

ARMY

CHEMICAL



The Professional Bulletin of the Chemical Corps

Summer 2009

REVIEW



Celebrating the CBRN NCO

HEADQUARTERS, DEPARTMENT OF THE ARMY
Approved for public release; distribution is unlimited.
PB 3-09-1

U.S. Army
Chemical, Biological, Radiological, and Nuclear School
(573) XXX-XXXX
DSN 676-XXXX (563 prefix) or 581-XXXX (596 prefix)

COMMANDANT

COL(P) Leslie C. Smith 563-8053
<leslie.smith@us.army.mil>

ASSISTANT COMMANDANT

COL Greg D. Olson 563-8054
<greg.d.olson@us.army.mil>

CHIEF OF STAFF

LTC Doug Straka 563-8052
<doug.straka@us.army.mil>

COMMAND SERGEANT MAJOR

CSM Ted A. Lopez 563-8053
<ted.lopez@us.army.mil>

**DEPUTY ASSISTANT COMMANDANT-RESERVE
COMPONENT**

COL Lawrence Meder 563-8050
<lawrence.meder@us.army.mil>

3D CHEMICAL BRIGADE

COL David Wilcox 596-0016
<david.wilcox@conus.army.mil>

**DIRECTORATE OF TRAINING AND LEADER
DEVELOPMENT**

COL Lydia Combs 563-4111
<lydia.combs@us.army.mil>

PERSONNEL DEVELOPMENT OFFICE

SGM Gwendolyn Evans 563-7376
<gwendolyn.evans@us.army.mil>

CHEMICAL DEFENSE TRAINING FACILITY

Mr. Daniel Murray 596-0608
<daniel-murray@us.army.mil>

MANSCEN DIRECTORATE OF TRAINING

CBRN CHIEF OF DOCTRINE

LTC Michael J. Dutchuk 563-8189
<leon.mdottedcbrndoc@conus.army.mil>

**DEVELOPMENT SUPPORT DIVISION,
PUBLICATIONS SUPPORT BRANCH**

Managing Editor, Diane E. Eidson 563-4137
<diane.eidson@us.army.mil>

Editor, Diana K. Dean 563-5004
<diana.k.dean@us.army.mil>

Graphic Designer, Denise F. Sphar 563-5288
<denise.sphar@us.army.mil>

Covers:

Computer design and layout by Denise F. Sphar

Front cover: photographs provided by USACBRNS.

Back cover: artwork from <<http://www.army.mil/yearofthenco/resources.html>>

Army Chemical Review (ACR) (ISSN 0899-7047) is prepared biannually by the U.S. Army Chemical, Biological, Radiological, and Nuclear School and the Maneuver Support Center Directorate of Training, Fort Leonard Wood, Missouri. *ACR* presents professional information about Chemical Corps functions related to chemical, biological, radiological, and nuclear (CBRN); smoke; flame field expedients; and reconnaissance in combat support. The objectives of *ACR* are to inform, motivate, increase knowledge, improve performance, and provide a forum for the exchange of ideas. This publication presents professional information, but the views expressed herein are those of the authors, not the Department of Defense or its elements. The content does not necessarily reflect the official U.S. Army position and does not change or supersede any information in other U.S. Army publications. The use of news items constitutes neither affirmation of their accuracy nor product endorsement.

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PERSONAL SUBSCRIPTIONS are available through the Superintendent of Documents, P.O. Box 371954, Pittsburgh, Pennsylvania 15250-7954.

UNIT SUBSCRIPTIONS are available by e-mailing <leon.mdotaacr@conus.army.mil>. Please include the complete mailing address (including unit name, street address, and building number) and the number of copies per issue.

POSTMASTER: Send unit address changes to *Army Chemical Review*, 464 MANSCEN Loop, Building 3201, Suite 2661, Fort Leonard Wood, Missouri 65473-8926.

By Order of the Secretary of the Army:

GEORGE W. CASEY, JR.
General, United States Army
Chief of Staff

Official:



JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0907101

ARMY

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THE PROFESSIONAL BULLETIN OF THE CHEMICAL CORPS
Headquarters, Department of the Army

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- | | | | |
|----|---|----|--|
| 2 | Chief of Chemical | 35 | Understanding the Protection Cell
<i>by Major Richard L. Comitz</i> |
| 3 | Regimental Command Sergeant Major | 37 | Hazmat on the Railroad—Will the New Rule Really Make Us Safer?
<i>by Captain Herschel Flowers</i> |
| 4 | The NCO Creed | 39 | Managing Editor Receives Award |
| 5 | Year of the NCO Letter | 40 | Regimental Week and NDIA JCBRN Conference Agenda |
| 6 | What It Means to Be an NCO
<i>by Staff Sergeant Scott R. Stainbrook</i> | 42 | Exercise Red Dragon 2009 and the CCMRF
<i>by Lieutenant Colonel Michael S. Vail</i> |
| 9 | The ECBC Environmental BioMonitoring Laboratory Focuses on the Future | 44 | CBRNE Response Measures for the 2009 Presidential Inauguration
<i>by Major Jeremy J. DiGioia and Captain Jonathan Ebbert</i> |
| 10 | Key Resolve 2009: CJTF-E Shines During Korean Training Event
<i>by Specialist Aaron Carpenter</i> | 48 | Doctrine Update |
| 11 | Operation Foal Eagle: Combined CBRNE Training With ROK Forces
<i>by Specialist Aaron Carpenter</i> | 50 | Reserve Component Update |
| 12 | Joint Contaminated Surface Detector Takes Off at Former Army Airfield
<i>by Lieutenant Colonel John M. Riley and Master Sergeant Mark Nicholson</i> | 52 | Order Out of Chaos: The Incident Command System
<i>by Lieutenant Colonel Richard D. Howe</i> |
| 14 | Concept Capability Plan: Combating Weapons of Mass Destruction
<i>by Mr. Larry Lazo, Lieutenant Colonel Thamar Main, and Lieutenant Colonel Bret Van Camp</i> | 53 | Last VX Nerve Agent in CMA Stockpile Destroyed
<i>by Mr. Greg Mahall</i> |
| 19 | Weapons of Mass Destruction—Civil Support Team: The Title 32 Initial Response Force
<i>by Lieutenant Colonel Christian M. Van Alstyne and Mr. Stephen H. Porter</i> | 54 | 2009 Writing Contest |
| 24 | The Maneuver Enhancement Brigade
<i>by Colonel Charles A. Williams and Mr. Joe Crider</i> | 55 | The Chemical Corps Vision |
| 28 | The Security of Our Biolabs
<i>by Captain Anthony M. Benedosso</i> | 56 | A Coming of Age: The CERFP Sharpens Its Capabilities
<i>by Major Michael A. Ladd</i> |
| 32 | The Development of India's Nuclear Program
<i>by Major Andrew "Jack" Morgan</i> | 58 | Chemical Bonds: A Historic U.S.–Iraq CBRNE Training Partnership
<i>by Lieutenant Colonel Joseph Hauer and Lieutenant Colonel Thomas Thompson</i> |
| | | 61 | CSTC-A Honors Fallen Texas Guardsman With Building Dedication
<i>by Petty Officer First Class Douglas Mappin</i> |

Chief of Chemical



Colonel (P) Leslie C. Smith

Army Chemical Review is dedicated to all Dragon Soldiers and friends of the U.S. Army Chemical Corps and Regiment. In June 2009, we are celebrating the 91st anniversary of the Chemical Corps; Regimental Week; and the Joint Chemical, Biological, Radiological, and Nuclear (CBRN) Conference. We have planned multiple great venues to move our Regiment and community forward (see the agenda on page 40). The National Defense Industrial Association, the Chemical Corps Regimental Association, and the CBRN School are focused on making this event special for all attendees. The Joint Conference and Regimental Week theme is “Full Spectrum CBRN Operations: Celebrating the CBRN Noncommissioned Officer.” Our entire team looks forward to your participation in the week’s activities.

This issue of *Army Chemical Review* continues to focus on our efforts to support the Nation and the Army. Since the last issue, we held U.S. elections, witnessed an increase in cross-border drug violence in Mexico, began sending more Soldiers to Afghanistan, witnessed North Korea launch another missile into the Pacific Ocean, and started building a CBRN capability with our Iraqi partners. In this era of persistent conflict and engagement, how do we continue to win the current fight and maintain the all-volunteer force? How do we keep our Soldiers, Civilians, and their Families in the military? How do we help reduce the stressors that we all face?

Each year we lose too many Soldiers to suicide. The Vice Chief of Staff of the Army, General Peter W. Chiarelli, made seven stops to seven posts in January to discuss the initiatives and concerns of our Soldiers, Civilians, and their Families. No Soldier, Sailor, Airman, Marine, Civilian, or Family member needs to suffer in silence. We have numerous systems and processes to help. Please assist the Army team by continuing to show your concern for the welfare and development of others.

As we continue to train Soldiers, Sailors, Airmen, Marines, and Civilians, we have many challenges to face as a CBRN community and as a Nation. Senior Department of Defense and Army leaders have asked us to think about how we transition from counterinsurgency operations to a more hybrid threat for warfare. We have seen this used during Russian operations in Georgia and during Hezbollah missions against Israel. How do we continue to deal with hybrid threats? How do we train Soldiers to deal with these unknown situations?

We also need to concentrate on bettering the partnership between our Services, components, and agencies. Although we train Chemical warriors from all Services at Fort Leonard Wood, we do not train together. There is no requirement to do so, but we have a vested interest in increasing our synergies and synchronization. The Nation expects us to deliver the capability, but does not dictate which Service provides it. In the next year, the Chemical Corps intends to partner with others in our community to build a chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) enterprise. This enterprise will combine the efforts of multiple organizations—the Defense Threat Reduction Agency, Edgewood Chemical and Biological Center, U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency, Joint Requirements Office, Joint Program Executive Office, and others. We must all cooperate and collaborate to find solutions to meet the challenges of CBRN doctrine, organization, training, materiel, leadership and education, personnel, and facilities. I look forward to your thoughts on how we build this partnership in defense of the Nation.

I need your ideas on the above issues and your answers to the questions I have posed. You deal with these situations every day, and your insight is invaluable in developing solutions. Please continue to dialogue with me and other Corps leaders in the Chemical Knowledge Network at [https://www.us.army.mil/suite/portal.do?\\$p=409522](https://www.us.army.mil/suite/portal.do?$p=409522). I personally answer questions on ProtectionNet at <https://forums.bcks.army.mil/secure/CommunityBrowser.aspx?id=62418>, and I want to hear from you on how to make our Corps and Army better.

The front cover of this *Army Chemical Review* pays tribute to the core of our Army and Chemical Corps—the noncommissioned officer (NCO). We all have a story about our NCOs and the role that they play in development. My first NCO, then Staff Sergeant Charlie Crawford, epitomized the best I have seen in an Army leader. He showed me how to work on vehicles, talk with Soldiers, wear a uniform correctly, and deal with the host nation populace. If you are an NCO, remember the role you play in developing our Army and our Nation. The Army has recognized your importance by making 2009 “The Year of the NCO.” Take advantage of the education, fitness, leadership, and pride-in-service initiatives that the Army has developed. Thank you for continuing to accomplish the mission and prepare the next generation of Soldiers and leaders. Army strong!

***ELEMENTIS, REGAMUS, PROELIUM:
CHEMICAL CORPS: CAPABLE NOW!***

Regimental Command Sergeant Major

The commandant and I have been conducting full spectrum operations this last quarter. We have been able to visit many of our chemical, biological, radiological, and nuclear (CBRN) warriors throughout the Chemical Corps; and I must say that I am proud to serve with all of them. Our warriors are conducting combat operations in Afghanistan and Iraq, overseas training in various locations, and stability operations in the continental United States. Many units are conducting consequence management missions throughout the countryside. Our warriors are engaged in full spectrum operations while transforming the Army. Here at the home of the Dragon warrior, our leaders and Soldiers have trained thousands of warriors to supply our warfighting units with the best-trained Soldiers in the world. Our leaders here at Fort Leonard Wood are doing their part to grow the Army and sustain the operational training base. The commandant and I are very proud of each and every one of you for serving and supporting our great Chemical Corps. During our travels, we talk about how great it is to serve our warriors and their families.

Congratulations to our NCOs and their Families for their commitment to service and their sacrifice for our Nation. As we enter this special year, we want to tell our story publicly and recognize the contributions of our NCOs. It is particularly important to recognize the courage and dedication of our NCOs deployed throughout the world. We as a Corps want to highlight what the Army is doing to accelerate professional development, training, and educational programs that benefit NCOs. Our NCOs make it happen in the Chemical Corps. We have to tell our story. We have to share our experiences. We have to educate the public about how Army NCOs are professional trainers and experts in their craft, planning and conducting individual and collective training for their Soldiers and their teams.



**Command Sergeant Major
Ted A. Lopez**

“At the front of every Army mission in the United States or overseas, you’ll find a noncommissioned officer. They know their mission, they know their equipment, but most importantly, they know their Soldiers.”¹

*—Secretary of the Army Pete Geren
2008 Association of the United States Army
Annual Meeting and Exposition*

We are very excited that the mighty 48th Chemical Brigade is sponsoring this year’s Chemical Corps Soldier and NCO of the Year competitions. With full spectrum operations, the competitions will advance one more step toward the future. The Spartans will have CBRN NCOs running the competition from every battalion in the Chemical Corps. The brigade commander and command sergeant major have provided a plan that will truly challenge the physical and mental fitness of our CBRN warriors in technical skills and warrior battle tasks and drills. This year’s competition will take place a week early to provide the time and energy necessary to push our CBRN warriors to the limit. At the end of the competition, our NCO Academy (in particular, the Senior Leader Course) will conduct a traditional NCO induction ceremony to induct our newest NCOs into the Corps here at the home of the Chemical Corps.

I have had several briefings on robotics and how we can use this technology to improve our missions. If you would like more information on robotics, please contact—

Mr. Karl Cockrum
Robotic Systems Joint Project Office
CBRN Robotic Systems Support (Qualis Corporation) CDID, RDD
Fort Leonard Wood, Missouri 65473
Telephone: (573) 563-8277

(continued on page 4)

("Regimental Command Sergeant Major" continued from page 3)

We are not getting our CBRN warriors involved in the use of the CBRN Knowledge Network (<[https://www.us.army.mil/suite/portal.do?\\$p=409522](https://www.us.army.mil/suite/portal.do?$p=409522)>). I cannot stress enough the importance of our warriors using and accessing this brilliant Web site to stay current in the CBRN field.

To the Corps, thank you for serving. We are very proud of you! I ask each of you to provide me your thoughts in any areas where we can improve our Corps.

Thanks to our Families, Retirees, and Civilians for what you do.

Endnote:

¹C. Todd Lopez, "Army Secretary Announces 2009 Will Be 'Year of NCO,'" American Forces Press Service, U.S. Department of Defense, 6 October 2008.



The NCO Creed

No one is more professional than I. I am a noncommissioned officer, a leader of Soldiers. As a noncommissioned officer, I realize that I am a member of a time-honored corps, which is known as "The Backbone of the Army." I am proud of the Corps of Noncommissioned Officers and will at all times conduct myself so as to bring credit upon the Corps, the military service, and my country regardless of the situation in which I find myself. I will not use my grade or position to attain pleasure, profit, or personal safety.

Competence is my watchword. My two basic responsibilities will always be uppermost in my mind—accomplishment of my mission and the welfare of my Soldiers. I will strive to remain technically and tactically proficient. I am aware of my role as a noncommissioned officer. I will fulfill my responsibilities inherent in that role. All Soldiers are entitled to outstanding leadership; I will provide that leadership. I know my Soldiers, and I will always place their needs above my own. I will communicate consistently with my Soldiers and never leave them uninformed. I will be fair and impartial when recommending both rewards and punishment.

Officers of my unit will have maximum time to accomplish their duties; they will not have to accomplish mine. I will earn their respect and confidence as well as that of my Soldiers. I will be loyal to those with whom I serve—seniors, peers, and subordinates alike. I will exercise initiative by taking appropriate action in the absence of orders. I will not compromise my integrity, nor my moral courage. I will not forget, nor will I allow my comrades to forget that we are professionals, noncommissioned officers, leaders!



Year of the NCO

“The goal of the corps of NCOs, whose duty is the day-to-day business of running the Army so that the officer corps has time to command it, is to continue to improve our Army at every turn. We want to leave it better than we found it. Regardless of the kind of unit you’re in, it ought to be an “elite” outfit, because its NCOs can make it one.”

***~SMA William G. Bainbridge,
5th Sergeant Major of the Army***

We announce 2009 as the Year of the NCO. During this year, we will accelerate previously approved strategic NCO development initiatives that enhance training, education, capability, and utilization of our NCO Corps. We will showcase the NCO story for the Army and the American people to honor the sacrifices and celebrate the contributions of the NCO Corps, past and present.

Today’s NCO operates autonomously, with confidence and competence. We empower and trust our NCOs like no other army in the world. In fact, many of the world’s armies are looking at our NCO Corps as a model for their own as they recognize the vital roles NCOs play in our Army.

Our NCOs lead the way in education, in training, in discipline. They share their strength of character with every Soldier they lead, every officer they serve, and every civilian they support.

NCOs are the keepers of our standards. From the recruiting station to basic training to combat zones; civil affairs to medicine to logistics; natural disaster assistance to graveside attendance at Arlington; whether Active, Guard or Reserve, our NCOs take the lead. Hence the phrase, Sergeant take the lead!

**Kenneth O. Preston
Sergeant Major of the Army**

**George W. Casey, Jr.
General, United States Army
Chief of Staff**

**Pete Geren
Secretary of the Army**



What It Means to Be an NCO

By Staff Sergeant Scott R. Stainbrook

Editor's Note: As a class assignment, Soldiers attending the Chemical, Biological, Radiological, and Nuclear Basic Noncommissioned Officer Course, Phase II, Class 01-09, were asked to write a short essay on "What It Means to Be an NCO." Staff Sergeant Scott R. Stainbrook's article was selected for publication in this issue of Army Chemical Review.

Self-confidence, the abilities to listen and communicate, and a view of the larger picture are all skills required of a noncommissioned officer (NCO). The mission of an NCO is to fulfill what we call the "backbone" of the Army. We are individuals who can hear and understand a mission and then take the necessary steps to make it happen. It is an honor to serve as an NCO because I take pride in leading my Soldiers to success. I take pride in contributing to the wider goals of my unit by helping other people succeed. These tasks require me to invest in individual Soldiers, to lead a group of people by instruction and example, and to properly represent the missions and morals of the 82d Airborne Division.

As an NCO, I must know and lead each Soldier under my command. I make it clear that they all must succeed, and I do what is necessary to ensure that each of them is a strong, able part of our group. This requires me to pay attention to their strengths and weaknesses. I work with them to ensure that they are able to physically perform their duties, and I also ensure that they understand how to be a Soldier. Since the Soldiers under my command are paratroopers, they experience the importance of knowledge and ability every time they jump from a plane. As their NCO, it is my duty to help each of them overcome their fears and apply their knowledge in every exercise. An NCO must ensure that each Soldier understands the importance of training.

As I pay attention to every Soldier under my command, I also understand that the job of an NCO is to create a strong unit of Soldiers. If I am their leader, I lead them as individuals and as an entire team. My job as an NCO is to spend time every day ensuring that my team is in top physical condition. I push them beyond what they think they can do. An NCO also must lead a team in such a way that commands respect and builds trust. If I am going to get the job done and fulfill orders every day, I must have Soldiers under my command who are ready to obey my leadership without question. They must give it their all! This is necessary for mission accomplishment and individual safety in combat. An NCO must lead in a way that sets an example of excellence. I also must ensure that my team feels challenged and

respected for their hard work. This requires me to communicate clearly and to keep my word with my Soldiers. I do not require anything of my Soldiers that I am not willing to do along with them. If you are a good NCO, you teach by example as well as by instruction.

