock, and plants. This results in a vulnerability to pandemics. The influenza pandemic of 1918–1919 serves as a frame of reference. During that pandemic, more than 20 million people died worldwide and more than 600,000 died in the United States. Incredibly, more U.S. Soldiers stationed in Europe died from influenza in 1918 and 1919 than died throughout World War I.¹ It is impossible to make definitive statements regarding the impact of the same disease today, but it is certainly possible for a pandemic with similar morbidity and mortality rates to emerge. The application of the 1918–1919 pandemic death rate in the United States to today’s population indicates that as many as 1,820,701 U.S. deaths could be expected from a similar disease outbreak.²

Perhaps more alarming than the potential for naturally occurring diseases is the increasing availability of the knowledge, materials, and technology necessary to effectively use biological agents as weapons. According to a 2006 Federation of American Scientists assessment regarding the rate of change of biotechnology, “DNA [deoxyribonucleic acid] engineering, which was not even in existence until 1982,

has doubled in capacity every 6 months from 1982 to 2000. This area is critically important to a wide variety of biotechnical advances (including gene therapy, vaccine development, and sensors), and it ominously increases the virulence of a pathogen.”³ The publication of so-called, *dual-use* scientific research articles, which reveal methodologies that terrorists or rogue state actors can use to facilitate weapon development, is controversial; however, the scientific community has traditionally favored the release of scientific information over restricted access. As scientific techniques become more advanced, the threshold for the development of biological weapons diminishes. The Bipartisan Weapons of Mass Destruction Terrorism Research Center is already warning that “a small team of individuals with graduate training in several key disciplines, using equipment readily available for purchase on the Internet, could produce the type of bioweapons created by nation states in the 1960s.”⁴ This gap is likely to continue to shrink, allowing ready access to weapons of mass destruction for those who wish to conduct large-scale attacks against the United States.

Biological agents clearly pose a significant threat to U.S. and global security, and military planners must be aware of their importance when planning for CBRN responses. In the “2013 Army Posture Statement,” Secretary of the Army John McHugh and Chief of Staff of the Army General Raymond Odierno state that the Army plays a “fundamental role in all but one of the missions specified by the defense strategic guidance, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*.”⁵ These missions include countering weapons of mass destruction; defending the homeland and providing support to civil authorities; and conducting humanitarian, disaster relief, and other operations.⁶ Most relevant to this discussion is the DSCA mission at home, which includes providing support during CBRN incidents. Recent additions to Army doctrine—including Army Doctrine Publication (ADP) 3-28, *Defense Support of Civil Authorities*, and Army Doctrine Reference Publication (ADRP) 3-28, *Defense Support of Civil Authorities*—allow planners to identify key tasks associated with domestic CBRN defense and tailor training to achieve proficiency in these tasks.

Although the *Posse Comitatus Act*⁷ prohibits the use of federal military personnel in an independent law enforcement capacity within the United States, the Army may provide DSCA “in response to requests for assistance from civil authorities for domestic emergencies, law enforcement support, and other domestic activities, or from qualifying entities for special events.”⁸ Pandemic disease outbreaks and biological attacks qualify as situations for which the U.S. Secretary of Defense may authorize the use of Army personnel for DSCA. In response to a large-scale event in the U.S. Northern Command area of responsibility, the Department of Defense (DOD) would provide a joint task force assigned to the Northern Command and a defense CBRN response force. Military forces could also be used to provide security and other essential services.⁹ Although assigned in a support capacity, these Soldiers must

“Most combat arms leaders have limited experience in working with CBRN personnel in a tactical environment. Nevertheless, these leaders must be prepared for rapid deployments during which they may be required to coordinate closely with CBRN units. The integration of CBRN personnel into scenario-based training with combat arms units should provide combat arms leaders with a better understanding of CBRN defense capabilities and limitations.”

be trained in CBRN defense procedures to operate effectively. Support personnel must be able to identify CBRN incident indicators in case additional hazards are located outside the established hot zone, and they must be trained in appropriate responses to CBRN hazards to prevent injury to themselves or bystanders. Addressing shortcomings in individual and formation level CBRN training should significantly improve the effectiveness of Soldiers during domestic support missions.

One aspect of CBRN training covers individual Soldier skills. For many units, the rapid turnover of personnel and the truncated Army force generation cycle of the last decade have forced training that is not essential to asymmetric warfare in Iraq and Afghanistan to the back burner. Consequently, the average Soldier’s competency with core CBRN tasks has lagged behind theater-focused skills such as counter improvised explosive device operations. For some, basic training may have been the last time they completed CBRN defense drills, leaving many senior personnel with less familiarity than newly arrived Soldiers. Increased leader focus on Army Regulation (AR) 350-1, *Army Training and Leader Development*, throughout the formation could help eliminate the inverted CBRN defense competency of our Soldiers and contribute to our overall CBRN defense readiness.

Another aspect of CBRN training involves the technical knowledge of operational commanders. Most combat arms leaders have limited experience in working with CBRN personnel in a tactical environment. Nevertheless, these leaders must be prepared for rapid deployments during which they may be required to coordinate closely with CBRN units. The integration of CBRN personnel into scenario-based training with combat arms units should provide combat arms leaders with a better understanding of CBRN defense capabilities and limitations. To maximize the participation of scarce CBRN units, this cross-training should be well coordinated among maneuver units. For example, in a Stryker brigade formation, a limited number of Chemical Corps Soldiers are expected to support three infantry battalions, a cavalry squadron, a field artillery battery, and additional support units. The use of a CBRN platoon in training exercises would require balancing the needs of 15 maneuver companies. Still, the ability of units to overcome these obstacles would result in a substantial increase in the effectiveness of small-unit leaders in responding to domestic biological attacks.

“... the withdrawal of military forces from Iraq and Afghanistan and the continued existence of international terrorism make it more likely than ever that military forces will be called upon to support and defend the American people at home.”

A third aspect of CBRN training requires the participation of CBRN units only. CBRN personnel would play the integral military role in a DSCA mobilization resulting from a domestic CBRN attack. The scarcity of CBRN units in the greater formation increases the likelihood that a particular CBRN unit would be deployed in the event of a biological attack. During response operations, CBRN personnel are most likely to operate in conjunction with outside federal agencies such as the U.S. Department of Homeland Security and the Centers for Disease Control and Prevention and with multiple state and municipal authorities. Participating Soldiers must be able to adapt to unfamiliar command structures and procedures such as those in National Fire Protection Association (NFPA) 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, which the Department of Homeland Security uses as the standard of qualifications for personnel assigned to a CBRN defense mission. Furthermore, during domestic CBRN responses, “national laws subordinate military doctrine and military authority outside DOD installations.”¹⁰ To best prepare Regular Army personnel for operating in these environments, installation commands must place an emphasis on conducting training with local civilian responders. These exercises allow military and civilian personnel to identify relative strengths and weaknesses, establish best practices, and develop points of contact outside their own organizations.

As the “Soldier’s Creed” states, the Army stands ready to “deploy, engage, and destroy the enemies of the United States of America in close combat.”¹¹ However, the withdrawal of military forces from Iraq and Afghanistan and the continued existence of international terrorism make it more likely than ever that military forces will be called upon to support and defend the American people at home. Secretary McHugh and General Odierno envision the Army as a “Total Force,” which is “prepared to defend the Homeland.”¹² We can meet this challenge by further developing our CBRN defense capabilities and broadening our core competencies beyond maneuver and fire skills.

Endnotes:

¹*The Bipartisan WMD Terrorism Research Center’s Bio-Response Report Card: 21st Century Biological Threats*, October 2011, <<http://www.wmdcenter.org/wp-content/uploads/2011/10/bio-response-report-card-2011.pdf>>, accessed on 5 September 2013.

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⁵John M. McHugh and Raymond T. Odierno, submitters, “2013 Army Posture Statement,” May 2013, <<http://usarmy.vo.llnwd.net/e2/c/downloads/302970.pdf>>, accessed on 9 September 2013.

⁶“Sustaining U.S. Global Leadership: Priorities for 21st Century Defense,” Department of Defense, January 2012, <http://www.defense.gov/news/Defense_Strategic_Guidance.pdf>, accessed on 9 September 2013.

⁷U.S. Code, Title 18, Part I, Chapter 67, Section 1385, “Use of Army and Air Force as Posse Comitatus” (commonly referred to as the *Posse Comitatus Act*).

⁸Department of Defense Directive (DODD) 3025.18, *Defense Support of Civil Authorities (DSCA)*, 29 December 2010.