While I spend a lot of time investing in individual Soldiers and the entire group of Soldiers under my leadership, I also work with my superior officers. A lot of my job as an NCO requires me to report on missions, to help make things happen for my superiors, and to understand the needs of my unit. I must be a good communicator in order to represent my Soldiers well to my superiors and to represent my superiors well to my Soldiers—this is the most challenging part of being an NCO. NCOs are held accountable for all actions of the Soldiers under their control, and they are also held accountable for all missions and tasks assigned to those Soldiers. When making decisions, NCOs must keep the larger picture in mind and consider the needs of their units. As the Army's "backbone," an NCO must relate to all parts of the unit to get a job done. This often means personal sacrifice or letting go of personal expectations so that Soldiers succeed and the mission is accomplished.

An NCO must work alongside the Soldiers, communicate with all areas of the unit, and solve problems to make the impossible happen. These everyday jobs point to the ultimate goal of an NCO—to bring every Soldier home safely and to serve the Nation with excellence. In war and at home, an NCO is responsible for the safety and success of Soldiers. An NCO is accountable for every mission and jump and for the lives at stake. All of these things are for the ultimate good of the Nation. If an NCO fails at leadership, communication, or problem solving, Soldiers do not follow orders or do not perform to their highest potential, which can lead to a failed mission, injury, or death. If NCOs fail, they fail the entire unit—every Soldier they lead and every Soldier who leads them. This means that NCOs must always challenge themselves to be better, work harder, and learn more every day. Good NCOs place the needs of their unit, their Soldiers, and their Nation above their own needs.



Editor's Note: The following are excerpts from other Class 01-09 essays.

All in all, I feel that being an NCO is the best way to influence our forces. We are where the rubber meets the road.

—*Staff Sergeant Roland Turner*

I build on the foundation that was laid by others to instill in my Soldiers what it means to be an NCO. I help them strive to be future leaders and to replace me as an NCO one day.

—*Staff Sergeant Theresa Y. Stepp*

NCOs are professionals and always stand for what is right and just. Although danger takes many different avenues of approach, NCOs welcome the challenge of it and defeat it.

—*Staff Sergeant William O. Baker*

NCOs do not spread discontent or question leadership. They never put themselves in a position to have their professionalism, integrity, or respect questioned. They must follow the NCO Creed in every aspect of their daily lives.

—*Staff Sergeant Antonio Preston*

To be an NCO is to be a leader, to be an example for Soldiers. I truly believe that there is no other profession that gives you more personal gratification than training and taking care of people on a daily basis. At no other job are leaders more involved in the well-being of their subordinates.

—*Staff Sergeant Keith Pyron*

NCOs must teach, instruct, and be role models for Soldiers. They must give Soldiers someone to emulate.

—*Staff Sergeant Contreras Rodrigo*

As an NCO, I teach, coach, counsel, and mentor my Soldiers—teaching them what a leader is and grooming them to become one. My Soldiers can expect me to be a caring leader, compassionate and stern. I will take care of their needs at all times, enabling them to focus on performing their jobs to standard.

—*Staff Sergeant Jorge L. Rivera*

The making of a good NCO begins on the first day of their military career. It starts with the outstanding leadership provided by a current NCO. That is the beauty of the NCO Corps—it is a self-regenerating organization.

—*Staff Sergeant Patrick Fuller*

I work side by side with my Soldiers, setting a good example and ensuring that they are the best they can be. I've worn many hats during the course of my duties—mentor, father, teacher, disciplinarian, and friend. NCOs are the first-line supervisors in the Army, the ones who know each Soldier's strengths and weaknesses.

—*Staff Sergeant David Kennedy*

The officers in my unit give complete freedom of judgment to the NCOs downrange. They have confidence in our knowledge and proficiency; therefore, we are able to accomplish our mission much more quickly and efficiently.

—*Staff Sergeant Justin R. Rinearson*

The day I became an NCO was one of the greatest days of my life. To teach Soldiers the skills needed for growth and development fills me with satisfaction. One of my most memorable times was when I promoted one of my Soldiers to sergeant.

—*Staff Sergeant Jerry Perez*

Leading by example, maintaining moral and ethical qualities, and doing the right thing exemplify what it means to be an NCO. It means not just working to meet the minimum standard, but consistently striving to do one's very best.

—*Staff Sergeant Rayon Everett*

Being an NCO requires you to be professional and tactful at all times. The ability to influence and motivate a Soldier is one of the greatest skills an NCO can possess. I mentor Soldiers and watch them develop into outstanding NCOs themselves.

—*Staff Sergeant Adrienne Barnes*



My most important task is to be a part of my Soldiers' lives—the first one to congratulate them on their accomplishments and the first one to correct their mistakes and help them learn from those mistakes.

—*Staff Sergeant Angel M. Luna Colon*

I take everything that I learn from my leaders and pass it down to the Soldiers in my unit. It is my responsibility to ensure that Soldiers are fully trained and ready to accomplish the mission.

—*Staff Sergeant Joshua Stone*

Being an NCO is to guide, teach, train, and lead those Soldiers who will be taking your place when you are dead and gone so that the Army lives on.

—*Staff Sergeant Raymond Ross*

NCOs are leaders. We are charged with training Soldiers in the way they should go—whether to take responsibility for their actions or to accomplish a mission with little or no supervision.

—*Staff Sergeant Yolanda V. Owens*

It is my responsibility to ensure that Soldiers are properly trained and equipped—mentally and physically—to handle the rigors and stressors of being in combat. To be a leader who has positively influenced numerous Soldiers gives me the feeling that I have done my job.

—*Staff Sergeant Kevin Blundell*

NCOs are the driving force behind the world's best Army. We are the carpenter's hammer that strikes the nail with precision and power.

—*Staff Sergeant Bryan T. Waddell*

Getting promoted is always a major accomplishment, but becoming an NCO is a life-changing event. It means always taking responsibility for your actions and that of your Soldiers.

—*Staff Sergeant Charles Claude*

Today's Soldier needs a strong NCO leader more than ever before. NCOs must instill the Warrior Ethos in all Soldiers and train them to work as a team. An NCO is one who takes charge, takes initiative, and takes care of business.

—*Staff Sergeant Mark Foster*

Being an NCO means (1) being comfortable with—and confident in—yourself and your decisions; (2) being able to dish it out AND take it; (3) applauding your Soldiers when they excel and, especially, if they pass you up; (4) leading by example and never taking the easy road; and (5) knowing how to take advantage of knowledge from all sorts of people.

—*Staff Sergeant Laura E. Kaihlanen*

NCOs are the enforcers of rules and regulations. They are trainers and mentors. They are the cells that come together to form organs, the electrons that stabilize atoms to keep them from ionizing and becoming radioactive.

—*Staff Sergeant Rafael Cabrera*

Our sole purpose is to mentor and mold Soldiers so that they can take our place as leaders one day. We train to lead and lead to train for ultimate mission accomplishment. The NCO is the foreman; the Soldiers, artisans.

—*Staff Sergeant Serena Occhino*

The Army NCO— No one is more professional than I...

The ECBC Environmental BioMonitoring Laboratory Focuses on the Future

Mindful of the 11 September 2001 tragedy and the anthrax attacks that followed, the Edgewood Chemical Biological Center (ECBC)¹ Environmental BioMonitoring Laboratory (EBML) is developing technologies and services to address new world demands for global accreditation, increased service offerings, flexibility, and the quality control of biolabs. “We continue to work towards continuous expansion and leading the way in environmental bioanalytical laboratory services that meet the needs of the world post-September 11,” said Mr. Isaac Fruchey, EBML team leader.

With this global view, EBML offers a variety of Biosafety Level 1 and Level 2 analytical technical services and is pursuing International Organization for Standardization accreditation, which is slated for completion in early 2009. “This [accreditation] will increase confidence levels in analytical results and hold the laboratory accountable to internationally recognized standards for testing and calibration, which is crucial to our continued success,” Mr. Fruchey said.

EBML, which is outfitted with modern facilities and equipment, is evolving as a broad-service, bioanalytical laboratory that provides a wide range of environmental analytical testing services. The staff has hands-on experience with a variety of challenging environmental sample matrices including soil, filters, biological sampling kits, surface swipes, and cotton swabs.

“In our laboratory, we offer complementary technologies for the qualitative detection of both biological toxins and organisms,” Mr. Fruchey said. “Our high-throughput screening approach allows us to provide same-day results for most samples, with a turnaround time of approximately 6 hours for complete analysis. This same-day service has an immediate impact on our clients.”

As client demands for flexibility have increased, EBML has offered on-site and field-deployable biological hazmat testing capabilities. Now, ECBC clients can send environmental samples to EBML or request that the lab deploy to a field or incident area for sampling. “We outfitted the mobile laboratory with duplicate equipment from our fixed laboratory,” said Fruchey. “If a large number of samples are being generated at a remote location, the best solution is to bring the laboratory to the site, which is why we developed a seamless transition from fixed laboratory operations to field operations.”

EBML continues to focus on maintaining quality. “Our staff works closely with customers to determine best-fit methods,

custom configurations, and specialized equipment test-outs that provide professional, defensible, and cost-effective analytical laboratory services,” Fruchey said. “As EBML continues to grow, we will continue to focus on offering our clients the best in high-quality, timely service.”

Other EBML capabilities include—

- Detection, monitoring, and high-throughput analysis of 7 biological warfare agents by using robotics and high-speed instrumentation. With electrochemiluminescence detection and polymerase chain reaction technology, 96 samples can be analyzed for 7 targets in an 8-hour period.
- Presumptive identification of biowarfare agents by using enzyme-linked, immunosorbent assays; handheld assays; and gel electrophoresis.
- Identification of bacterial agents by using cell cultures coupled with traditional and fluorescence microscopy.
- Identification of bacteria by using the Microbial Identification System (MIDI), a technology based on the gas chromatographic analysis of cellular fatty acid methyl esters.
- Identification of more than 1,500 species of aerobic and anaerobic bacteria, including 6 major bacterial bioterrorism agents. In less than 10 minutes, the ECBC’s Sherlock Bioterrorism Library can be used to identify extracts from anthrax, brucellosis, glanders, tularemia, melioidosis, plague, and 15 “challenge” organisms.

EBML serves as a leading technical resource and “go-to lab” that addresses environmental-related laboratory issues and provides high-quality, defensible data to its customers. The lab supports many government agencies (including the Department of Defense Joint Program Executive Office for Chemical and Biological Defense, Chemical Biological Medical Systems Critical Reagents Program, U.S. Army Corps of Engineers, and Federal Bureau of Investigation) and has processed more than 10,000 samples for these agencies. For the private sector, EBML performs technical support under test service agreements and cooperative research and development agreements.

For more information about ECBC, visit their Web site at <<http://www.ecbc.army.mil>> or call Mr. Don Kennedy, ECBC Public Affairs Officer, at (410) 436-3610. 

Endnote:

¹ECBC is a U.S. Army Research and Development Command laboratory located at Aberdeen Proving Ground, Maryland.

Key Resolve 2009:

CJTF-E Shines During Korean Training Event

By Specialist Aaron Carpenter

The Combined Joint Task Force for the Elimination of Weapons of Mass Destruction (CJTF-E) helped reinforce the strategic U.S.-Republic of Korea (ROK) relationship during an annual combined training event known as Key Resolve, which was held 9–19 March 2009.

During Key Resolve 2009 (KR-09) and the combined field training exercise Operation Foal Eagle 2009 (FE-09), the CJTF-E and the ROK Nuclear, Biological, and Chemical (NBC) Defense Command demonstrated their warfighting capabilities against a simulated threat that had invaded Korea and other nations and attacked them with hundreds of weapons of mass destruction (WMD).

The Joint Task Force for the Elimination of Weapons of Mass Destruction (JTF-E) (which consists of U.S. Soldiers, Sailors, Airmen, and Marines) was created when the Army was tasked

(through the 2006 Quadrennial Defense Review) to expand the mission of the 20th Support Command (Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives [CBRNE]) to include a joint task force headquarters capable of rapid deployment to command and control weapons of mass destruction—elimination (WMD-E) operations.

The CJTF-E consists of a combination of the JTF-E and its ROK counterparts. In addition to the ROK units contained in the CJTF-E force structure, members of the ROK military are also integrated into the CJTF-E headquarters and staff.

Brigadier General Jeffrey J. Snow, CJTF-E commander, indicated that the collective training conducted at KR-09 and FE-09 was an excellent opportunity for the U.S. and ROK WMD-E forces to share CBRNE tactics, techniques, and procedures. “In fact, the ROK NBC Defense Command has developed a complementary capability to our

CBRNE response teams—perhaps not on the same scale as ours, but able to conduct independent WMD elimination operations or operate in conjunction with the CJTF-E,” he said.

Navy Captain Randall A. Neal, who is the CJTF-E deputy commanding officer and chief of staff of the Joint Elimination Coordination Element (JECE),¹ stated that constant training is needed to supplement the experience. “What you need is a core group of people that are exercising continuously,” he said. The core team of simulation planners, the “White Cell,” was from the JECE. The team planned the KR-09 scenarios and developed the CJTF-E in general.

“This training exercise has been invaluable to the development of CJTF-E and its integration into [the Combined Forces Command],” said Brigadier General Snow. “We’ve come a long way, and I believe we proved our value as enablers for other component commanders here at KR-09. Now the key is taking these lessons learned back to the [United States] and continuing the forward progress.”

Endnote:

¹The JECE is a team of 20th Support Command CBRNE experts who enable the formation of a joint headquarters and provide command and control to a JTF-E conducting counter-CBRNE or counter-WMD operations.

Reference:

Quadrennial Defense Review Report, Department of Defense, 6 February 2006.

Specialist Carpenter is a print journalist with the 28th Public Affairs Detachment, Fort Lewis, Washington. He holds a bachelor's degree in speech from the University of Hawaii at Mānoa.



CJTF-E command officers address members of the CJTF-E at the conclusion of the highly successful KR-09.

Operation Foal Eagle: Combined CBRNE Training With ROK Forces

By Specialist Aaron Carpenter

Operation Foal Eagle (a field training exercise held in association with Key Resolve 2009 in the Republic of Korea [ROK], 14–17 March 2009) served as an opportunity for coalition chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) forces to demonstrate their capabilities during a trying period for the U.S.-ROK alliance and North Korea.

As the scenario progressed, North Korea threatened to launch a space satellite and tensions on the Korean Peninsula increased. The efforts of the 1st Area Medical Laboratory (AML), 110th Chemical Battalion (Technical Escort), CBRNE Analytical and Remediation Activity (CARA), ROK Chemical Special Forces, and ROK Mobile Analysis Laboratory were integrated during the exercise. The 1st AML and CARA are highly specialized units, while the 110th Chemical Battalion is responsible for a variety of CBRNE capabilities, including its technical escort mission. “Our purpose is to analyze materials and do a presumptive field analysis,” said Sergeant First Class Shane Webber, team leader from Bravo Company, 110th Chemical Battalion. 1st AML and CARA have the technical expertise to retest the samples and provide confirmatory analyses.

Brigadier General Jeffrey J. Snow (commander of the Combined Joint Task Force for the Elimination of Weapons of Mass Destruction [CJTF-E]), Brigadier General Jae Ho Lee (commander of the ROK Nuclear, Biological, and Chemical [NBC] Defense Command), and Brigadier General Kwan Heon Lee

(commander of the ROK Army Chemical School) observed the training exercise.

This was the second CJTF-E combined exercise held on the Korean Peninsula, and considerable progress has been made. Lieutenant Colonel Ken Pell, executive officer for 1st AML, indicated that the opportunity to work with the ROK NBC Defense Command benefitted personnel from both countries. “Our Soldiers were excited to train with their ROK CBRNE counterparts, and the types of questions the ROK CBRNE soldiers were asking shows me how interested they are to learn and how close we are in CBRNE capabilities,” he said.

First Lieutenant Sarang Lee, a biological analyst with the Mobile Analyses Laboratory, said that he noticed a difference in priorities between U.S. and ROK CBRNE personnel. He indicated that U.S. Soldiers apply a more deliberate process, while ROK soldiers concentrate more on speedy results. He also noted procedural differences in sample collection between the two countries. According to First Lieutenant Lee, U.S. sample collection involves chains of custody and U.S. laboratories are run in a more systematic manner.

Should a conflict break out on the Korean Peninsula, training events and exercises such as Key Resolve and Operation Foal Eagle will prove to be invaluable experiences for the service members and civilians involved. The collaboration and working relationships established could be significant during combined missions on the battlefield.

“Operation Foal Eagle provides us with a means of evaluating our

progress as a combined task force,” said Brigadier General Snow, “and based on conversations with my ROK counterparts and what I’ve seen here during the exercise, this training has been an invaluable experience for both sides. I am looking forward to continuing this relationship in the coming years.”

Specialist Carpenter is a print journalist with the 28th Public Affairs Detachment, Fort Lewis, Washington. He holds a bachelor’s degree in speech from the University of Hawaii at Mānoa.



A demonstration by members of the 110th Chemical Battalion and CARA during Operation Foal Eagle

Joint Contaminated Surface Detector Takes Off at Former Army Airfield

By Lieutenant Colonel John M. Riley and Master Sergeant Mark Nicholson

Recently, industry and Army personnel joined together at a little-known National Aeronautics and Space Administration (NASA) launch facility in New Mexico to test a piece of emerging technology that could represent the next generation in chemical reconnaissance.

Now a launch facility for NASA research balloons, Fort Sumner, New Mexico, last played a significant role in our Nation's defense during World War II. At that time, pilots and crews of the IX Troop Carrier Command conducted training in cargo aircraft and gliders over the wide-open grasslands of New Mexico before heading to Europe to deliver American paratroopers and glider forces for combat. Most of the Fort Sumner hangars, administrative buildings, and barracks are long gone. However, the wide-open ranges, gravel and dirt roads, large asphalt runways, and concrete parking aprons present ideal conditions for testing a developmental technology that shows great promise in returning chemical reconnaissance to the front of maneuver forces.

Maintaining momentum, speed, surprise, and shock remains the key operational component for U.S. commanders. The Chemical Corps continues to develop new technologies to provide the rapid reconnaissance necessary for clearing routes ahead of combat formations. The Joint Contaminated Surface Detector (JCSD), part of an advanced concept technology demonstration sponsored by the Defense Threat Reduction Agency, is showing promise as a component of chemical, biological, radiological, and nuclear reconnaissance systems of the future.

Originally demonstrated in Alaska more than two years ago, the JCSD presented the joint community with a Raman spectroscopy-based sensor¹ that showed flashes of great promise. However, in those early stages of development, the JCSD was nagged by a number of technological and hardware challenges that forced it back into further development and refinement.

In November 2008, the JCSD Generation 3 was tested in New Mexico. In a series of trials conducted by the Edgewood Chemical Biological Center, the U.S. Army Test and Evaluation Command, and an operational management team from the U.S. Army Pacific (USARPAC), the JCSD proved to be consistently reliable across variable terrain that replicated the test criteria for existing chemical reconnaissance systems. And the JCSD is fast! With a laser that fires at a rate of 25 pulses per second at the heart of the sensor, the JCSD is capable of operating

at sustained speeds supportive of the rapid and independent employment of mobile brigade combat teams. For this test, sensors were mounted on a humvee platform; but the JCSD package could be installed as a component on a wide variety of platforms.