⁹ADRP 3-28, *Defense Support of Civil Authorities*, 14 June 2013.

¹⁰*Ibid.*

¹¹“Soldier’s Creed,” <<http://www.army.mil/values/soldiers.html>>, accessed on 10 September 2013.

¹²McHugh and Odierno, 2013.

References:

ADP 3-28, *Defense Support of Civil Authorities*, 26 July 2012.

ADRP 3-28, *Defense Support of Civil Authorities*, 14 June 2013.

AR 350-1, *Army Training and Leader Development*, 18 December 2009.

NFPA 472, *Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents*, 2013.

First Lieutenant Kiernan is the assistant intelligence officer (S-2), 1st Battalion, 5th Infantry Regiment, Fort Wainwright, Alaska. He holds a bachelor’s degree in biology from the College of William and Mary, Williamsburg, Virginia, and is working toward a graduate certificate in biohazardous threat agents and emerging infectious diseases from Georgetown University.

TEACHING OLD "CHEM DOGS" NEW TRICKS

By Second Lieutenant Travis J. Deberry

Old habits die hard, as do old mission-essential task lists. While en route to my first duty station, my new platoon sergeant informed me via e-mail that I was to be the platoon leader for a decontamination platoon transitioning to a dismounted reconnaissance and surveillance (R&S) platoon. Fresh from the Chemical, Biological, Radiological, and Nuclear (CBRN) Basic Officer Leader's Course, I didn't know that much about the R&S capability; nevertheless, I was excited about the opportunity to try something unfamiliar. I had one daunting question, though: How far along is my new platoon in the transition process?

When I arrived, my platoon was still operating primarily as a decontamination platoon with no real training or experience with regard to R&S tactics, techniques, and procedures. In a perfect world, a new platoon leader shows up ready to learn. In the real world, I needed to train decontamination Soldiers on new R&S tactics, techniques, and procedures.

The following key factors play a role in the transition of a decontamination platoon to an R&S platoon:

- Training R&S fundamentals based on a new mission-essential task list.
- Ensuring that first-line supervisors are sufficiently trained to internally instruct their teams.
- Resourcing for more diverse missions, equipment, and training.

Training R&S Fundamentals

The first set of questions that I faced included: Where do I start? How should the Soldiers be trained on R&S fundamentals? Who should conduct the training? Some of the

platoon noncommissioned officers were technically qualified to provide training and initially did so at the surface level; however, they had no R&S platoon or technical escort unit experience. In addition, training resources were inadequate. Therefore, training was limited to classroom and some equipment instruction; the in-depth, hands-on training required for Soldiers to master the dexterity of site assessment techniques such as sampling was not possible. The best solution to the issue was to outsource fundamental R&S training to technical escort units and adjacent R&S platoons.

(continued on page 42)

"In a perfect world, a new platoon leader shows up ready to learn. In the real world, I needed to train decontamination Soldiers on new R&S tactics, techniques, and procedures."





The New MSCoE Digital Training Facility

By Mr. Robert B. McFarland

The new Maneuver Support Center of Excellence (MSCoE) Digital Training Facility (DTF), Fort Leonard Wood, Missouri, offers professional military education students an enhanced educational experience. The DTF is a 62,000-square-foot, stand-alone, state-of-the-art educational facility with a focus on the use of Army common digital communication systems, gaming platforms, and constructive simulation exercises to educate and train the institutional force (U.S. Army Training and Doctrine Command [TRADOC]) and the operational force (U.S. Army Forces Command [FORSCOM]) for the current operational environment. In addition, new technologies can be incorporated as they arise.

Before the opening of the new DTF, digital training took place in the MSCoE Battle Simulation Center. A phased transfer of equipment and instructors began in September 2012; and within a month, instruction was underway in the new DTF. By November 2012, the DTF was operating at full capability and all instruction that was previously conducted in the Battle Simulation Center was occurring in the DTF. More than 12,000 TRADOC and FORSCOM Soldiers were trained in the Battle Simulation Center and DTF during 2012, and it appears that the number will be exceeded for 2013.

Planning for the DTF facility began in 2001. In 2004, an engineering firm presented the U.S. Army Corps of Engineers with a 35 percent design plan. The funding necessary to proceed was received in 2008, and an architectural firm was hired to complete the initial part of the project. The Kansas City District, Northwestern Division, Corps of Engineers, supplied the project manager. The second part of the project—the actual construction—began in the fall of 2011.