Chemical reconnaissance is recognized as a very deliberate process, and the JCSD provides the maneuver force with yet another combat multiplier to ensure force protection when operating in a potentially contaminated environment. The JCSD could help minimize the risk as it facilitates rapid movement of forces across all types of terrain. On cross-country terrain consisting of grass, dirt, and rocks, the JCSD consistently detected chemical agent simulants while traveling at the established test speeds of 11 miles per hour (mph). Similarly consistent results were obtained on secondary dirt and gravel roads at test speeds of 30 mph.

But, the assembled team of evaluators and observers was most impressed when the JCSD moved to hard surfaces. While operating at a speed of 45 mph on concrete and asphalt, the JCSD consistently detected chemical simulants more than 90 percent of the time.

The combined management team is quick to point out that the JCSD is probably capable of satisfactory performance at even greater speeds. However, due to safety considerations for operation of the humvee-mounted shelter, the Army strictly limits on- and off-road operating speeds.



The humvee-mounted JCSD conducts sampling along a secondary trail at Fort Sumner, New Mexico.

A member of the USARPAC Operational Management Team pointed out that “The JCSD was not simply making one detection during a run—it made multiple hits!” Over the course of a test run, the JCSD was expected to detect an agent simulant while traversing a controlled and considerably narrow spray pattern. On improved surfaces, the JCSD typically traversed the sprayed area in just a few seconds. Rather than recording just one agent detection, the system regularly registered multiple agent detections on each pass.

In the New Mexico test, data was captured for each platform that made a run over the simulant spray pattern. The results were very positive. If the data is reviewed from the perspective of a chemical reconnaissance section operating in tandem, the JCSD posts an impressive probability of detection equal to or exceeding that of joint chemical reconnaissance requirements—and, again, at operational speeds that support the rapid movement of combat forces on the battlefield.



Multiple “referee” cards were used on each spray path to ensure that droplet distribution patterns were representative of established testing procedures for chemical, biological, radiological, and nuclear reconnaissance systems.

JCSD Test Plan Basic Parameters

- Two humvee systems operating in tandem
- Sampling tests conducted over varying surfaces:
 - Concrete
 - Asphalt
 - Secondary/unimproved roads
 - Cross-country
- Sampling speeds established for tests:
 - 5 and 11 mph cross-country
 - 15 and 30 mph on secondary roads
 - 30 and 45 mph on concrete and asphalt

In the coming months, USARPAC will prepare a joint military utility assessment of the JCSD sensor technology based on nearly three years of cumulative data as the operational manager for the Chemical, Biological, Radiological, and Nuclear Unmanned Ground Reconnaissance Program. Pending the outcome of the joint military utility assessment, the Joint Program Executive Office for Chemical and Biological Defense is postured to move the evaluation of the technology from the advanced concept technology demonstration to a transition manager for further development and testing. In the meantime, the JCSD has provided evidence that this technology has the potential to meet the need for rapid and reliable chemical detection in the future force. 🗨️

Endnote:

¹Raman spectroscopy is a spectroscopic technique used to determine the properties of a substance. The technique is named after Sir Chandrasekhara Venkata Raman, an Indian physicist and Nobel laureate recognized for his work in the molecular scattering of light.

Lieutenant Colonel Riley is the USARPAC Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Chief. He holds a bachelor's degree in English from The Citadel, South Carolina, and a master's degree in international relations from Troy State University (now Troy University), Alabama.

Master Sergeant Nicholson is the CBRNE operations non-commissioned officer for USARPAC. He is currently pursuing a bachelor's degree in computer science.

Chemical Knowledge Network Web Site

Do you need up-to-date information about chemical career management, courses, equipment, doctrine, and training development? All of this information and more is available at the Chemical Knowledge Network (CKN) Web site. To visit the CKN, go to the Fort Leonard Wood Web site <<http://www.wood.army.mil/>> and select *Maneuver Support Knowledge Network (MSKN)* in the middle of the right-hand column of the home page. At the Army Knowledge Online (AKO) portal, log in using your user name and password. Under *MANSCEN [Center of Excellence] CoE Links*, select *CBRN* to check out this great resource.

CONCEPT CAPABILITY PLAN: COMBATING WEAPONS OF MASS DESTRUCTION

By Mr. Larry Lazo, Lieutenant Colonel Thamar Main, and Lieutenant Colonel Bret Van Camp

The members of the concept team at the U.S. Army Maneuver Support Center Capability Development and Integration Directorate (CDID), Fort Leonard Wood, Missouri, have their eyes on the future, envisioning warfare twenty years from now with a maneuver support focus. They are developing a concept capability plan (CCP) for combating weapons of mass destruction (CWMD). It describes what the Army will need to combat weapons of mass destruction (WMD) in the years 2015 to 2024 so that necessary changes in technology, equipment, organization, and infrastructure will mature and come together sensibly in the future to provide our Soldiers with better capabilities.

Determining Future Needs

A CCP describes the application of elements of joint and Army concepts to selected mission, enemy, terrain and weather, troops and support available, time available, and civilian considerations (METT-TC).¹ A CCP draws its key future ideas and capabilities from national strategy documents; the family of joint concepts; the Army family of concepts; capabilities identified in war games, exercises, and experiments; and capabilities gleaned from lessons learned.² CCPs take the ideas founded in concepts and break them down into more detailed capability requirements. It is a very early step in a much larger process known as the Joint Capabilities Integration Development System (JCIDS).

JCIDS is the process by which the Services look at future threats and the capabilities needed to meet those threats. Most changes to our force—whether in doctrine, organization, training, materiel, leadership and education, personnel, and facilities (DOTMLPF)—are a result of this type of combat development work managed from within the U.S. Army Training and Doctrine Command (TRADOC). Figure 1 represents an overlay of the various JCIDS efforts on acquisition. Notice

that *Concept*, which includes this CCP, is at the far left of the diagram.

This article focuses on the CCP for CWMD now in staffing, but it also helps to understand how this project fits in the larger JCIDS life cycle.

CCP Development

The CCP development process takes from ten to eighteen months and is typically followed by a capabilities-based assessment (CBA). The CBA is essentially a three-step process composed of a functional area analysis (FAA), functional needs analysis (FNA), and functional solutions analysis (FSA). The FAA output is a list of required capabilities to be accomplished, along with their associated tasks, conditions, and standards. The FNA assesses the ability of current or programmed capabilities to accomplish the FAA tasks and lists any capability gaps or redundancies. The FSA is an operationally based assessment of DOTMLPF approaches to solving or mitigating the gaps previously identified. The FSA is the basis for developing the required changes, which are stated in the form of a DOTMLPF change recommendation (DCR) for nonmateriel changes and/or an initial capabilities document (ICD) to describe changes in the quantity or type of existing materiel or facilities, adopt another Service's materiel, acquire foreign materiel, or begin development of new materiel.

CCP Purpose

The purpose of the Army's CCP for CWMD is to provide a concept at operational and tactical levels across the full spectrum of operations and in all environments from 2015 to 2024. The Army will use this CCP to conduct a detailed CBA for CWMD. This will provide the focus on how we will support national mandates on CWMD and how the Army will operate under chemical, biological, radiological, and nuclear (CBRN) environments.

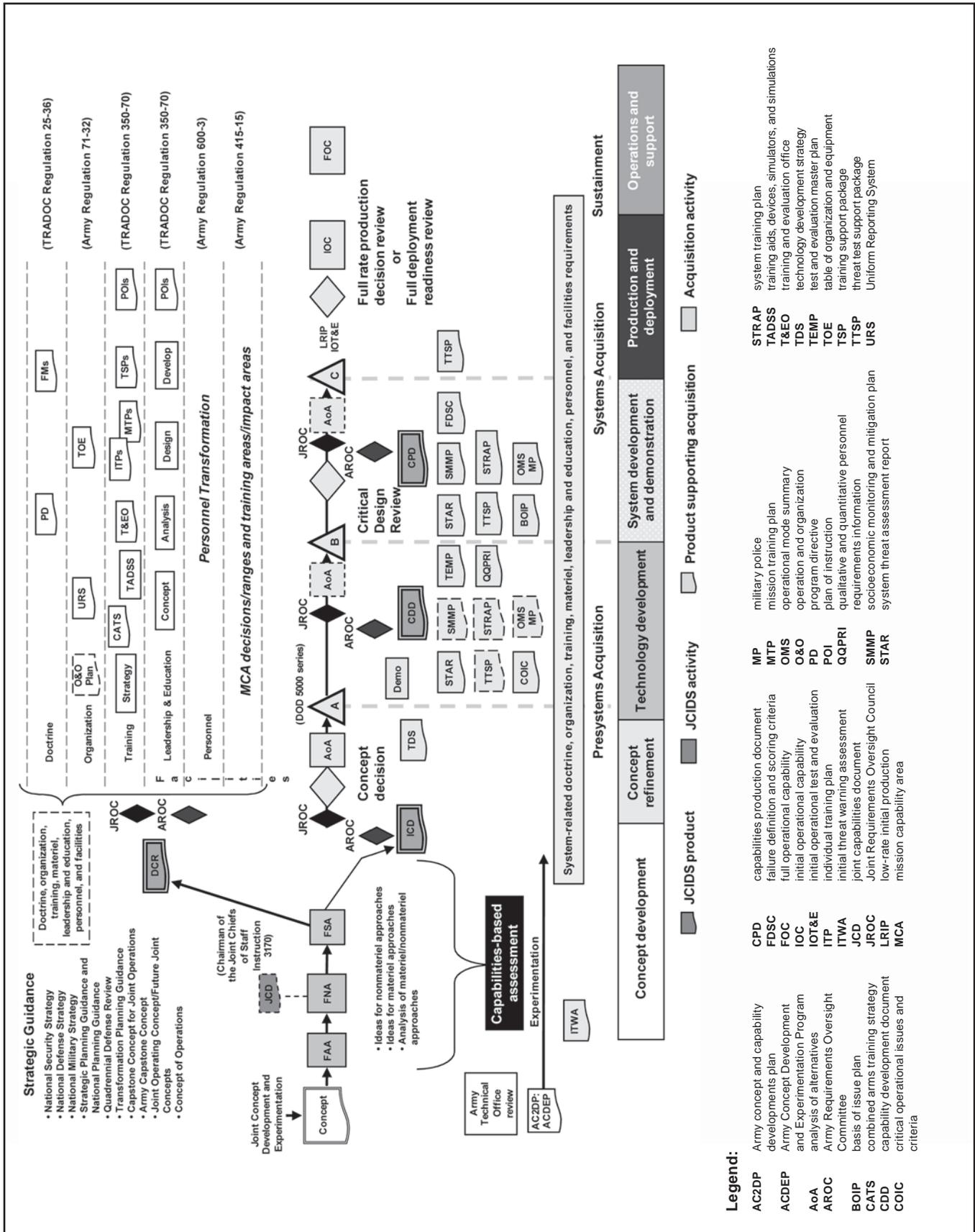


Figure 1. JCIDS acquisition efforts

This CCP refers to the eight mission areas found in the *National Military Strategy to Combat Weapons of Mass Destruction* and uses the six warfighting functions listed in Field Manual (FM) 3-0 to provide the framework of how the Army will conduct military and civil support operations. The Army CCP for CWMD reflects national, Department of Defense (DOD), joint, and Army guidance beginning with the *National Strategy to Combat Weapons of Mass Destruction* and further refined in the *National Military Strategy to Combat Weapons of Mass Destruction*. The national strategy is based on the following pillars:

- Nonproliferation.
- Counterproliferation.
- Consequence management (CM).

The national military strategy expands on this construct with the following military mission areas:

- Security cooperation and partnership activities.
- Threat reduction cooperation.
- WMD interdiction.
- WMD offensive operations.
- WMD elimination.
- Active defense.
- Passive defense.
- CM.

Of the military mission areas, six have major impacts on the U.S. Army and how it will fight. The first two areas—security cooperation and partnership activities and threat reduction cooperation—while very important in CWMD, only affect a small number of specialized teams of U.S. Soldiers and civilians. The CCP for CWMD will only provide a brief look at these two areas.

The operational problem we face is that the military objectives of the future modular force in CWMD are to proactively dissuade, defeat, deter, or mitigate the rogue behavior of WMD threat networks. The thrust of current Army capabilities in such missions is to protect against and recover from WMD attacks. The Army will continually be challenged to proactively detect, identify, track, and engage WMD threat networks before they can launch an attack. Additionally, Army mission planning will continue to evolve to fully integrate the breadth of relevant considerations in CWMD.

To solve this problem, we believe that the solution is predicated on the following key ideas:

- *Proactive approach to CWMD.* The Army's concept for CWMD must center on the proactive engagement of WMD threat networks before they can obtain or use WMD against the United States, its allies, or its partners.
- *Layered approach to CWMD.* The Army must layer its approach to engaging WMD threat networks. The concept of a layered approach applies to counterforce operations, sensors, protection, and training.

- *Network-Enabled Battle Command (NEBC).* Commanders will rely on NEBC for information management that supports all combat decisions. Commanders must gain a situational understanding to enable effective operations inside the adversary's decision cycle. Army planners must fully use capabilities provided by the NEBC, which will provide a network that rapidly links tactical, operational, and strategic levels.
- *Leveraging new technologies.* Since many of the required capabilities presented in this CCP will be possible only through applications of new technology, the Army must leverage these new technologies.
- *Enhanced training.* Training will prepare Soldiers and leaders to exercise sound judgment in data analysis, to understand the impact of local cultures on operations, and to act in periods of uncertainty. These abilities, alongside the capabilities provided by NEBC, are vital to establish situational understanding.³

Central to the solution that the Army will work in concert with partners to deter WMD proliferation are the following ideas:

- Conducting counterforce operations to engage WMD threat networks before they can obtain or use WMD.
- Providing Soldier, platform, equipment, and facility CBRN protection as part of passive and active defense operations.
- Mitigating WMD effects in CM missions.⁴

CCP Completion

The CWMD CCP was approved in March 2009 (as TRADOC Pamphlet [Pam] 525-7-19) and is now available online at <http://www.tradoc.army.mil/tpubs/pams/p525-7-19.pdf>. This work was compiled through the collaboration of members of an Integrated Capabilities Development Team (ICDT). (See Figure 2.)

The Army Capabilities Integration Center, Fort Monroe, Virginia, signed the ICDT charter for CWMD in April 2008, though significant work had begun as early as October 2007. The ICDT's task is to identify the required capabilities for the Army's role in CWMD during the 2015–2024 time frame. Research included guiding documents such as TRADOC Pam 525-3-0, Army concept strategy, operating and functional concepts, joint concepts, and any approved contingency operations applicable to CWMD. The relevant guiding documents are derived from the DOD mission to dissuade, deter, and defeat those who seek to harm the United States, its allies, and its partners by using—or threatening to use—WMD and, if attacked, to mitigate the effects and restore deterrence. (See Figure 3.)

Army's Role in CWMD

Of the three pillars of the national strategy—nonproliferation, counterproliferation, and consequence management—the Army has major operational requirements within the second two. The scope of this concept, while Army-centric,

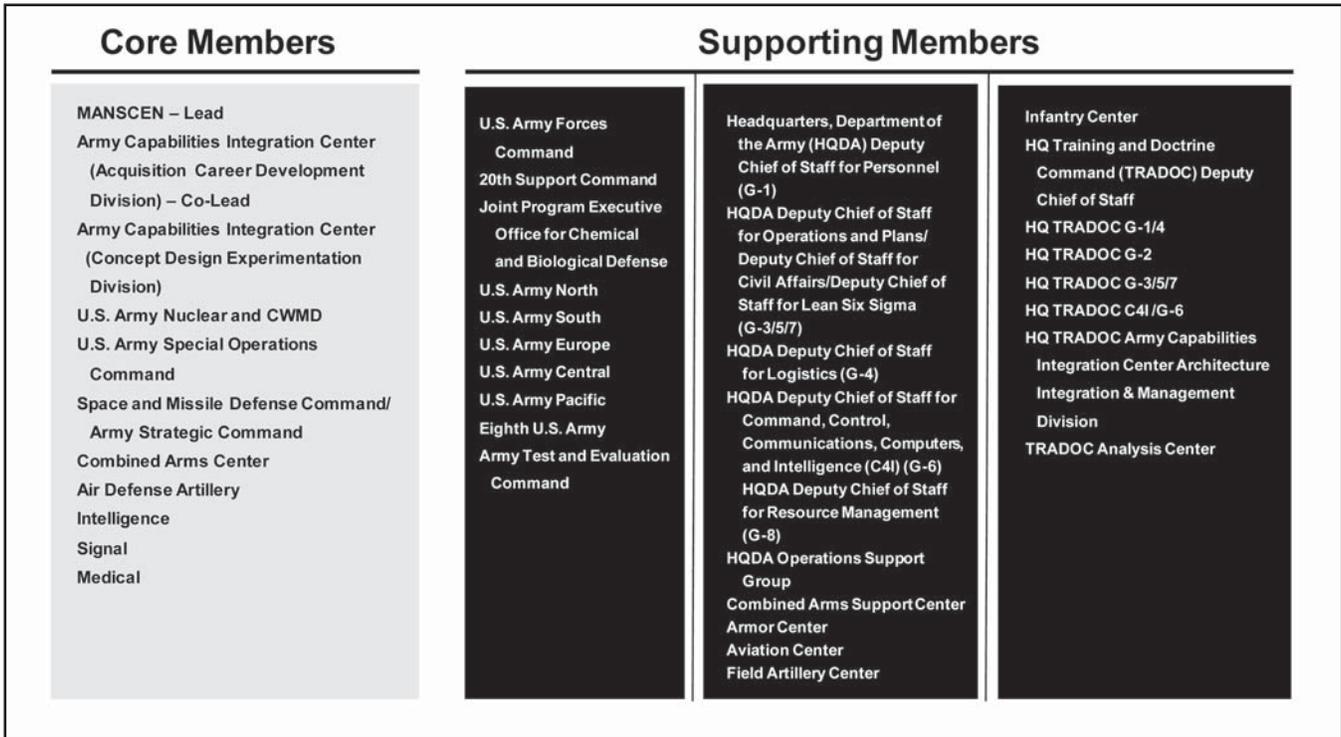


Figure 2. ICDTs

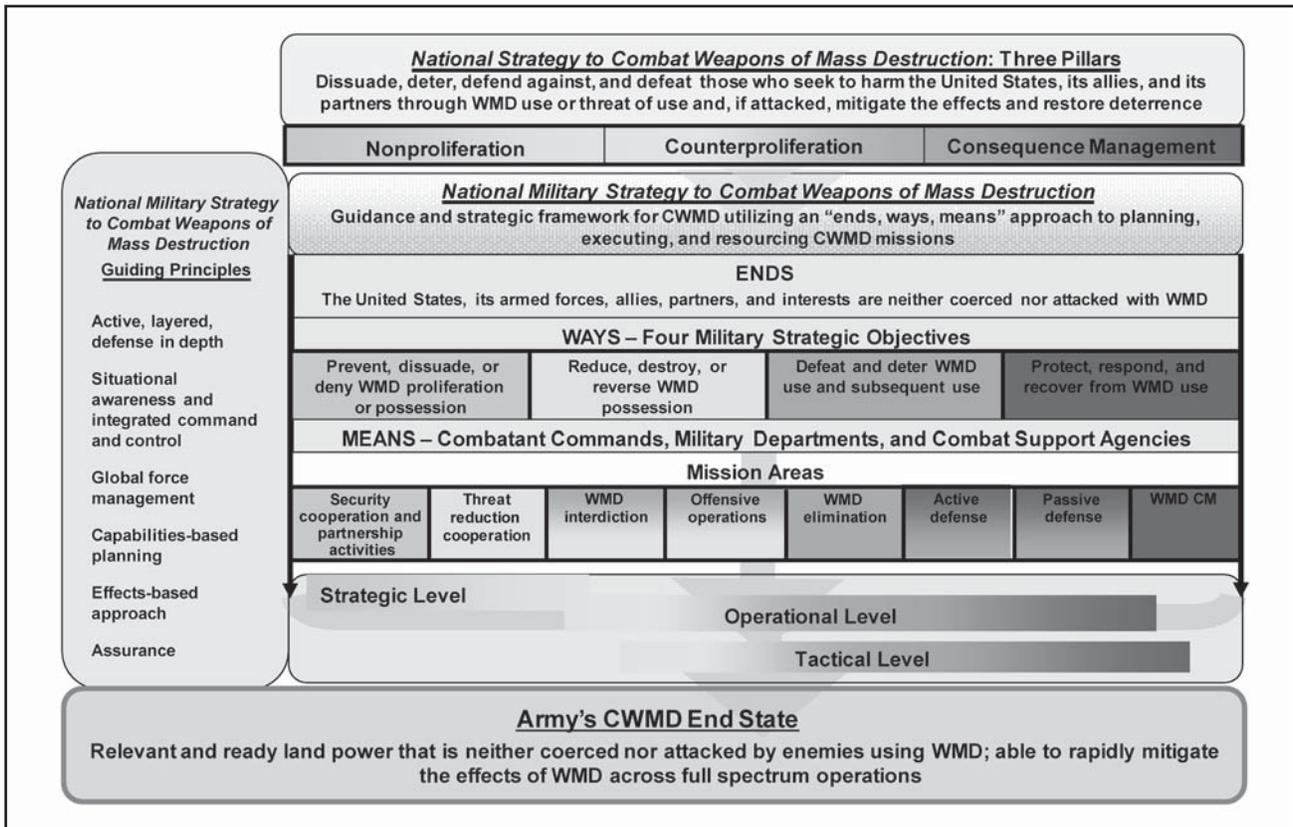


Figure 3. Army approach to CWMD

is unconstrained in CWMD and includes relationships and integration with joint forces, governmental offices, and nongovernmental organizations.

Figure 4 shows what we believe are the primary audiences for guidance, beginning with national-level documents such as the *National Strategy to Combat Weapons of Mass Destruction*; the *National Military Strategy to Combat Weapons of Mass Destruction*; the U.S. Strategic Command CWMD Joint Integration Concept, which is a critical bridge from national-level strategy; and the CCP to combat WMD now underway.

The CCP scope is intentionally broad to provide a single-source body of work from which action officers can consistently and holistically ascertain the Army's future requirements. It is ambitious, but necessary, to approach this from an Army perspective in a holistic manner. We intend to formalize the process whereby ongoing JCIDS efforts benefit from this CCP. Ultimately, the results of this CCP will serve to inform CBAs already in existence, those under development, and those undergoing periodic review and update. Regardless, each of these CBAs has one singular focus—to provide better capabilities to the Soldier on the ground. So, if asked about ways to improve our Army, consider your input a contribution to the military that our sons and daughters will inherit. 🗣️

Endnotes:

¹*Concept Capability Plan (CCP) Writers' Guide*, TRADOC Army Capabilities Integration Center, 12 February 2008.

²Ibid.

³Ibid.

⁴TRADOC Pam 525-3-0, *The Army in Joint Operations: The Army Future Force Capstone Concept*, 7 April 2005.

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FM 3-0, *Operations*, 27 February 2008.

National Military Strategy to Combat Weapons of Mass Destruction, Chairman of the Joint Chiefs of Staff, 13 February 2006.

National Strategy to Combat Weapons of Mass Destruction, December 2002.

Mr. Lazo is a retired Chemical Corps master sergeant with more than 22 years of service. He is now a military research analyst assigned to the Operational and Strategic Maneuver Support Branch, CDID, Fort Leonard Wood, Missouri.

Lieutenant Colonel Main is a future concepts officer with the Operational and Strategic Maneuver Support Branch, CDID. He served in numerous staff and command positions before being assigned to Fort Leonard Wood.

Lieutenant Colonel Van Camp is the Chief, Operational and Strategic Maneuver Support Branch, CDID. He has served as Commander, 82d and 84th Chemical Battalions, and Chief, Concepts, Studies, and Analysis Branch, Joint Requirements Office for CBRN Defense, Joint Staff, Washington, D.C.

This article is reprinted from the Winter 2009 issue of the Maneuver Support Magazine.

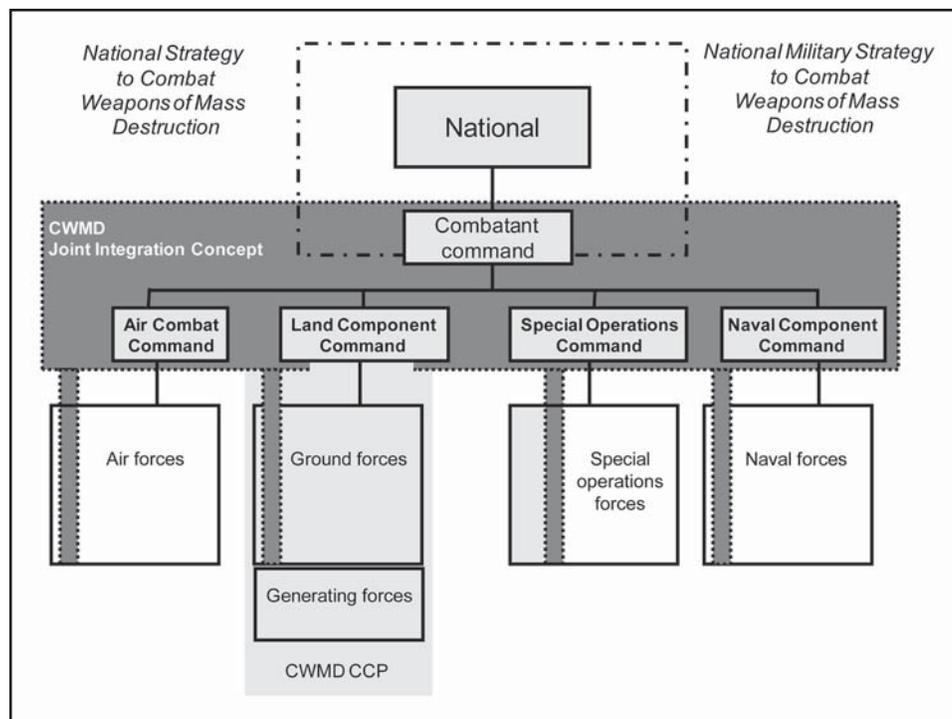


Figure 4. Guidance linkage



Weapons of Mass Destruction—Civil Support Team: The Title 32 Initial Response Force

By Lieutenant Colonel Christian M. Van Alstyne and Mr. Stephen H. Porter

Since well before the attacks of 11 September 2001, we have recognized the threat posed by weapons of mass destruction (WMD) attacks on the U.S. homeland. A review of available information reveals a wide variety of asymmetric threats across the spectrum. These include attacks and other events where an adversary may use or threaten to use chemical, biological, radiological, nuclear, and high-yield explosive (CBRNE) weapons against the United States. Attacks on U.S. embassies abroad, the sarin gas attacks on the Tokyo subways, the bombing of the Alfred P. Murrah Federal Building in Oklahoma City, and other incidents illustrate the reality of the threat. While security efforts have successfully prevented a recurrence of further terrorist strikes in the United States, it is only prudent to be prepared for some level of success on the part of our enemies. In addition to CBRNE counterproliferation and elimination operations, it is likely that military support of consequence management (CM) efforts will be required.

Beyond simply providing boots on the ground, the Department of Defense (DOD) can dependably bring to bear substantial command and control, logistical, and technical resources in response to requests for federal assistance. Historically, such a response had been organized on an ad hoc basis, with no specific units being committed to homeland

CM missions. However, a review of our ability to respond to disasters and WMD eventually led to several important pieces of legislation in the mid-1990s. The requirement for a timely, specialized, effective response to a WMD event, combined with the expectations put forth under the National Response Framework, points to a clear need for a well-orchestrated military CM response. There are several layered components of DOD support to civil authorities. This article is designed to address the layered support to civil authorities and will detail the initial response force, which comes from the Title 32 forces—the Weapons of Mass Destruction—Civil Support Teams (WMD-CSTs).¹

Background

In May 1998, President William J. Clinton announced that the Nation would do more to protect its citizens against the growing threat of chemical and biological terrorism. As part of this effort, DOD would form ten teams to support state and local authorities in the event of an incident involving WMD.

The WMD-CSTs were established to provide military-unique capabilities, expertise, and technologies to assist state governors in preparing for and responding to CBRNE

incidents. Teams must complement and enhance, not duplicate, state emergency management capabilities. They must be able to deploy rapidly to assist local incident commanders in determining the nature and extent of an attack or incident, provide expert technical advice on CBRNE operations, and help identify and support the arrival of follow-on civilian or military response agencies from the state or federal level. They are joint units that can consist of Army National Guard or Air National Guard personnel.

Mission

The mission of WMD-CSTs is to—

- Assess current and potential hazards to personnel, animals, and selected critical infrastructure features from identified agent substances.
- Advise civil authorities on initial casualty medical management and casualty minimization measures.
- Assist with the arrival of additional state and federal assets to help save lives, prevent human suffering, and mitigate property damage.

The WMD-CSTs can deploy rapidly, assist local first responders in determining the nature of an attack, provide medical and technical advice, and pave the way for the identification and arrival of follow-on state and federal military response assets. Using a technologically advanced operational fleet, the WMD-CSTs can respond quickly, accomplish their mission, and blend in with civilian vehicles at the scene.

They provide initial advice on agent identification, assist first responders in the detection assessment process, and serve as the first military responders on the ground. If additional state or federal resources are called upon, they can act as advance parties to provide liaisons with Joint Task Force Civil Support. As experts in CBRNE defense operations, they can mitigate the consequences of any natural or man-made hazardous event. WMD-CST response to a major CM event is illustrated in Figure 1.

Current Configuration

The National Guard teams provide DOD’s unique expertise and capabilities to assist state governors in preparing for and responding to CBRNE incidents as part of a state’s emergency response structure. Each team consists of twenty-two highly skilled, full-time National Guard members who are federally resourced, trained, and exercised, employing federally approved CBRNE response doctrine. Figure 2 illustrates the WMD-CST structure.

The units derive their origins from Congressional guidance that advocates the need to “establish and equip small organizations in each of the forty-four states not receiving an initial Rapid Assessment and Initial Detection (RAID) element in 1999 to provide limited chemical/biological response capabilities.”² RAID teams were renamed WMD-CSTs, and the first ten teams were based in Colorado, Georgia, Illinois, California, Massachusetts, Missouri, New York, Pennsylvania,

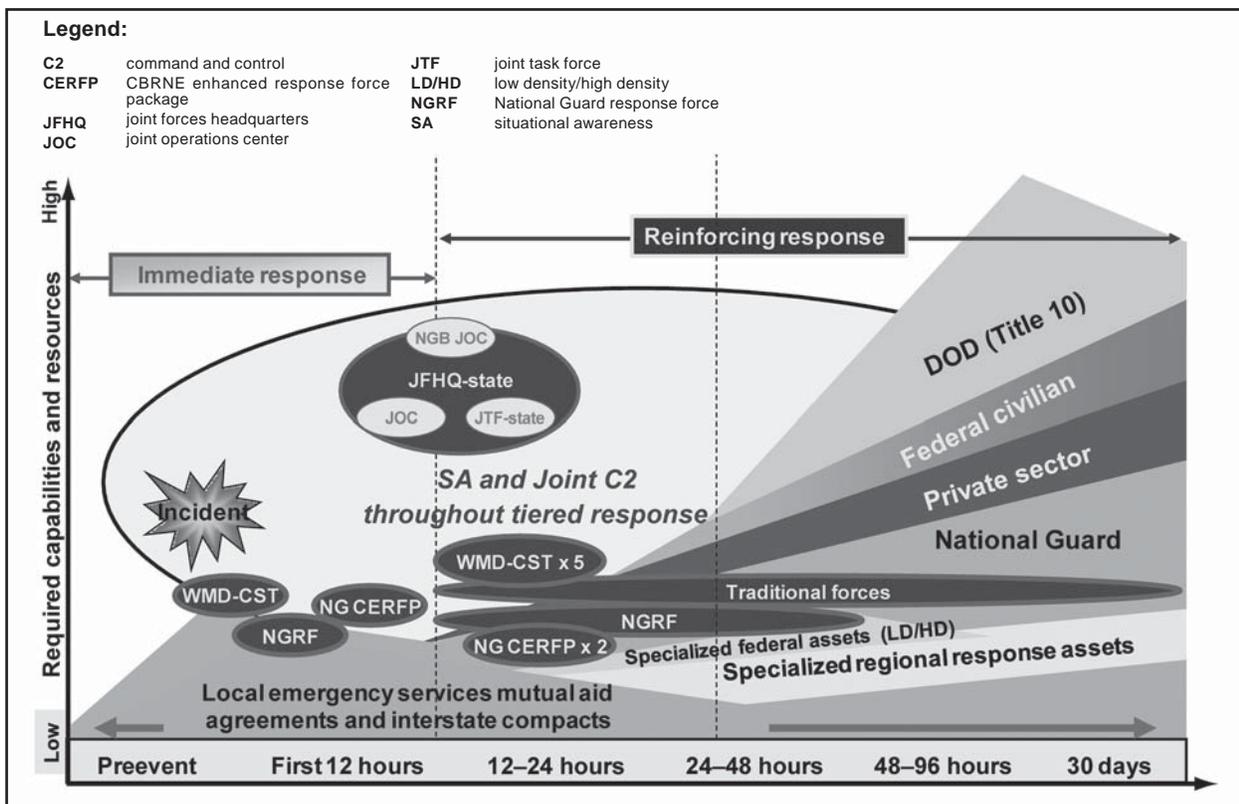


Figure 1. Response spectrum

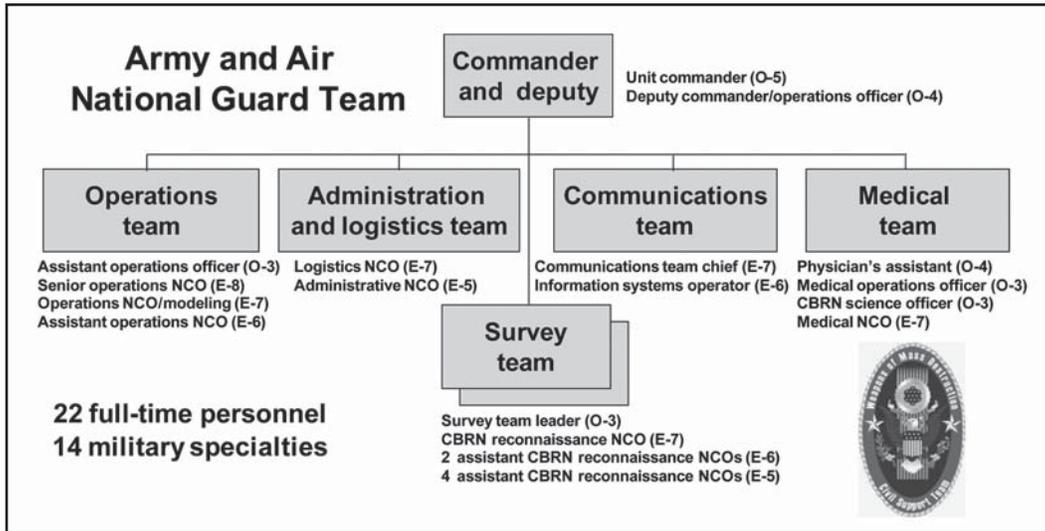


Figure 2. WMD-CST structure

Texas, and Washington. One team was fielded in each of the ten Federal Emergency Management Agency (FEMA) regions. There is now at least one WMD-CST in each of the fifty states, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands. With Florida and New York receiving additional WMD-CSTs, the National Guard will soon have fifty-seven teams.

WMD-CST Capabilities

In addition to executing the previously described mission, WMD-CSTs are also trained and equipped to—

- Detect and completely characterize an unknown sample of suspected WMD agents or substances present at an incident site. (See Figure 3.)

- Provide an on-site, mobile, analytical platform to perform analysis and characterization of unknown samples and provide assessments through reachback capabilities to designated state and federal agencies with additional technical expertise. (See Figure 4, page 22.)
- Determine the contaminated area and assess current and potential hazards to personnel, animals, and selected critical infrastructure features resulting from identified agent or substance presence.
- Advise civil authorities on initial casualty medical management and casualty minimization measures.
- Advise civil authorities regarding initial agent, site containment, and mitigation measures.



Figure 3. Gas chromatograph/mass spectrometer used to characterize suspected WMD agents or substances



Figure 4. Hot-zone detection and sample collection

- Advise civil authorities about the capability of additional support assets and assist with requests for such assets.
- Provide incident-related technical and situational awareness information to and from nationwide sources while at the home station, en route to an incident site, and while on-site through organic communications capabilities.
- Link to and augment civil responder communications systems as required. Maintain real-time, secure and nonsecure, operational communications with higher headquarters and the reachback network.
- Provide decontamination for assigned personnel and equipment and advise the incident commander on the setup of a decontamination site.
- Provide preventive medicine, medical surveillance, and emergency medical technician level medical care for assigned personnel only.
- Deploy rapidly by organic vehicles or nonorganic transportation assets such as air, rail, road, or water.
- Provide command and control of WMD-CST elements and limited augmentation assets and coordinate administrative and logistic support for WMD-CSTs.
- Participate in advanced planning, coordination, and training processes with potential supported or supporting local, state, and federal agencies; other WMD-CSTs; and DOD response elements.
- Execute the listed capabilities according to applicable state and federal laws within a state or territory or at a continental U.S. military installation when requested.

Maneuver Support Perspective

The U.S. Army Maneuver Support Center (MANSCEN), Fort Leonard Wood, Missouri, received specified proponency in a memorandum from the Army Deputy Chief of Staff for Operations and Plans in June 2002. In 2003, MANSCEN (in partnership with the U.S. Army Chemical, Biological, Radiological, and Nuclear [CBRN] School and the National Guard Bureau [NGB]) chartered an integrated concept development team (ICDT) to streamline support for the newly formed WMD-CST program. The ICDT and proponency enable MANSCEN to perform the functions of a branch proponent as listed in Army Regulation (AR) 5-22, including the development and documentation of the following:³

- Concepts.
- Doctrine.
- Tactics, techniques, and procedures.
- Organizational designs.
- Materiel requirements.
- Training programs.
- Training support requirements.

- Manpower requirements (except as provided in AR 600-3).⁴
- Coordination of proponent initiatives with user units.

In January 2001, a controversial DOD inspector general audit identified a number of problems with how the WMD-CST program functioned. For example, personnel assigned to a WMD-CST were receiving training according to the NGB training matrix, using more than thirty-five commercial and government vendors. In 2003, the Civil Support Skills Course was established at Fort Leonard Wood to replace the previous Emergency Assessment and Detection Course and provide training for all WMD-CST members before they could assume positions on the teams. Now highly regarded across DOD, the course accomplishes in eight weeks what had taken months to complete, greatly benefiting WMD-CST training readiness. In this accelerated training, CBRN responders still receive certifications recognized by their civilian counterparts. As directed by the Vice Chief of Staff of the Army, MANSCEN and NGB were able to streamline WMD-CST program support using the following standard Army business practices:

- Systems Approach to Training process.
- Training validation at a structure and manning decision review.
- Written requirements documents.
- Organizational design review.