The DTF supports the Army decision to embrace the use of digital platforms for the training and education of TRADOC and FORSCOM forces. These digital platforms, which are available in a variety of configurations, fall under the auspices of several program offices. The MSCoE DTF supports—

- Mission command instruction on common digital communication systems (such as Force XXI Battle Command Brigade and Below [FBCB2] with Joint Capabilities Release [JCR] software and Command Post of the Future [CPOF]) and on other digital systems (such as Tactical Ground Reporting [TiGR]). Furthermore, unique applications such as the Joint Effects Module (JEM) and the Joint Warning and Reporting Network (JWARN) are integrated to support the education of U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) students.
- Gaming instruction through the use of gaming products such as Virtual Battlespace 2 (VBS2)[™], UrbanSim, Enhanced Learning Environments With Creative Technologies (ELECT) Bilateral Negotiation Trainer (BiLAT), and Moral Combat. Each of these games is designed to help achieve a learning objective based on the needs of the Soldier student. Game selections are designed to accommodate individual learners or collective groups. In some instances, instruction may progress from individuals to groups.
- Constructive simulation exercises using capabilities for current and future simulations, with varying degrees of support requirements depending on the type of simulation used—primarily low-overhead simulation/stimulation capability types such as the Army Low-Overhead Training

Toolkit (ALOTT) and its suite of simulation tools. The ALOTT is used in the following cases:

- Major combat operations brigade and above command staff processes.
- Major combat operations battalion and below command staff processes.
- Defense support of civil authorities operations brigade and above command staff processes.

The DTF is equipped with—

- Twenty 16-person, tactical-operation centers.
- Two 52-person FBCB2/constructive simulation laboratories.
- Three gaming laboratories capable of accommodating 145 people.
- Three mission command system laboratories capable of accommodating 172 people.
- Three after action rooms with moveable walls (which provide a secure setting when required), each capable of accommodating 63 people, or a total of 189 people.
- One video teleconference room capable of accommodating 30 people.
- Two dedicated server rooms (one of which is secure).
- Administrative space for 54 people.
- Six hardstand external connection points for tactical vehicles.
- A storage area with a loading dock.

The unique role of Fort Leonard Wood as an installation that supports the training and education of TRADOC and

FORSCOM organizations and units through the use of virtual, constructive simulations and gaming devices provides the opportunity to create the integrated training environment that the Army envisions for the force. The MSCoE DTF offers common training tools for the institutional base and students attending professional military education courses and then facilitates the transition of those graduates who remain part of the operational force at Fort Leonard Wood into the home station environment, where they have the opportunity to use those tools.

The DTF is primarily designed for the MSCoE TRADOC mission, but has further potential as a training platform for other venues, limited only by the imagination and the white space on the training calendar. For example, the DTF could be used for functional and multifunctional unit command post exercises, homeland security exercises, joint training exercises, and other interagency exercises. As the Army continues to pursue a live, virtual, constructive simulation and gaming integrated training environment with which to train its forces, the MSCoE DTF—properly resourced and managed—brings that vision one step closer to reality. 

Mr. McFarland is the education and training supervisor, Training Instruction Branch, Assistant Chief of Staff for Operations and Training (G-3), MSCoE. He is a retired Army infantry lieutenant colonel and former battalion commander. He holds a bachelor's degree in wildlife resource management from Southwest Missouri State University (now Missouri State University) and master's degrees in management from Webster University and in military arts and science from the School of Advanced Military Studies, Command and General Staff College, Fort Leavenworth, Kansas.



Soldiers receive instruction in the new, state-of-the-art DTF.

Chief of Chemical's Recommended Professional Reading List

By Brigadier General Peggy C. Combs

This is the second iteration of my recommended professional reading list, which is updated and published in each issue of *Army Chemical Review*. The list contains six documents spanning four broad categories of topics: leadership; joint/Army doctrine and policy; the chemical, biological, radiological, and nuclear (CBRN) profession; and history/miscellaneous.