Today, by using a community of practice, we have resolved most of the issues identified in the audits and have established mechanisms for continuous improvement and feedback. A 2005 Government Accounting Office audit and report on WMD-CSTs found a high state of readiness, indicating that the efforts of the NGB, MANSCEN, and the U.S. Army CBRN School had remedied initial program shortcomings. Due to the new and evolving nature of the WMD-CST mission and the fact that WMD-CST members must be trained to the level of their civilian counterparts, much of the training was redundant and required significant time to complete. That training lasted 8 months, and the Soldiers and airmen (who make up about 25 percent of the WMD-CST) are only on station for 36 months before they come “off contract.”

January 2009 marked the 10th anniversary of the original ten RAID teams—now WMD-CSTs—arriving at what was then the U.S. Army Chemical School for training at Fort McClellan, Alabama. In what many consider a forward-thinking “evolution” in military affairs, our DOD forces successfully created fifty-five highly trained and capable CBRN response units ready to support America’s responders and communities. Representing 90 percent of DOD’s immediate CBRN response capability and trained to both civilian and military standards, the WMD-CSTs represent a CBRN and CM capability found nowhere

else in the world. The success of the WMD-CST program can be found in congressional action calling for a federal WMD response capability, the efforts of the ICDT partners in supporting a new program, and the dedication of WMD-CST Soldiers and airmen standing ready over the last decade to support responders in hundreds of CBRN and CM responses. 

Endnotes:

¹“Title 32” refers to U.S. Code (USC), Title 32, *National Guard*.

²U.S. Army National Guard and Reserve Soldiers are normally activated to full-time duty in one of three ways: USC, Title 10, *Armed Forces*; USC, Title 31, *Money and Finance*; or State Active Duty. Under Title 10, a servicemember is a full-time Soldier who is subject to the Uniform Code of Military Justice (UCMJ), receives federal benefits, and is protected by all federal laws such as the *Uniformed Services Employment and Reemployment Rights Act of 1994* and the *Servicemembers Civil Relief Act of 2003*. Servicemembers activated under Title 31 remain under the command of their state governor and adjutant general, but are paid by the federal government. They cannot exercise command over Title 10 Soldiers, are not subject to the UCMJ, and have only limited protection under federal laws. State active duty Soldiers are under state command only and are paid by their state. They are not subject to the UCMJ, receive no federal protection, and can exercise no command over federal Soldiers.

³House Report 105-825, “Domestic Preparedness Against Weapons of Mass Destruction,” from *Making Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999*, Library of Congress.

⁴AR 5-22, *The Army Force Modernization Proponent System*, 6 February 2009.

⁵AR 600-3, *The Army Personnel Proponent System*, 28 November 1997.

References:

National Response Framework, U.S. Department of Homeland Security, January 2008.

Uniformed Services Employment and Reemployment Act of 1994, 13 October 1994.

Servicemembers Civil Relief Act of 2003, 19 December 2003.

USC, Title 32, *National Guard*.

USC, Title 10, *Armed Forces*.

USC, Title 31, *Money and Finance*.

Lieutenant Colonel Van Alstyne is the Director, Intelligence Branch, Combat Refresher Team, Center for Army Tactics, Fort Leavenworth, Kansas. He holds a bachelor’s degree from the University of Washington and a master’s degree from Central Michigan University.

Mr. Porter is the Chief, WMD-CST Division, Homeland Security Office, MANSCEN. He holds a bachelor’s degree in industrial engineering from Southern Illinois University at Carbondale and a master’s degree in business administration from the University of La Verne, California.

This article is reprinted from the Winter 2009 issue of the Maneuver Support Magazine.

The Maneuver Enhancement Brigade

By Colonel Charles A. Williams and Mr. Joe Crider

“The Army is in the midst of a transformation process to move it to modularity—by adopting the six war-fighting functions and creating new and special organizations. One of those new and special organizations is the MEB [maneuver enhancement brigade]... designed as a C2 [command and control] headquarters with a robust multifunctional brigade staff that is optimized to conduct [maneuver support] operations. Maneuver support operations integrate the complementary and reinforcing capabilities of key protection, movement and maneuver, and sustainment functions, tasks, and systems to enhance freedom of action.”

—Field Manual (FM) 3-90.31

This article is intended to provide a basic understanding of the capabilities and doctrine of the MEB and its role in the modular Army. It offers a basic description of its unique capabilities, relevance to the current force,¹ and importance to the U.S. Army Maneuver Support Center (MANSCEN).

The roots of the MEB can be traced to the Army’s transformation initiatives, where modularity was identified as one of the primary goals. The goal in developing modular units was to serve the specific needs of combatant commanders by providing tailored forces² to support full spectrum operations. The Army’s leaders envisioned modularity as a bridge linking current capability requirements with those anticipated for the future. This strategy culminated in the Army’s decision to limit its brigade force structure to the following five distinct types:

- Infantry brigade combat teams.
- Heavy brigade combat teams.
- Stryker brigade combat teams.
- Functional brigades.
- Multifunctional brigades.

The MEB is the only one of five multifunctional brigades designed to manage terrain—a capability it shares with the brigade combat teams (BCTs).

With no antecedents, the MEB represents a unique—and at times somewhat misunderstood—organization. It is a dynamic, multifunctional organization predicated entirely on tailored forces that are task-organized for a specific objective. In many ways, it is an organization like no other, offering a tremendous variety of functional and technical depth coupled with significant lethality. The MEB delivers critical complementary and reinforcing capabilities in a flexible and scalable manner essential to conducting full spectrum operations. Included in these capabilities is the capacity to deliver any combination of lethal and nonlethal effects.

The critical missions or key tasks of MEBs include maneuver support, consequence management, stability, and support area operations. A common thread among each of

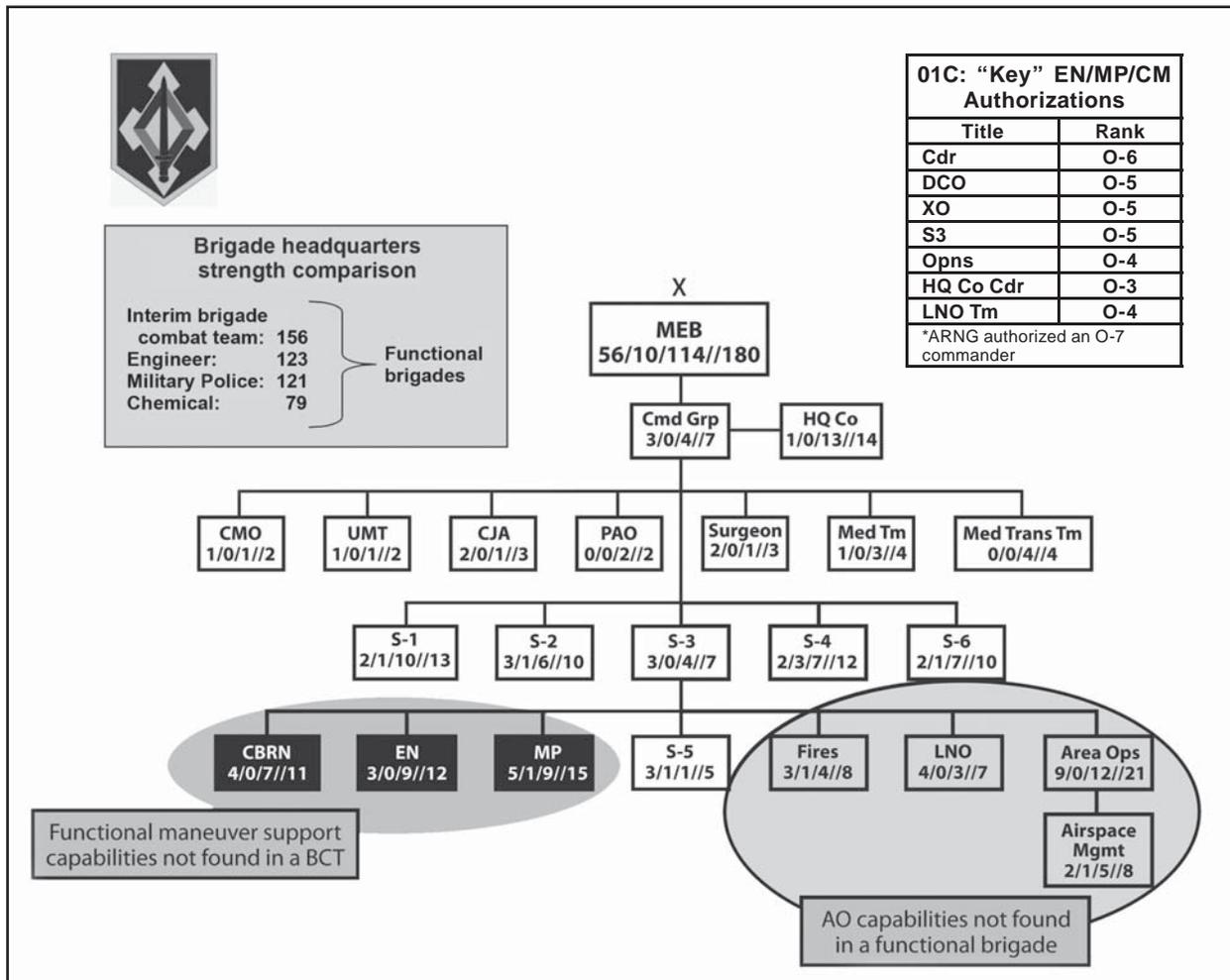
these missions is the obvious capability requirements of the MANSCEN proponents—chemical, biological, radiological and nuclear (CBRN); engineer; and military police.

MEB Headquarters

Of particular significance to MANSCEN proponents and stakeholders is the robust MEB headquarters design. Currently numbering nearly 200 Soldiers, noncommissioned officers, warrant officers, and commissioned officers, the MEB headquarters is among the largest in the Army’s brigade inventory. Most of these coded authorizations specifically require CBRN, engineer, and military police personnel. To further extend MEB utility, force developers included authorizations for several other functions—such as fire support coordination and air space management—that lend the unique planning and execution capabilities necessary to support an area of operations (AO). The robust planning and C2 capabilities organic to the MEB headquarters serve as its primary attributes, making it ideal for complex missions requiring a flexible response and scalable effects along the spectrum of conflict. For example, the MEB may conduct missions that range from supporting host nation police or civil engineering to supporting a division conducting a deliberate river crossing. The relevance and potential of the MEB continues to evolve, particularly in the realm of support to civil operations as evidenced recently in the requirement for the MEB to provide support to a chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) consequence management response force.

Organization

The central purpose of the MEB is to provide tailored support to the modular division and corps (supported force) to meet the wide-ranging requirements of full spectrum operations. The MEB maintains a robust headquarters design composed of multiple coordinating and special staff cells. Included in the headquarters is a broad range of functional expertise that enables the commander to optimize his capabilities and tailor his response.



MEB staff organization

These cells provide the MEB with unique capabilities such as the—

- *Fire support element cell.* This cell provides indirect fire coordination (tube, rocket, or rotary-wing); enables the commander to extend protection throughout the support AO; and enables the mitigation of a host of threats, including support to a tactical combat force (TCF) (when assigned) for a Level III threat.
- *Liaison officer (LNO) cell.* With permanently assigned LNO personnel, this cell coordinates and establishes liaison vertically with senior and subordinate commands and horizontally with joint, interagency, intergovernmental, and multinational or other agencies located in its AO.
- *Area operations cell.* This cell provides the commander with added flexibility on planning and coordinating activities related to terrain management without distracting the operations and training cell or civil-affairs cell from their primary focus.
- *Airspace management cell.* This cell coordinates air operations during support area operations or when the MEB is assigned an AO.

The "01C Initiative" is an approved special-reporting code that designates seven key positions within the MEB—commander, deputy brigade commander, executive officer, training officer, operations officer, headquarters company commander, and LNO team chief—to be filled by CBRN, engineer, or military police officers. The rationale for this initiative extends from the understanding that most of the MEB capabilities involve maneuver support. Limiting these billets to CBRN, engineer, and military police officers is a way to ensure technical and functional expertise within the seven most critical command and senior staff positions.

Beyond the headquarters nucleus, the MEB is a task-organized unit that is tailored to meet a specific mission requirement. To ensure flexibility, the designers of the MEB structure limited its organic composition to a headquarters, headquarters company, network support company, and brigade support battalion. Though dependent on mission, enemy, terrain and weather, troops and support available, time available, and civilian considerations (METT-TC), a typical MEB task organization would likely include CBRN, engineer, military police, and explosive ordnance disposal

assets. Also based on METT-TC, it could include air defense artillery, civil affairs, and a TCF.³

Doctrine

The major tenets of FM 3-90.31 include the following:

- *Maneuver support operations.* These operations integrate the complementary and reinforcing capabilities of key protection; movement and maneuver; and sustainment functions, tasks, and systems to enhance freedom of action. For example, these key tasks may include area security, mobility, and internment and resettlement operations. Maneuver support operations occur throughout the operations process of planning, preparing, executing, and assessing. The MEB conducts maneuver support operations and integrates and synchronizes them across all Army warfighting functions in support of offensive and defensive operations and in the conduct or support of stability operations or civil support operations.⁴
- *Combined arms operations.* The MEB is a combined-arms organization that is task-organized based on mission requirements. The MEB is primarily designed to support divisions in conducting full spectrum operations. It can also support operations at echelons above division (EAD), including corps, theater, Army, joint, and multinational C2 structures. Still further, it is ideally suited to respond to state and federal agencies in conducting civil support operations in the continental United States. The MEB has limited offensive and defensive capabilities in leveraging its TCF (when assigned) to mitigate threats within its AO.⁵
- *Support area operations.* The MEB conducts support operations within the echelon support area to assist the supported headquarters in retaining freedom of action within the areas not assigned to maneuver units. When conducting support area operations, the MEB is in the defense, regardless of the form of maneuver or the major operation of the higher echelon. Support area operations need to—
 - Prevent or minimize interference with C2 and support operations.
 - Provide unimpeded movement of friendly forces.
 - Provide protection.
 - Find, fix, and destroy enemy forces or defeat threats.
 - Provide area damage control.⁶
- *Terrain management (conducted in the support area).* Tailored capabilities enable the MEB to assume many of the missions formerly performed by an assortment of organizations in the division and corps rear, such as rear area operations and base and base cluster security. Usually assigned its own AO to perform most of its missions, the MEB can also perform missions outside its AO. Normally, the MEB AO is the same as the supported echelon's support area. Within its AO, the

What the MEB Is

- The MEB is designed as a unique, multifunctional, C2 headquarters to perform maneuver support, consequence management, stability operations, and support area operations for the supported force—normally the division.
- The MEB is a bridge across the capability gap between the more capable functional brigades and the limited functional units such as CBRN, engineer, and military police of the BCTs. This headquarters provides greater functional staff capability than BCTs, but usually with less than a functional brigade. The key difference between the MEB and the functional brigades is the breadth and depth of the MEB multifunctional staff. The MEB provides complementary and reinforcing capabilities. The MEB staff bridges the planning capabilities between a BCT and the functional brigades.
- The MEB is an “economy of force” provider that allows BCTs and maneuver units to focus on combat operations. It directly supports and synchronizes operations across all six Army warfighting functions. For example, economy-of-force missions might involve support to counterinsurgency or other “terrain owner” missions. The MEB serves a vital economy-of-force role by freeing the BCT to concentrate on its priorities when adequately sourced with maneuver formations and other capabilities such as intelligence, surveillance, and reconnaissance; fires; information operations; and medical operations.
- The MEB is similar to a BCT, but without the maneuver capability, providing C2 for an assigned AO—unlike other support or functional brigades. Unique staff cells such as area operations, fires, air space, and LNO assets provide the MEB with a level of expertise in area-of-responsibility and terrain management that is uncommon in a functional brigade.
- The MEB is capable of supporting divisions and EAD.
- The MEB can conduct combat operations at the maneuver battalion level when task-organized with a TCF or other maneuver forces.

MEB can perform a host of missions, though it is better suited to perform one or two missions simultaneously than several at the same time. Some of the missions assigned to an MEB within its AO include movement control; recovery; intelligence, surveillance, and reconnaissance; and stability operations. The MEB defends the assets within its AO, including bases and

What the MEB Is Not

- The MEB is not a maneuver brigade, but is normally assigned an AO with control of terrain. The main maneuver is defensive, with very limited offensive maneuvers when its reserve (response force or TCF) is employed to counter or spoil the threat. When the situation requires, the MEB executes limited offensive and defensive operations, using response forces or TCF against Level II and III threats.
- The MEB is not composed mainly of organic assets, but rather a tailored set of units.
- The MEB is not typically as maneuverable as a brigade. It is designed to be assigned an AO and C2, with higher headquarters assigned tactical control for the security of tenant units.
- The MEB is not designed to conduct screen, guard, or cover operations, which are usually assigned to BCTs.
- The MEB is not a replacement for functional brigades, especially at EAD.
- The MEB is not a replacement for functional brigades for missions such as counter CBRNE weapons and threats across the entire operational area; major complex CBRNE or weapons of mass destruction–elimination operations; major focused combat or general engineering operations; brigade level internment/resettlement operations; major integrated military police operations (each involving three or more battalions); or missions requiring increased functional capabilities and staff support or exceeding the C2 focus of the MEB.
- The MEB is not replaceable by a CBRN, engineer, or military police brigade to perform other functional missions within its own AO or at other selected locations within the division AO.
- The MEB is not a replacement for unit self-defense responsibilities.

base clusters. Outside of its AO, the MEB can provide military police, explosive ordnance disposal, or CBRN support to the supported commander.⁷

- *Movement corridors.* One of the ways that the MEB performs protection missions is by establishing movement corridors to protect the movement of personnel and vehicles. The MEB provides route security and reconnaissance and defends lines of communication. (The figure on page 25 offers an

overview of MEB mission capabilities, depicting core capability mission-essential tasks and the supporting task groups.)

- *Interdependencies.* The MEB, like all other modular brigade structures, relies on others for some of its support. When needed, the MEB must leverage fire, medical, aviation, and intelligence support from adjacent functional or multifunctional brigades. As the likely landowner of the support area, the MEB provides support throughout the division area of responsibility and to the other modular support brigades residing within the support area as part of its support area operations mission.

MEB Limitations

The MEB is not a maneuver organization. Although it harnesses sufficient C2 and battle staff personnel to employ a TCF in a limited role (when assigned), it does not seize terrain and it does not seek out a Level III threat. It is important that MEB commanders and staffs clearly articulate the differences between the MEB, the other modular support brigades, the functional brigades, and the BCTs.

The Way Ahead

The future of the MEB appears very positive. Its capabilities are relevant and indispensable to combatant commanders conducting full spectrum operations. The MEB receives frequent accolades from an expanding chorus of general officers. Just recently, General William S. Wallace, then the commanding general of the U.S. Army Training and Doctrine Command (TRADOC), and Major General Walter Wojdakowski, Chief of Infantry and commander of the Maneuver Center of Excellence at Fort Benning, Georgia, strongly supported the need for more MEBs. Their belief is that the current and future operational environments—increasingly asymmetrical and complex—require more MEBs. In sharing their experiences from the major combat operation phase of Operation Iraqi Freedom, they remarked that an MEB or two could have played a key role during the march to Baghdad. Their assessment was that the MEB is uniquely configured to C2 all the maneuver support capabilities required to support Army operations. During the early phases of Operation Iraqi Freedom, all critical maneuver support functions now resident in MEBs were managed in composite fashion. Most frequently, functional or maneuver brigades would assume these functions as an additional mission. Performing these vital missions was necessary in ensuring that the lines of communication remained open and that the rear area remained secure. Typically, units performed maneuver support operations and support area operations missions as a secondary effort, diverting their focus from their primary mission—the march to Baghdad.

The unique design of the MEB ensures its place in the Army's force structure to provide maneuver support to divisions and corps for years to come. A central concept of the modular force is for each of the modular support brigades to provide seamless support to the supported commander. For the MEB,

(continued on page 31)



The Security of Our Biolabs

By Captain Anthony M. Benedosso

In September 2001, America struggled to recover in the wake of the most devastating attack on U.S. soil in history. For weeks, Americans were transfixed by images of the destroyed twin towers, which were hauntingly replayed on television. For a time, the attack on the twin towers paralyzed the Nation, but Americans soon became riveted by an equally frightening, albeit smaller, development—someone was sending potentially lethal doses of anthrax through the U.S. Postal Service to unwitting victims. Many Americans feared that simply opening their daily mail might expose them to a deadly biological agent, thereby endangering their lives. And neither federal authorities nor the U.S. media did much to quell the emerging paranoia. In fact, public officials and mainstream newscasters openly speculated that the attacks might be an extension of al-Qaida's attack on America. Ultimately, the Federal Bureau of Investigation (FBI) concluded that the letters containing anthrax originated with Dr. Bruce Ivins, a 62-year-old Department of Defense microbiologist with a history of mental illness.

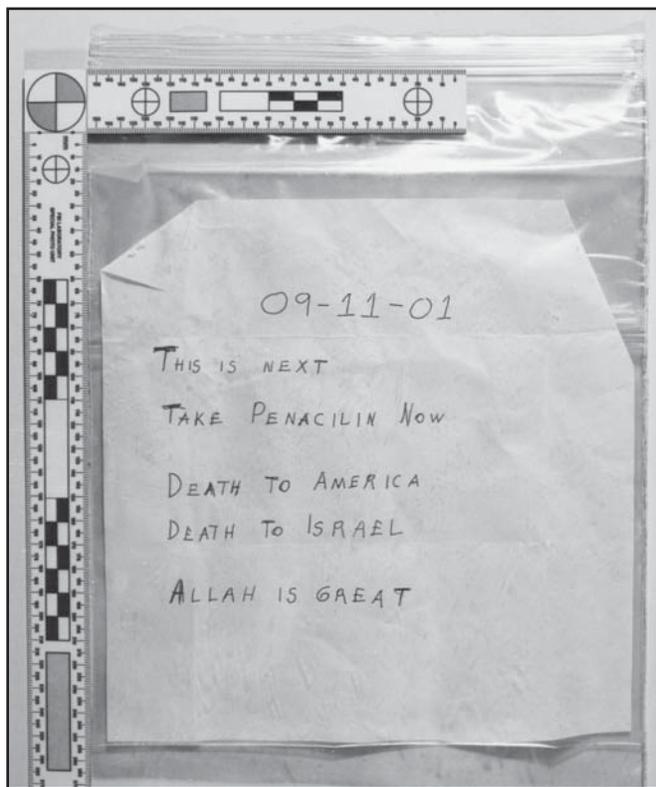
While the FBI and federal prosecutors remain convinced that Ivins was the sole culprit in the anthrax attacks, his implication raises much greater questions that must be answered:

- How safe are biological labs across the United States?
- How likely is it that more scientists are willing to use their knowledge and capabilities for evil purposes?
- How likely is an American scientist to collaborate with an international terrorist cell?

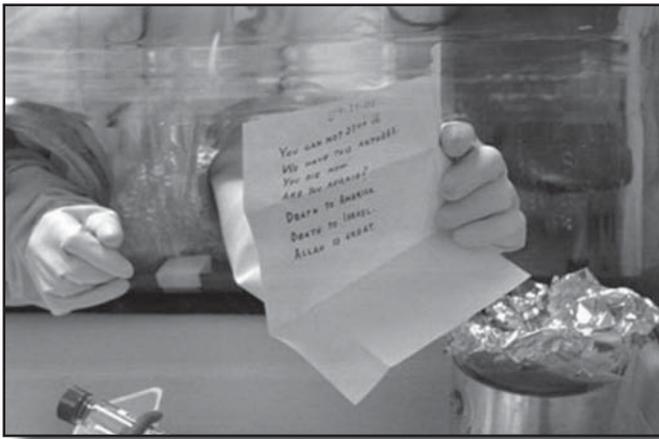
The American public originally believed that the anthrax attacks were linked to the events of 11 September 2001. The letters themselves supported that conclusion. Letters containing anthrax were sent to Senator Patrick Leahy, Senator Tom Daschle, National Broadcasting Company (NBC) anchor Mr. Tom Brokaw, and the *New York Post*. It only made sense that an Islamic terrorist group seeking to disrupt Americans' sense of security would target two government officials, one of the country's most recognizable public figures, and one of

the most widely read American newspapers. The content of the letters confirmed many of the worst fears.

The public sense of paranoia was only heightened by the fact that many mainstream media outlets, most notably American Broadcasting Company (ABC) News, repeatedly claimed that the presence of bentonite in the anthrax was compelling evidence that Iraq was responsible for the attacks. ABC insisted that bentonite is "a trademark of Iraqi leader Saddam Hussein's biological weapons program" and "only one country, Iraq, has



Letter sent to Mr. Brokaw



Checking the Senator Daschle letter for anthrax

used bentonite to produce biological weapons.”¹ However, these findings were eventually contradicted and the FBI dismissed the idea that Iraq or al-Qaida was responsible for the attacks.

To add to the confusion, even the most expert minds in the field of bioterrorism are still unable to agree on the facts of the case. Dr. Kenneth Alibek, a former top official of the Soviet biological weapons program, publicly announced that the attacks were “primitive” in nature and that they were not the work of highly trained professionals.² However, Mr. William C. Patrick III, a microbiologist who headed the American offensive biological warfare program before it was officially suspended, disagrees. “It’s high-grade,” said Mr. Patrick. “It’s free-flowing. It’s electrostatic-free. And it’s in high concentration.”³

Seven years after the anthrax attacks, the FBI accused Ivins of the attacks, characterizing him as a “lone wolf” culprit, unaffiliated with any radical Islamic organization. Assuming that Ivins was responsible for the attacks, it is easy to point out the many warning signs that could have alerted others to his impropriety and instability. For instance, in April 2002, Ivins “came under scrutiny in an Army investigation of a leak of potentially deadly anthrax spores outside a sealed-off lab at Fort Detrick [Maryland]. He later admitted he had discovered the leak but [had] not reported it.”⁴ Ivins also had a well-chronicled history of mental problems. Many assert that he suffered from an obsession stemming from a romance with a sorority member in his college days at the University of Cincinnati.⁵ He was briefly hospitalized for depression and allegedly threatened to kill a social worker who had treated him in group therapy.⁶

Based on the Ivins case, it would be easy to conclude that security at U.S. biolabs is lax and porous. However, while Ivins’ behavior may have raised suspicions retroactively, there were actually many legitimate reasons for previously overlooking that behavior. In 2003, Ivins received the highest Department of Defense civilian award. Furthermore, his recent work on a new anthrax vaccine was highly respected by his colleagues.⁷ Those who worked with Ivins for many years saw nothing that drew suspicion or made them believe that he was responsible for the anthrax attacks. In fact, many of his colleagues are still

convinced of his innocence. Thus, assigning blame for missing clues about Ivins’ volatility is unproductive.

Therein lies the problem that law enforcement personnel face in trying to prevent future biological attacks; it is extremely difficult—or even impossible—to examine the unusual or antisocial behavior of every scientist who handles sensitive material. How can the FBI accurately draw a distinction between a dedicated, qualified scientist who happens to be a little eccentric and a mentally unstable scientist bent on wreaking havoc?

The fact that the biolab industry is growing at an astounding rate compounds this problem. Analysts estimate that since 2001, the federal government has “spent more than \$16 billion on biodefense research and development—a tenth of it for construction of new labs.”⁸ No one knows exactly how many labs exist that experiment with highly dangerous pathogens such as anthrax. Mr. Keith Rhodes, the chief technologist with the General Accountability Office, believes that the number is “surely in the thousands.”⁹ And conservative estimates indicate that the number of technicians who handle such pathogens is about 15,000.¹⁰ Mr. Rhodes succinctly summarized the situation when he told Congress, “I would have to say we are at greater risk because as the number [of biolabs] increases, the risk increases. And it’s not just the increase in material; it’s the increase in laboratories that have less experience than others.”¹¹ He also reported a startling lack of oversight of biolabs, pointing out that there is no single federal agency responsible for determining the risks associated with the proliferation of labs.¹² “The labs are pretty much just overseeing themselves at this point,” said Mr. Rhodes.¹³

In addition to a lack of oversight, many of these new labs suffer from a demonstrable lack of safety and security standards. In 2006, a biolab worker at Texas A&M University was infected with the deadly brucellosis virus.¹⁴ The university did not report the case and may never have admitted its occurrence if Mr. Edward Hammond of the Sunshine Project had not convinced a local district attorney to force the university to release its internal records. The Centers for Disease Control subsequently uncovered “a host of other violations, including unauthorized experiments, failure to report three other infections of Q fever [a disease caused by infection with the bacterium *Coxiella burnetii*], failure to have all technicians vetted by the FBI, and missing pathogens and infected animals.”¹⁵

Many industry insiders, such as Mr. John Steinbruner (security studies expert at the University of Maryland) and his colleagues, have publicly criticized the lack of biolab security and oversight. They say that serious safety measures have not been a priority in the results-driven national biolab program and that the current system allows scientists almost no accountability for their experiments, with “few guidelines and even fewer consequences for their mistakes.”¹⁶ Representative Bart Stupak went one step further by saying, “It’s like we’re building labs and hoping the germs will come.”¹⁷

The expanding number of biolabs that handle dangerous pathogens, coupled with the questionable security conditions,

increases the probability that a “lone wolf” or rogue scientist could use his expertise to act maliciously. However, while the lack of governmental oversight and inadequate safety and security provisions are disconcerting, there is little doubt that a high-level scientist dedicated to releasing a dangerous biological agent could do so regardless of the security measures in effect. Any scientist who is truly committed and inordinately resourceful can surely find a way to circumvent security measures. Therefore, authorities are left with the hope that no such scientists exist—or that any scientist who wants to cause harm will have extremely limited aims.

The rogue operative has long been a problem for law enforcement and other governmental agencies. Robert Hanssen, a midlevel career FBI agent with a borderline personality disorder, betrayed dozens of covert agents and sold valuable information to the Soviets during the Cold War. Aldrich Ames, a bumbling midlevel Central Intelligence Agency operative, was found guilty of the same crimes. Dr. Theodore Kaczynski, a brilliant but highly eccentric mathematician, sent deadly letter bombs to lash out at a society that he felt was overly reliant on technology. All of these men posed serious problems for authorities. They all operated outside the auspices of easily monitored political action groups. Their reasons for betrayal were personal in nature, or they were motivated by greed. They used their particular genius or expertise to get away with their crimes for long periods of time. However, while these men caused significant damage, the solitary nature of their pursuits ultimately proved advantageous for law enforcement personnel. None of the men wished to cause mass casualties; they limited their efforts to specific subsets of people who met certain qualifications.

Obviously, though, there are rogue outsiders, such as Timothy McVeigh, who seek to cause mass destruction. However, McVeigh was not a career employee of a federal agency or a highly skilled mathematician with an exceptional scientific aptitude. He was simply a disillusioned, out-of-work loner who advocated the violent overthrow of the federal government.

Fortunately, there are statistically few incidents of highly intelligent people inside government agencies or government-sponsored programs who succeed in advancing a radical terrorist agenda. However, Dr. Richard Ebright (a chemistry professor at Rutgers University, Piscataway, New Jersey) asserts, “You cannot persuade me there are not more disturbed or disgruntled persons with a political agenda in such a large group.”¹⁸ It is likely, though, that the next rogue scientist discovered at a U.S. biolab will have more in common with Hanssen or Kaczynski than with McVeigh.

A rogue scientist operating from inside a U.S. biolab would probably be someone who had worked in the lab for a considerable amount of time and would, therefore, have certain advantages. He would likely be familiar with the lab customs and security measures—or the lack thereof. He would probably also enjoy a level of seniority in the lab, which would mean that very few people would closely oversee or check his work. Mr. Hammond explained this situation by stating, “The principal



Searching for anthrax

investigators rule the roost in their labs. One of the complaints by people who work in safety and security is they can’t get the time of day from people running the labs.”¹⁹ He went on to add that security questions are “viewed as deeply offensive by a lot of scientists, as if their patriotism is being questioned.”²⁰

Mr. Henry C. Kelley, the president of the Federation of American Scientists, also believes that biologists have historically had an “instinctive antipathy toward national security policy . . .” and that most of them remain “willfully oblivious about the extent of the biological terrorism threat.”²¹

Additionally, a rogue scientist is unlikely to make the mistake of associating with a visible political action group. Instead—like Hanssen, Ames, and Kaczynski—he is likely to keep his grievances quiet. This makes him harder to track, but his actions are usually less destructive.

It is far less clear whether a biolab scientist would ever work with al-Qaida or some other terrorist group intent on causing mass casualties. As previously mentioned, most brilliant eccentrics and rogue government agents do not wish to cause massive public fear or loss of human life. For example, Hanssen and Ames worked with the Soviets to resolve their own personal problems, but they confined their damage primarily to members of the intelligence community. They did not conspire to overthrow the U.S. Government or cause a massive loss of human life. Likewise, Kaczynski did not plant his deadly bombs in public places, where casualties would have been maximized. Instead, he targeted specific, protechnology individuals. Ivins allegedly operated the same way; no one accused him of attempting to unleash a devastating biological attack on the American people. In fact, one of the first clues that the FBI used to determine that the anthrax did not originate from the Middle East was that the seams of the anthrax-laden envelopes were taped to prevent cross contamination.²² Investigators also noted that any Islamic terrorist group intent on killing people was unlikely to include a message detailing what was inside the envelope as Ivins had.²³

So, someone like Ivins represents the most likely threat from a biolab. Any scientist secretly plotting with terrorists is unlikely to be as successful as Ivins allegedly was at concealing it. He would need to be able to communicate and coordinate with radical jihadists in the United States or abroad without arousing suspicion. He would also need to hide any financial arrangements with the terrorists from his colleagues and law enforcement personnel. Furthermore, knowing the devastation it would reap on his fellow citizens, it would be necessary for any scientist who was willing to unleash a large-scale biological attack on a major U.S. city to be immensely dedicated to the terrorist cause. It is unlikely that a senior level scientist could be that committed to a radical agenda without giving away some fairly obvious warning signs.

While it may be unlikely that a scientist will work with al-Qaida or some other terrorist group, the possibility should not be completely dismissed. It is possible for a senior level biological scientist to undergo a radical ideological conversion and simply decide to take actions that would have previously been unthinkable. It is also possible for colleagues and lower-level employees, through ignorance or fear of confrontation, to ignore warning signs. Nevertheless, the most pressing fear facing Americans is that of a rogue scientist in the model of Ivins.

The law enforcement and the scientific communities must create tough, comprehensive standards for regulating the burgeoning biolab industry. Only by confronting this problem can Americans feel safer about the possibility of being attacked by their own biological creations. ●●●

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Captain Benedosso is the commander of a warrior transition unit in Schweinfurt, Germany. He is a graduate of the U.S. Military Academy, West Point, New York.

("The Maneuver Enhancement Brigade" continued from page 27)

the tailored design ensures that it can provide all essential maneuver support functions to the supported commander. While the MEB is only one part of a division force package, it is required to ensure seamless support to the division across the spectrum of conflict. There are twenty-three MEBs planned for the total force—four in the Active Army, three in the U.S. Army Reserve, and sixteen in the Army National Guard. We began to activate MEBs in 2006 and will continue to activate them through 2012. So far, fourteen MEBs have been activated and several have already deployed.

The MANSCEN challenge now is to develop a culture of leaders who can visualize, describe, and direct the many capabilities resident in the MEB to support a transforming Army. ●●●

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Colonel Williams is the TRADOC Capability Manager—Maneuver Support. He holds a master's degree in counseling and leader development from Long Island University, New York.

Mr. Crider is the maneuver support integrator for the TRADOC Capability Manager—Maneuver Support. A retired infantryman, Mr. Crider holds master's degrees in management and human resource development.

This article is reprinted from the Winter 2009 issue of the Maneuver Support Magazine.



The Development of India's Nuclear Program

By Major Andrew "Jack" Morgan

The development of nuclear weapons around the world interests the global community. Countries research and develop nuclear weapons for many reasons. This article contains an historical review of facts relating to one such country's nuclear-weapon development plan and describes the resulting impacts. It also provides a context for the current situation in that area.

India's nuclear-weapon program began as a peaceful sharing of technology under the Atoms for Peace nonproliferation program of the 1950s, which was a program designed to encourage civil use, ease nuclear fears, and limit nuclear-weapon research for military purposes. Initial nuclear technologies and facilities at the Bhabha Atomic Research Centre, Trombay, India, were easily converted from power generation purposes to potential weapon research and capability. North American countries shared technologies, equipment, and heavy water¹ in an effort to ease worldwide fears and stop the proliferation of nuclear-weapon research for war purposes.² The intent was to promote peaceful nuclear-power practices to stave off weapon research.

The impetus and subsequent research into the pursuit of a nuclear-weapon platform was for the purpose of defending India from various neighbors. The initial efforts to research and design nuclear weapons followed a 1962 border clash with China and a successful 1964 nuclear test in Beijing, China.³ Using existing facilities, "India made significant progress in refining its weapon design and fabrication capabilities, including reducing the size of weapons and increasing their efficiency and yield through boosted fission using tritium."⁴ The 1971 Indo-Pakistani War influenced India's resolve to test a nuclear device to deter and defend the country.⁵

India's desire for a nuclear weapon led to the development of a reprocessing facility at Trombay, and the plutonium produced there was used in India's first successful nuclear test on 18 May 1974.⁶ The Indian government described the

detonation as a "peaceful nuclear explosion."⁷ This "successful" test seemed to mollify the Indian leaders, and it served as a signal to their neighbors and the world that India was a nuclear power. Following this test, research was halted for a lengthy period of time.