These selected readings will guide you through assessing validated lessons learned during the last decade of war; reviewing ongoing, cutting-edge CBRN and hazmat incidents to develop best practices; and pondering the future as our *National Defense Strategy to Counter Weapons of Mass Destruction* is redefined. As you make your way through the reading list, you will notice that there is a common theme of building partnership capacity among the entries. Sometimes, the examples contained in the readings stand out as success stories; in other cases, building partnership capacity is clearly lacking and challenges and failures are illustrated. I ask that you apply your critical thinking skills and expand your global viewpoint to benefit as much as possible from these recommended readings.

I encourage you to read each and every one of these publications, and I want your feedback. Please contact Lieutenant Colonel Damon Yourchisin at the address below to be recognized for your reading efforts and to suggest publications to be considered for subsequent recommended professional reading lists.

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Leadership

- Ori Brafman and Rod A. Beckstrom, *The Starfish and the Spider: The Unstoppable Power of Leaderless Organizations*, Penguin Group, New York, 2006, ISBN 978-1-59184-183-8.

Joint/Army Doctrine and Policy

- *National Defense Strategy to Counter Weapons of Mass Destruction*, to be published.

The CBRN Profession

- Dan Kaszeta, *CBRN and Hazmat Incidents at Major Public Events: Planning and Response*, John Wiley & Sons, Inc., Hoboken, New Jersey, 2013, ISBN 978-1-118-28819-1.
- Charles Ferguson, "Ensuring the Security of Radioactive Sources: National and Global Responsibilities," U.S.-Korea Institute at the Paul H. Nitze School of Advanced International Studies, Johns Hopkins University, March 2012, <http://www.fas.org/_docs/201203-EnsuringSecurityofRadioactiveSources-Ferguson.pdf>, accessed on 15 August 2013.

History/Miscellaneous

- Thomas L. Friedman and Michael Mandelbaum, *That Used to Be Us: How America Fell Behind in the World It Invented and How We Can Come Back*, Farrar, Straus, and Giroux, 5 September 2011, ISBN 978-0-374-28890-7.
- Christopher Paul et al., *What Works Best When Building Partner Capacity and Under What Circumstances?*, RAND Corporation, 22 February 2013, ISBN 978-0-8330-7850-6, <http://www.rand.org/content/dam/rand/pubs/monographs/MG1200/MG1253z1/RAND_MG1253z1.pdf>, accessed on 20 August 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
Joint Publications			
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 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>	4 Oct 13	Current.
JP 3-11 is no longer 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 is on preevent threats and hazards that allow proactive measures. JP 3-11 also includes information about the new, validated, approved concepts of hazard awareness and understanding and contamination mitigation.			
JP 3-27	<i>Homeland Defense</i>	29 Jul 13	Current.
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>	31 Jul 13	Current.
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 DSCA 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 revised final coordinating draft is expected spring 2014.
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> . ¹ 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, ² 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 ³ and the state governor, ⁴ 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.			
Multi-Service Publications			
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 MCWP 3-37.1 NWP 3-11 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 the <i>NDS-CWMD</i> 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 MCWP 3-37.7 NTTP 3-11.35 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 "left of boom" actions.			
ATP 3-11.32 MCWP 3-37.2 NTTP 3-11.37 AFTTP 3-2.46 (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, and FM 3-11.5. The final coordinating draft will be staffed 2d quarter, FY 14.
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 MCRP 3-37B NTTP 3-11.34 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 MCWP 3-37.4 NTTP 3-11.29 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. Supersedes FM 3-11.19 and FM 3-11.86.
ATP 3-11.37 is designed for the conventional force. It establishes forms, modes, and 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.			
FM 3-11.21 MCRP 3-37.2C NTTP 3-11.24 AFTTP(I) 3-2.37	<i>Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Consequence Management Operations</i>	1 Apr 08	Under revision. Will be redesignated ATP 3-11.41.
FM 3-11.21 focuses 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 MCWP 3-38.1 NTTP 3-11.36 AFTTP 3-2.82	<i>Multi-Service Tactics, Techniques, and Procedures for Installation Emergency Management</i>	26 Apr 13	Current. 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 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. ⁵
ATP 3-11.46 serves as the foundation for WMD-CST doctrine. It focuses on the organization, mission, command and control (C2), 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 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 C2, security operations and, if applicable, CERFP operations.			
Army-Only Publications			
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. Will be published 2d 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. Will be published 2d 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. Also, currently assessing and cross-walking the publication with draft and current doctrine to check for relevancy and redundancy.
ATP 3-90.10 will educate the reader on the special capabilities that exist within the CBRNE mission command element.			
Technical Manual			
The USACBRNS is the proponent and approving authority for one technical manual.			
TM 3-11.91 MCRP 3-37.1B NTRP 3-11.32 AFTTP 3-2.55	<i>Chemical, Biological, Radiological, and Nuclear Threats and Hazards</i>	Pending	Under development. Will revise and supersede FM 3-11.9 and FM 3-11.11. Will be published 1st quarter, FY 15.
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.			