The second series of nuclear tests, known as Operation Shatki, was conducted in 1998. Pakistan had successfully conducted missile tests; and within months, India resumed testing nuclear weapons. These tests followed a pattern similar to the test of 1974. On 11 and 13 May 1998, five nuclear weapons were tested. The Indian government claimed that the tests were a simultaneous detonation of a fission device (with a 12-kiloton yield), a thermonuclear device (with a 43-kiloton yield), and a subkiloton device.⁸ Based on seismic data, the world was not convinced that the yield was as great as the Indian government claimed; eventually, it was concluded that the weapons had not functioned as designed and they had failed to ignite during the second stage of testing.⁹

Most authorities in the world believe that India maintains less than one hundred nuclear weapons throughout the country, with the Prime Minister or his "designated successor(s)" holding release authority.¹⁰ The country has published doctrine directing non-first-strike use of nuclear weapons, but retained the capability and resolve to react to a nuclear incident.¹¹ India's current nuclear capabilities support the present employment doctrine. Therefore, an immediate nuclear response does not seem to be a consideration. India's non-first-strike policy states that "India shall pursue a doctrine of credible, minimum, nuclear deterrence. In this policy of 'retaliation only,' the survivability of our arsenal is critical. This is a dynamic concept related to the strategic environment, technological imperatives, and the needs of national security. The actual size components, deployment, and employment of nuclear forces will be decided in the light of these factors. India's peacetime posture aims at convincing any potential aggressor that (a) any threat of use of nuclear weapons

against India shall invoke measures to counter the threat and (b) any nuclear attack on India and its forces shall result in punitive retaliation with nuclear weapons to inflict damage unacceptable to the aggressor.”¹²

The doctrine also maintains that India “will not be the first to initiate a nuclear first strike, but will respond with punitive retaliation should deterrence fail.” In other words, India will not use nuclear weapons as an offensive means—a claim supported by the fact that the military is not involved in the nuclear process. Interestingly, the military is not involved in the development or administration of the nuclear-weapon program, and there has been no attempt to devise a military role for nuclear weapons or to seek military input for requirements.¹³

The technology, equipment, and supplies that the United States and Canada provided to initiate India’s nuclear-power program led to India’s nuclear-weapon research and, ultimately, to the 1974 nuclear detonation. The United States was angry at India for the nuclear-weapon test. Pursuant to the 1968 Treaty on the Nonproliferation of Nuclear Weapons (NPT), India had been classified as a non-nuclear-weapon state because it had not exploded a nuclear weapon before 1967. Only Britain, China, France, Russia, and the United States satisfied the NPT definition of a nuclear-weapon state because they had tested before 1967.¹⁴ The United States made several attempts to persuade India to sign the NPT to prevent the spread of nuclear weapons. If India had signed the NPT, the country would have been prohibited by the treaty from developing nuclear weapons. Although India did participate in the negotiation of the treaty, the country refused to join in when the treaty was opened for signature in 1968.¹⁵

According to National Security Archive Electronic Briefing Book Number 6, “The [United States] considered various options that might dissuade India from developing nuclear weapons, including scientific cooperation aimed at enhancing India’s national prestige. It also joined in cooperative arrangements with both India and Pakistan to monitor nuclear and missile developments in China and the Soviet Union. India, for its part, launched a campaign seeking security guarantees to shield it from Chinese nuclear attack, arguing that such assurances might make a nuclear-weapons program of its own unnecessary. Various options were proposed: U.S. guarantees, joint U.S.-Soviet guarantees, guarantees from all the nuclear states, British guarantees, or guarantees in conjunction with the nuclear nonproliferation treaty then being negotiated. U.S. policy makers seriously considered these proposals, although some doubted that they would deter India from developing a bomb.”¹⁶

The United States viewed India’s actions as hostile, rather than as “a case of a western-style democracy coming to the defense of a people being brutally persecuted by a military dictatorship for attempting to exercise its democratic rights.”¹⁷ The angry attitude of the United States during the nuclear crisis led to a series of reactions to India and its government. The U.S. dispatched an aircraft carrier battle group to the

Indian Ocean to exert pressure on India.¹⁸ This attempt at pressure was obscure and had little effect on India’s attitudes or actions. However, it had a negative effect on world opinion; a superpower was perceived to have attempted to coerce India in affairs affecting India’s vital interests. This became a rallying cry for nuclear-option advocates.¹⁹

The reaction of the U.S. Congress to the Indian nuclear tests resulted in 1978 amendments to the U.S. Atomic Energy Act of 1954. These amendments required that a non-nuclear-weapon state which received nuclear assistance from the United States promise not to use that assistance to make nuclear explosive devices, as Congress thought India had. Congress was determined that U.S. aid would not be used for nuclear-weapon research and expansion since the United States had provided atomic information dissemination oversight to India for peaceful uses, rather than for use with nuclear weapons. The far-reaching effects of these amendments prohibited the U.S. Executive Branch from providing additional nuclear assistance to India.²⁰

During the years leading up to 1998, the United States obtained more accurate intelligence concerning India’s intention to research and detonate additional nuclear weapons in 1998. According to the 1989 Congressional testimony of the Central Intelligence Agency (CIA) director, “indicators... tell us [that] India is interested in thermonuclear weapons capability.”²¹ The evidence stemmed from the fact that India was purifying lithium and lithium isotopes and producing tritium. In addition, India had obtained beryllium from West Germany.²² Once again, the United States and the world were faced with the challenge of pacifying India—now a reinvigorated nuclear power—while simultaneously attempting to prevent and convince other countries not to pursue nuclear weapons.²³

The United States once again reacted to the series of nuclear tests by placing economic sanctions on India.²⁴ The United Nations (UN) also reacted to this series of tests; a spokesperson stated that the UN had “learned with deep regret of the announcement that India had conducted three underground nuclear tests.”²⁵ Once again, critics believed that the United States was condemning this testing in one area of the world while secretly ignoring testing and stockpiling in other areas such as Israel. The result seemed to indicate that “other countries would just ignore the danger and line up to sign nuclear nonproliferation treaties and abide by them.”²⁶

The U.S. sanctions and prohibition of nuclear trade with India continued from 1974 to 2005. In 2005, President George W. Bush and Dr. Manmohan Singh, the prime minister of India, agreed to resume peaceful cooperation in matters related to nuclear energy.²⁷ The United States offered to provide India with uranium for nonmilitary, electricity-producing, nuclear reactors—but specifically not for nuclear weapons.²⁸ The plan was for India to buy the uranium, allow its nuclear facilities to be inspected to ensure that weapons grade uranium was not produced, cease testing of nuclear weapons, and “cooperate with the United States in other ways.”²⁹ This was the first such

agreement to be reached by the two countries since the 1974 reaction of President Richard M. Nixon and the 1998 sanctions by President William J. Clinton.

As a result of these actions, “Nuclear trade in India has recently revived [*sic*] up India’s global stance, offering an efficient model for trade. Once the negotiations with Russia, and possibly Canada, in nuclear commerce talks are done with, the government will soon open up the sector for the private players to participate,” said Mr. Kapil Sibal, Minister for Science and Technology and Earth Sciences in New Delhi.³⁰ The results of the negotiations with Russia include an agreement to build four additional atomic reactors in India.³¹

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Major Morgan is currently attending the Command and General Staff College (CGSC), Fort Leavenworth, Kansas. Following CGSC, he will serve as the operations and training officer (S3) for the 83d Chemical Battalion, Fort Polk, Louisiana. He holds a bachelor’s degree in biology from Marshall University, Huntington, West Virginia, and a master’s degree in zoology from North Carolina State University.

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UNDERSTANDING THE PROTECTION CELL

By Major Richard L. Comitz

The protection warfighting function (WFF) is new in U.S. Army doctrine. Many of us may serve as members of a protection cell at some point in our careers. As a chemical, biological, radiological, and nuclear officer attending the Command and General Staff College (CGSC), I suddenly found myself in the protection cell during division and higher level mission exercises. I quickly realized that I was unsure of the protection cell definition or purpose. To fully integrate the protection WFF into a division staff, the function must be fully understood. This article contains information that I have learned while researching the capabilities and limitations of the protection cell, and it is intended to initiate discussions and make recommendations about how the protection cell should function and evolve in the future.

Doctrinal Resources and Definitions

The protection function and five other WFFs were introduced to the Army with the release of Field Manual Interim (FMI) 5-0.1.¹ WFFs replaced battlefield operating systems, paralleling them with Marine Corps functions and aligning them with joint functions introduced in Joint Publication (JP) 3-0. While FMI 5-0.1 describes the basics of WFFs, further details are now available in Field Manual (FM) 3-0. According to FM 3-0, a WFF is “a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives” and the protection WFF consists of “the related tasks and systems that preserve the force so the commander can apply maximum combat power.” FM 3-0 also describes how commanders employ WFFs to help exercise battle command. Discussions regarding protection doctrine are currently underway, with future doctrine expected to outline the tasks and operation of the protection cell in more detail.

Protection is also a joint function; and since joint functions originated at about the same time as WFFs, there seems to be a similar level of understanding about how they work and how they should be implemented. JP 3-0 defines joint functions as “related capabilities and activities grouped together to help JFCs [joint force commanders] integrate, synchronize, and direct joint operations.” JP 3-0 suggests that the joint function of protection focus on conserving the fighting potential of the joint force through—

- Active defense measures.
- Passive defense measures.
- Technological and procedural applications.
- Emergency management responses.

Tasks encompassed by the protection function are also listed in JP 3-0; several of these mirror the tasks listed in FM 3-0.

Staff

At first glance, it is difficult to determine the composition of a protection cell. Although FM 3-0 and JP 3-0 list the tasks encompassed by the protection function, they do not assign responsibility to specific personnel. However, FMI 3-0.1 goes a little further in describing the staff that usually comprises the protection cell and in explaining possible generalized tasks. Current staffs are still very Napoleonic in nature; as a result, when functionally organized, protection staffing is often ad hoc. There are protection personnel at the brigade combat team level, but they do not constitute a “cell.” According to division modified tables of organization and equipment (MTOEs), members of the protection cell are not grouped together as a cell, but are broken out by traditional branches (air defense artillery, chemical, military police, engineer). The same organization—or lack thereof—exists with higher-level MTOEs as well. All of these functions are supervised by a chief protection officer, whose branch and rank are not defined.

Discussions regarding protection cell doctrine have resulted in the recommendation that protection cell membership not include representation from every functional element, but that selected members form a dedicated staff capable of coordinating with appropriate personnel and special staff elements. Doctrine writers recommend that protection cell members typically include provost marshal; chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE); explosive ordnance disposal; air and missile defense; engineer; operations security; and recovery personnel.

Although the composition and function of the protection cell are unclear, I estimate from the current doctrine and MTOEs that there are about forty personnel (eight in the tactical command post) in the division level protection cell, forty-two personnel (eight in the tactical command post) in the corps level protection cell, and sixty personnel in the theater army level or U.S. Army Service Component Command protection cell.

Current discussions are focusing on the role of the cell “protection chief,” who serves as the principal advisor to the commander on all matters related to the protection WFF.

Responsibilities

Protection is probably the most diverse and complicated of the WFFs. Simply stated, all protection capabilities necessary

to safeguard bases, secure routes, and protect forces are integrated under the protection WFF. However, according to FM 3-0, the protection cell is responsible for air and missile defense, personnel recovery, information protection, fratricide avoidance, operational area security, antiterrorism, survivability, force health protection, CBRNE operations, safety, operations security, and explosive ordnance disposal. It is the integration and synchronization of these areas that increase the difficulty. In addition, the protection cell must also be integrated into future plans—a difficult task, given the limited number of members in the protection cell.

Attempts to explain how the protection cell should work are currently underway. The most recent discussions have focused on the use of the protection framework when developing plans and executing operations. The framework consists of the following components:

- *Detection*: the sensing of the full range of friendly and enemy activities.
- *Assessment*: the process of sorting through information to arrive at possible recommendations for the commander.
- *Decision*: a determination regarding the appropriate recommendation for the commander.
- *Action*: the execution of associated tasks.
- *Recovery*: the restoration of capabilities for the purpose of getting back into the fight.

The protection cell only recommends actions; the execution must be directed by the Assistant Chief of Staff for Operations and Plans (G-3).

The protection framework meshes well with the battle command and operational art framework, which is introduced in FM 3-0 and consists of understanding, visualizing, describing, and directing. Because these two frameworks are so closely aligned, it is easier for the protection cell to help the commander execute the battle command. There is also an effort underway to show how the protection framework should be integrated into the military decisionmaking process.

One of the biggest challenges we have faced in CGSC is the integration and synchronization of the protection cell into the rest of the staff. A good working relationship between the protection cell and other staff sections is necessary. There must be a liaison officer from the protection cell in each of the other staff functions, or there must be a method for the protection cell to understand the common operational picture.

There is a great deal of attention being focused on the development of two lists for the integration of protection—the critical asset list and the defended asset list. With limited protection assets, these lists can help commanders focus and prioritize protection assets. In addition, the working group concept is being considered as a possible way to synchronize the protection WFF with other staff functions.

Due to the lack of structure and well-defined responsibilities, it will take a few years for the protection cell to reach its full potential. Some cross-training and education at all levels will

also be required to remove redundancies and allow the cell to work efficiently.

Recommendations

I offer the following recommendations with regard to the protection WFF:

- Organize MTOEs by WFF.
- Educate leaders at all levels (officer and enlisted) about the functions of the protection cell and how the protection cell can contribute to the operation.
- Expand doctrine to encompass sample products and recommendations about the integration and operation of the protection cell.
- Collect tactics, techniques, and procedures (TTP) and lessons learned concerning protection cell operations in garrison and deployed environments; publish the results frequently.
- Add a forum on the Chemical Knowledge Network to collect TTP and lessons learned.

Questions

I ask the following questions to spark further discussion:

- Are there too many tasks grouped under the protection cell?
- Does the protection cell consist of the correct mix of personnel?
- How does the protection cell coordinate with other WFFs?
- How do we educate and integrate CBRNE and other Soldiers who comprise the protection cell about how we want the cell to function?

Conclusion

It will take some time for the protection cell to become completely integrated and synchronized into staffs at all levels. I hope that this article generates discussion about the integration of protection cells into current operations and that it serves as a springboard for Corps professionals to collect and share experiences and TTP.

Endnote:

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Editor's note: *FM 3-10, Protection, is currently under development by the U.S. Army Maneuver Support Center Directorate of Training.*

Major Comitz is currently a CGSC student. He holds a bachelor's degree in chemistry from the U.S. Military Academy, West Point, New York, and a master's degree in organic chemistry from the Florida Institute of Technology, Melbourne, Florida.



Hazmat on the Railroad: Will the New Rule Really Make Us Safer?

By Captain Herschel Flowers

“While commercial aviation remains a possible target, terrorists may turn their attention to other modes. Opportunities to do harm are as great, or greater, in maritime or surface transportation . . . Surface transportation systems such as railroads and mass transit remain hard to protect because they are so accessible and extensive.”

—The 9/11 Commission Report¹

When the National Commission on Terrorist Attacks Upon the United States (also known as the 9/11 Commission) published its report on U.S. vulnerabilities to possible terrorist attacks, many of us shifted our focus from the Middle East to the identification of possible targets within our own borders. Of particular concern was the large volume of hazmat (including toxic inhalation hazards [TIHs] and poison inhalation hazards [PIHs]) transported through the country by the rail industry. As a result, Congress sought to establish stricter control on the movement of certain hazmat by rail.

The latest regulation to affect the transportation of hazmat by rail—the Rail Transportation Security Rule—was put into place by the Department of Homeland Security (DHS), Transportation Security Administration (TSA), in November 2008.² This rule requires that hazmat shippers, carriers, and receivers maintain positive control³ of all rail security-sensitive materials (RSSM)⁴ that move to, from, or through high-threat, urban areas (HTUAs).⁵ It also requires that inspections of these cars be conducted at every point where a change in custody occurs and that parties maintain a proper chain of custody for each car that is transferred. Although the Rail Transportation Security Rule represents a positive step toward increasing security, it falls short of accomplishing the goal of preventing terrorists from using RSSM as weapons of mass destruction.

Before the Rule

Before the Rail Transportation Security Rule was enacted, manufacturers placed cars containing chemicals such as chlorine or anhydrous ammonia on tracks outside their plants and left them there with limited or no security. The cars were later picked up by railroad carriers, who could transport them throughout the country with few security requirements. The cars were then dropped off anywhere the customer requested—regardless of existing security measures. The main restriction imposed on carriers at that time was the rarely enforced “48-Hour Rule,” which technically required carriers to forward hazmat shipments within 48 hours.⁶ Even with that rule in place, shippers and carriers devised innovative ways to bypass the “requirements” by leasing remote tracks or infrequently used rail yards to serve as the “destinations” of these products until the chemical companies could move them into their plants.⁷

After 11 September 2001, the federal government began looking at hazmat shipments as potential targets for terrorist attacks—and by 2004, DHS had developed scenarios for possible terrorist attacks within the United States. However, this attention did little to improve security among the many plants and yards that handled the production or movement of hazmat or along the 240,000 miles of track crisscrossing the country.

Chemical manufacturers and railroad companies insisted that they had adopted sufficient security measures for hazmat cars after 11 September 2001—including limited access to them and a reduction of the amount of time they spent in rail yards. However, the lack of strict rules and the failure to enforce existing ones still made these cars prime targets. It was not until Mr. Carl Prine, a *Pittsburg Tribune-Review* journalist, wrote an exposé in 2007 that things began to change. Mr. Prine traveled the country reviewing security measures for chemical plants, refineries, and railroad facilities. He was able to gain unchallenged access to most locations, climbing and riding on top of hazmat cars—even leaving his business card on some of them.⁸ The article, which served as a reminder of the vulnerability of our country with regard to rail transportation, resulted in a public outcry. There was renewed interest in the federal government imposing stricter security regulations on manufacturers and carriers.

The Rule

The Rail Transportation Security Rule, which was implemented on 26 December 2008, sets standards and obligations for shippers, carriers, and receivers of cars loaded with RSSM that move to, from, or through HTUAs. Among other things, the rule requires parties to—

- Maintain “positive control” over the cars, ensuring that they are attended at all times.
- Employ chains of custody when transferring the cars.
- Conduct inspections of the cars when custody is transferred.
- Provide TSA with the location of any and all cars containing RSSM at any given time.
- Report suspicious activities occurring in and around facilities and yards where the cars are present.
- Allow TSA inspectors to conduct announced and unannounced facility inspections.

TSA has sought to enhance security by ensuring that cars loaded with RSSM are under surveillance at all times. Security has also been increased by establishing systems that allow authorities to locate and track the movement of RSSM cars at all times.

Problems With the Rule

Still, the rule has some shortcomings, and that results in the potential for a false sense of security regarding the rail transportation of hazmat. The limited scope and range of rule application actually allow for security gaps and leave many commodities unprotected and vulnerable to terrorist attacks.

Limitation of Protection and Security Measures to a Small Group of Hazmat

According to the 2002 *Commodity Flow Survey*, Class 1 hazmat accounted for less than one percent of all hazmat rail freight that moved through the country that year,⁹ while TIH/

PIH and explosives cars combined for less than six percent of the total. Yet, TSA believes that these commodities are the only ones that require strict security, leaving out other hazmat that could also cause considerable damage or could be used as catalysts to release other toxic materials such as highly volatile, liquefied petroleum gas tank cars or flammable liquids.

Limitation of Enforcement to Loaded RSSM Cars

The enforcement of the Rail Transportation Security Rule is limited to loaded RSSM cars, whereas “residue”¹⁰ cars and other cars containing smaller quantities of hazmat are excluded from the rule. Although TSA acknowledges that these cars pose a danger to the public, it “has [been] determined that residue quantities of PIH materials in bulk packaging shipments do not carry sufficient amounts of security-sensitive materials to warrant the enhanced security measures required in [Rail Transportation Security] rule making.”¹¹ Therefore, TSA sets “limits of danger,” implying that “real” danger occurs only when these cars are fully loaded. This leaves unloaded (residue) cars with no security.