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

²The 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.)

³The 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).

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

⁵The 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.

(“Teaching . . .” continued from page 35)

Although technical escort units—with embedded explosive ordnance disposal assets and fewer personnel—work on a different wavelength, as subject matter experts, they have the capacity to provide instruction on the fundamentals of weapons of mass destruction site assessment and exploitation. Adjacent R&S units can also provide training on the fundamentals of R&S tactics, techniques, and procedures and guidance on standing operating procedures that complement manpower.

Ensuring Internal Instruction

As our platoon trains and becomes proficient in R&S fundamentals, we must maintain and improve that proficiency by ensuring that first-line supervisors are capable of internally training their teams. Based on the standing operating procedures and tactics, techniques, and procedures rehearsed during fundamental training, noncommissioned officers must address specific team shortcomings by tailoring a set of standing operating procedures for their particular team. Team leaders can expand upon small, but important, concepts at the team level. Reachbacks for coaching or for additional fundamental training are incentives for self-improvement. The goal of internal team training is to help the team make its specific portion of the R&S mission run more smoothly.

Resourcing for Greater Diversity

The missions, equipment, and training associated with an R&S platoon are more diverse than those of a traditional decontamination platoon. The standard scrub brushes, 6-mil bags, and mission-oriented protective posture gear of a decontamination platoon are replaced with a Joint Nuclear Biological Chemical Reconnaissance System II—a

“As our platoon trains and becomes proficient in R&S fundamentals, we must maintain and improve that proficiency by ensuring that first-line supervisors are capable of internally training their teams.”

self-sufficient container express containing CBRN detection, sampling, and personal protection equipment, including expendable parts (which must be resupplied)—during the transition to an R&S platoon. Likewise, the simple training area needed to conduct decontamination training is replaced with facilities and items (including buildings and glassware) that R&S platoons may use to simulate clandestine chemical processes.

Conclusion

Based on the need to train new fundamentals, train trainers, and resource the R&S platoon to ensure that it is postured for success, the contrast between the mission-essential task lists for a decontamination platoon and an R&S platoon is great. The dedication to duty required of Soldiers clad in Mission-Oriented Protective Posture 4 to scrub vehicles for hours on end is being refocused on a new skill set. Old “chem dog” Soldiers who have never before touched a Level A protective suit or self-contained breathing apparatus are fired up to learn some new tricks.

Second Lieutenant Deberry is the dismounted R&S platoon leader, 61st Chemical Company, 23d Chemical Battalion, 1st Armored Brigade Combat Team, 2d Infantry Division, South Korea. He holds a bachelor's degree in English from the University of South Carolina Upstate.



RESERVE COMPONENT UPDATE

Professional Military Education

Qualification training courses are listed and described in Table 1.

Table 1. Qualification training courses

Enlisted/Noncommissioned Officer (NCO) Qualification Training Courses	
74D10 Chemical, Biological, Radiological, and Nuclear (CBRN) Specialist Course (School Code 031)	
Phase I (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>.
74D10 CBRN Specialist Course (School Code R031)	
Phases II and III (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.
CBRN Transition Course (School Code R031)	
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 (< https://afcesa.csd.disa.mil/kc/login/login.asp >) prior to attending the CBRN Transition Course; certificates must be presented during in-processing.	
ALC-Common Core (CC) Distributed Learning (dL) (School Code G400, Course 600-C45)	
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.	
74D30 CBRN ALC (School Code R031, Course 031-74D30-C45)	
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.	
74D40 Senior Leader Course (SLC) (School Code R031, Course 031-74D30-C46)	
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.	
Officer Qualification Training Courses	
CBRN Captain's Career Course (C3) (School Code 031)	
Phase I (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 < https://afcesa.csd.disa.mil/kc/login/login.asp > 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 < john.ferro@us.army.mil >. The successful completion of Phase I (and the CBRN Defense Course [branch transfers]) is a prerequisite for Phase II attendance.
Phase II (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 (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 < john.ferro@us.army.mil >. The successful completion of Phase III is a prerequisite for Phase IV attendance.
Phase IV (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.
Note: Additional information is available at < https://www.atrrs.army.mil/ >.

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. All students attending the course must be International Fire Service Accreditation Congress (IFSAC) (or equivalent) technician-certified. Students who successfully complete the course receive certification at the hazmat awareness, operations, and technician levels.
Civil Support Skills Course (CSSC) (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. They also receive specialized training on a variety of military and commercial CBRN detection equipment.
Note: All students who successfully complete hazmat training are awarded certificates issued by IFSAC and DOD. Additional copies of certificates can be obtained at < http://www.dodffcert.com >.

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>.

Contact Information

Colonel Francisco S. Velez (DAC-AR), (573) 563-8050 or <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>.

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

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

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

Reference:

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

News From the Personnel Development Office

During the past 6 months, a number of U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) actions have continued through Department of the Army (DA) staffing and some have been approved. The Personnel Development Office (PDO) has also been busy soliciting new officer accessions and spreading the word about our unique technical branch to U.S. Army Reserve Officer Training Corps (ROTC) cadets across the country—especially during annual ROTC training at Joint Base Lewis-McChord, Washington.

Warrant Officer Program

The PDO prepared a military occupational classification structure change in an attempt to make the best possible use of warrant officer skills and training for the benefit of the Chemical Corps and the Army. The revision was staffed worldwide, and we received several inquiries; however, we managed to alleviate all concerns. The Army approved the structure change in October 2013, and implementation will take place on 1 October 2015.

Regimental Chief Warrant Officer

After conducting a series of interviews, the USACBRNS commandant and regimental command sergeant major selected Chief Warrant Officer Two Matthew D. Chrisman as the first Chemical Corps Regimental Chief Warrant Officer effective August 2013. Although the position is a chief warrant officer five position, there will not be a chief warrant officer five within the Regiment until 2027. In his capacity as the Regimental Chief Warrant Officer, Chief Warrant Officer Two Chrisman will be responsible for managing chemical, biological, radiological, and nuclear (CBRN) warrant officers and advising the commandant regarding all CBRN warrant officer issues. He will also be responsible for ensuring that the Warrant Officer Program is producing technical certification and standardization experts for our Regiment.

New Skilled Technical Score Requirement for 74D Soldiers

PDO prepared a military occupational classification structure change and submitted it to the Office of the Deputy Chief of Staff for Personnel (G-1), DA, to update the Armed Services Vocational Aptitude Battery skilled technical score requirement from 91 to 100 for initial-entry military occupational specialty 74D Soldiers. The structure change has been approved, with an implementation date of 1 October 2013. As of this date, all non-prior-service, initial-entry accessions for military occupational specialty 74D are required to have a skilled technical score of 100.

New Lieutenant Accessions

Chemical Branch personnel had the opportunity to personally interact with ROTC cadets during the ROTC summer Leadership Development and Assessment Course (Warrior Forge) at Joint Base Lewis-McChord. During Warrior Forge, cadets choose the branches they wish to consider. This year, 640 cadets—a 50 percent increase over last year—elected to visit with personnel from the Chemical Branch. This increase in interest was due, in part, to written invitations (from the USACBRNS commandant to all cadets with science, engineering, technical, and mathematics majors) and to e-mails (to all cadets) containing information about Chemical Branch opportunities. If these cadets had not been properly informed, they may not have considered the Chemical Branch and the Chemical Branch may not have had a chance to discuss available opportunities. The 110th Chemical Battalion (Technical Escort), which represented the Chemical Branch, presented cadets from all 13 regimental rotations with an informational brief and the opportunity to view equipment and to interact with current CBRN officers and noncommissioned officers. We continue to ask our leaders in the field to engage their alma maters and local ROTC populations to help spread the word about the great opportunities available in the Chemical Branch, as we have already begun work for the next cycle. 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 is nearing 1,000 fans, and we need your help to get there and beyond. The page, which is available 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 Regiment. 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. We have received positive feedback about this page. If you haven't already done so, please become a fan by visiting the page and clicking *Like*.

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