I believe that residue cars also pose a high degree of imminent danger to the public simply because of the way they are excluded by definition under the rule—as cars that have been “unloaded to the maximum extent practicable.” Under this definition, a car that has had only half of its contents unloaded due to storage space restrictions is a residue car and is, therefore, not subject to the rule. The car, which might contain tens of thousands of gallons of a chemical such as chlorine, could be parked on side tracks, would not require security, and would not need to be inspected before or during movement. If targeted, the car could release chemicals, causing massive damage. Likewise, the detonation of a residue car carrying less than 5,000 pounds of explosives in a populated area could still be catastrophic and would likely cause a mass chain reaction with other hazmat. Unless they have been completely emptied, cleaned, and purged, all cars containing RSSM should be considered dangerous; and the appropriate security standards should apply.

Limitation of the Scope to Cars That Move To, From, or Through Large Urban Areas

The Rail Transportation Security Rule specifies that RSSM-loaded cars moving to, from, or through certain cities are subject to the new security standards. The rule governs forty-five urban areas encompassing more than fifty cities; it also applies to an extended ten-mile buffer zone surrounding each of the specified areas.¹² However, there are major U.S. cities that are not considered HTUAs and, consequently, are not included on the list. RSSM-loaded cars traveling to, from, or through these cities are not required to be under positive control, do not need to be inspected, and do not require proper chains of custody. These small- and medium-size cities that are excluded from the “protection grid” are unnecessarily exposed to danger.

Conclusion

It is difficult to analyze all possible scenarios for terrorist attacks on trains carrying hazmat. Locomotives could be

disabled, tracks could be destroyed, and trains could be commandeered. All of these viable scenarios are capable of producing mass casualties and spreading terror throughout our country. Still, I would like to point out that DHS has missed an opportunity to make all hazmat shipments—not just those involving railcars loaded with RSSM—more secure. We can only hope that the existing security gaps will eventually be narrowed, rendering trains that run through the United States less viable targets for terrorist attacks. ☹️

Endnotes:

¹*The 9/11 Commission Report*, National Commission on Terrorist Attacks Upon the United States, 22 July 2004.

²Rail Transportation Security Rule, *Federal Register*, Vol. 73, No. 229, 26 November 2008.

³*Ibid.* As used in §1580.107, when the rail hazmat receiver and freight railroad carrier communicate and cooperate with each other to ensure the security of the railcar during the physical transfer of custody, they are “maintaining positive control” of the car.

⁴RSSM is defined as a railcar containing more than 2,268 kilograms (5,000 pounds) of a Division 1.1, 1.2, or 1.3 (explosive) material as defined in 49 Code of Federal Regulations (CFR) 173.50, a tank car containing a material poisonous by inhalation as defined in 49 CFR 171.8 (including anhydrous ammonia), Division 2.3 gases poisonous by inhalation as set forth in 49 CFR 173.115(c), or Division 6.1 liquids meeting the defining criteria in 49 CFR 173.132(a)(1) (iii) and assigned to Hazard Zone A or B in accordance with 49 CFR 173.133(a) (excluding residue quantities of these materials), or a railcar containing a highway route-controlled quantity of a Class 7 (radioactive) material as defined in 49 CFR 173.403.

⁵A list of HTUAs is contained in the *Federal Register*, Vol. 73, No. 229, Appendix A, 26 November 2008.

⁶49 CFR 174.14, Chapter I, “Movements To Be Expedited.” This so-called “48-Hour Rule” does not specify that a hazmat shipment must arrive at its destination within 48 hours—just that it be forwarded from one location to another within 48 hours.

⁷Carl Prine, “No Consensus on Rail Shipment Regulations,” *Pittsburg Tribune-Review*, 15 January 2007.

⁸Carl Prine, “Terror on the Tracks,” *Pittsburg Tribune-Review*, 14 January 2007.

⁹*2002 Economic Census: Transportation, 2002 Commodity Flow Survey*, U.S. Department of Transportation and U.S. Department of Commerce, December 2004.

¹⁰*Federal Register*, 26 November 2008. “Residue” refers to the hazmat remaining in a tank car after its contents have been unloaded to the maximum extent practicable and before the tank car is refilled or cleaned of hazmat and purged to remove any hazardous vapors.

¹¹*Ibid.*

¹²*Ibid.*

References:

49 CFR, *Transportation*, revised 1 October 2008.

Mandatory Hazmat Rerouting, Association of American Railroads, February 2008.

Captain Flowers is a chemical officer with the Reconnaissance Training Department, Technical Training Division (Reserve Component), U.S. Army Chemical, Biological, Radiological, and Nuclear School, Fort Leonard Wood, Missouri. He holds a bachelor's degree in law and a juris doctorate degree from the University of Costa Rica and a master's degree in international trade law from the University of Amsterdam, the Netherlands.

Managing Editor Receives Award

Mrs. Diane E. Eidson, managing editor of *Army Chemical Review*, received the 2008 Secretary of the Army Award for Publications Improvements (Departmental) during an 18 March 2009 ceremony at the Women in Military Service for America Memorial at the gates of Arlington National Cemetery, Arlington, Virginia. Lieutenant General David H. Huntoon Jr. (director of the Army Staff) and Dr. Lynn Heirakuji (Deputy Assistant Secretary of the Army for Personnel Oversight) assisted Secretary of the Army Pete Geren in presenting the award.

Under Mrs. Eidson's leadership, *Army Chemical Review* has seen a total revision in its operation. She and her staff—Mrs. Diana K. Dean (editor) and Mrs. Denise F. Sphar (visual information specialist)—have significantly improved the content, layout, and design of the publication to enhance visual appeal and increase readership. Mrs. Eidson developed production schedules and continually monitored progress for a more efficient, effective operation; and she established a new print contract that upgraded the paper quality and improved the appearance of the bulletin. She procured a new desktop publishing system and graphics programs to ensure that the bulletin was developed using the latest software available. The transformation (which included a new interactive Web site) also incorporated procedural changes, training, and education to develop the production staff.

Mrs. Eidson was nominated for the award by the U.S. Army Chemical, Biological, Radiological, and Nuclear School, Fort Leonard Wood, Missouri. ☹️



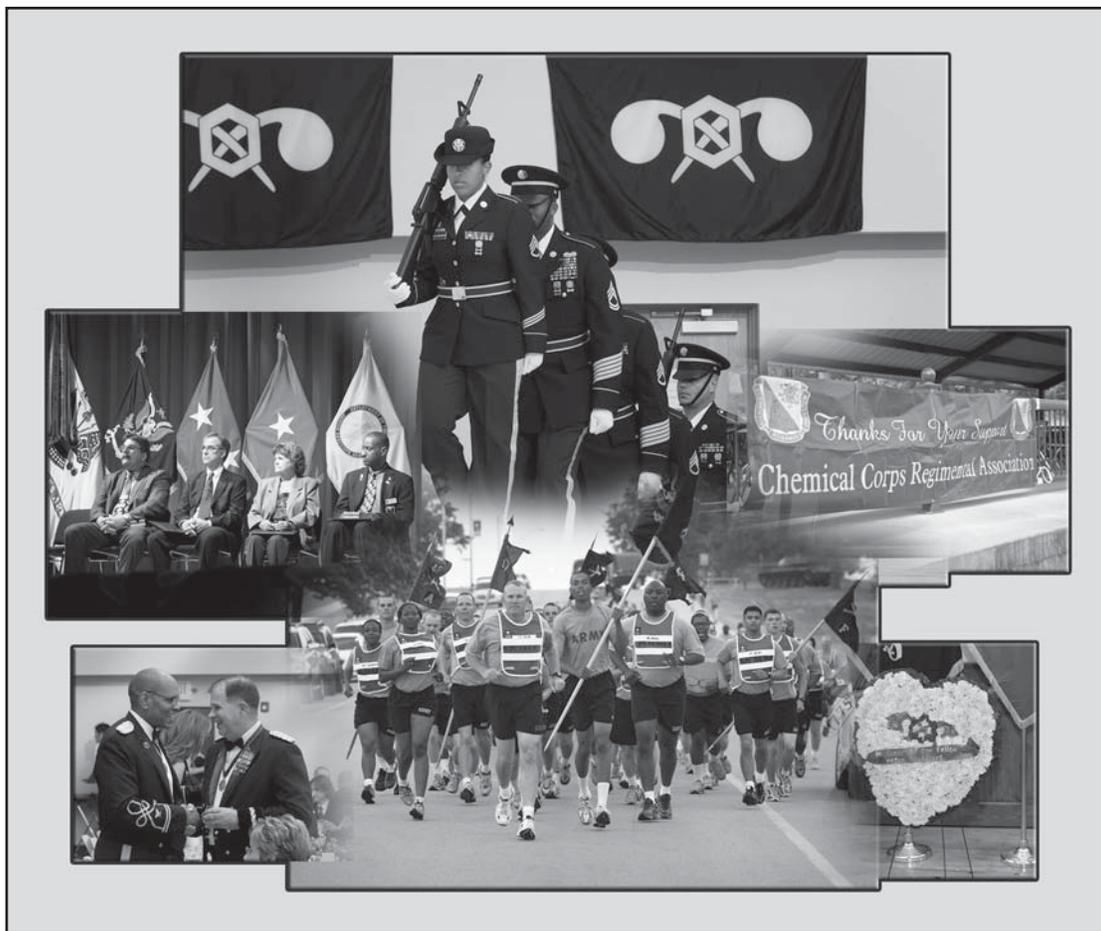


Regimental Week and NDIA JCBRN Conference Agenda

The 2009 U.S. Army Chemical Corps Regimental Week and National Defense Industrial Association (NDIA) Joint Chemical, Biological, Radiological, and Nuclear (JCBRN) Conference will be conducted at Fort Leonard Wood, Missouri, in June. The following schedule is provided for planning purposes, but is subject to change due to ongoing operational commitments. For additional information and last-minute changes, please visit the U. S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) public Web site at <http://www.wood.army.mil/cbrns/>.

Time	Event	Location
Monday, 22 June		
0700–0800	Golf Tournament Registration	Piney Valley Golf Course
0800–1400	Golf Tournament	Piney Valley Golf Course
1400–1600	Golf Tournament Barbecue	Piney Valley Golf Course
Tuesday, 23 June		
0930–1130	Combined Leadership Conference	Pershing Community Center
1130–1300	Combined Leadership Conference Luncheon	Pershing Community Center
1300–1700	Breakout	Pershing Community Center
1500–1800	NDIA JCBRN Conference Registration	Exhibit Pavilion
1700–1800	Regimental Room Ribbon-Cutting Ceremony	Regimental Room
1830–2100	General Officer/VIP Dinner (by invitation only)	—
1830–2100	Regimental Command Sergeant Major Icebreaker (by invitation only)	—
Wednesday, 24 June		
0730–0900	Regimental Review and Sibert Award Ceremony	Gammon Field
0730–0900	Registration and Continental Breakfast	Exhibit Pavilion
0730–1830	Exhibits Open	Exhibit Pavilion
0900–0915	Opening Ceremonies/Welcome	Baker Theater
0915–1130	NDIA JCBRN Conference	Baker Theater
1130–1330	Lunch	Exhibit Pavilion
1130–1230	International Luncheon	Regimental Room
1330–1530	NDIA JCBRN Conference	Baker Theater
1530–1700	Demonstrations	Baker Theater
1530	Closing Comments	Baker Theater
1700–1830	NDIA Reception	Exhibit Pavilion
1900–2000	Hall of Fame Reception (by invitation)	Pershing Community Center

Time	Event	Location
Thursday, 25 June		
0600–0700	“Honor to Our Fallen” Sunrise Service	Memorial Grove
0700–0800	Chemical Corps Regimental Association (CCRA) Corporate Breakfast	Pershing Community Center
0730–0900	Registration and Continental Breakfast	Exhibit Pavilion
0730–1330	Exhibits Open	Exhibit Pavilion
0830–1130	NDIA JCBRN Conference	Baker Theater
1130–1330	Lunch	Exhibit Pavilion
1330–1530	NDIA JCBRN Conference	Baker Theater
1530	Closing Comments	Baker Theater
1600–1700	Hall of Fame/Distinguished Members of the Corps Induction	Baker Theater
1900–2200	CCRA Members' Barbecue Social	St. Robert American Legion
Friday, 26 June		
0530–0700	Regimental Run	Gammon Field
0800–1600	Combined Warfighter Seminar	Lincoln Hall Auditorium
1730–2400	Green Dragon Ball	Nutter Field House



Scenes from the 2008 Regimental Week

Exercise Red Dragon 2009 and the CCMRF

By Lieutenant Colonel Michael S. Vail

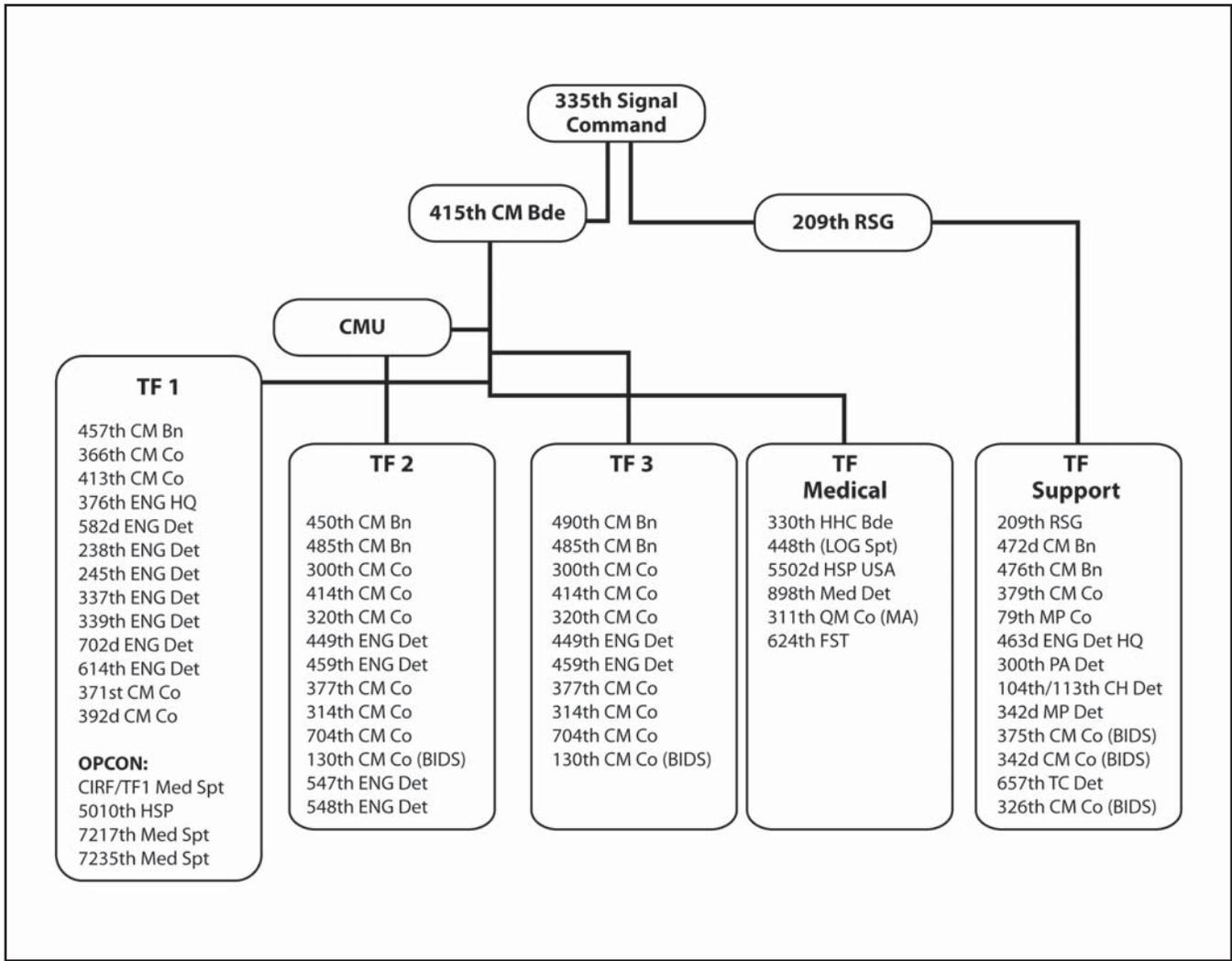
Red Dragon, which started out as a small exercise in 2004, continues to grow. About 3,000 Soldiers are expected to participate in Red Dragon 2009 at Fort McCoy, Wisconsin, 13–27 June. The exercise—which is designed to help improve U.S. Army Reserve defense support to civil authorities (DSCA) operations during an emergency response to a large-scale chemical, biological, radiological, and nuclear (CBRN) disaster—encompasses the following diverse military skill sets: chemical, medical, signal, military police, engineer (firefighting), quartermaster, transportation, mortuary affairs, chaplain, and public affairs. This year's exercise will involve interactions with first responders, including ten civilian hospitals, from four metropolitan areas in Wisconsin—Milwaukee, Madison, Lacrosse, and Fort McCoy.

The U.S. Army Reserve Command serves as the director, the 335th Signal Command (Theater) serves as the executive agent, and the 415th Chemical Brigade serves as the action agent for the exercise. Several military units involved are part of the homeland defense (HLD) entity known as the Chemical,

Biological, Radiological, Nuclear, and High-Yield Explosives Consequence Management Response Force (CCMRF), which was established by the Department of Defense (DOD) as a force that is trained and ready to respond to requests from civil authorities. The CCMRF fielding plan calls for three separate CCMRFs, providing the capability to respond to multiple, nearly simultaneous chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) events. The primary role of the CCMRF in responding to a CBRNE event is to augment the consequence management efforts of first responders by providing unique and complementary capabilities when the effects of a CBRNE event exceed state civilian and National Guard capabilities.

An exercise of this magnitude requires extensive coordination and planning, and these efforts began immediately following Red Dragon 2008. Under U.S. Army Reserve Command oversight, Army Reserve planners from the 415th Chemical Brigade and the 209th Regional Support Group (RSG) (who are primarily responsible for scenario development and





Exercise Red Dragon 2009 task organization (U.S. Army Reserve)

coordination with Wisconsin state, local, and National Guard officials) have worked with 335th Signal Command personnel to develop a realistic, well-scripted scenario that should provide a challenging training event for military and civilian authorities.

The end state objectives of Exercise Red Dragon 2009 are to—

- Successfully deploy all assigned units to Fort McCoy and execute intense, safe CBRN HLD training.
- Accomplish successful alerts and rapid responses for DSCA.
- Evaluate the operations of higher echelons to joint task force operations as they pertain to DSCA.
- Successfully integrate combat support and combat service support into brigade operations and integrate

the civil support task force into civilian response operations.

- Complete all training events and exercises using evaluations and after-action reviews and safely redeploy to the home station.

The extensive military and civilian response efforts for Exercise Red Dragon 2009 will be unlike those of any other HLD exercise. The stage is set for a truly remarkable training event in which participants will have the opportunity to showcase their CBRNE disaster relief effort capabilities. 🗣️

Lieutenant Colonel Vail is the operations officer for the 415th Chemical Brigade, Greenville, South Carolina.



CBRNE Response Measures for the 2009 Presidential Inauguration

By Major Jeremy J. DiGioia and Captain Jonathan Ebbert

“The Secretary of Defense shall provide military support to civil authorities for domestic incidents as directed by the President or when consistent with military readiness and appropriate under the circumstances and the law.”

—Homeland Security Presidential Directive (HSPD)-5¹

Mission of the JFHQ-NCR and MDW

The Joint Force Headquarters (JFHQ)–National Capital Region (NCR) plans, coordinates, maintains situational awareness and, when directed, employs forces for homeland defense and defense support to civil authorities in the NCR joint operations area to safeguard the Nation’s capital.

The U.S. Army Military District of Washington (MDW) serves as the Army force component and core staff element of the JFHQ-NCR for conducting operations that deter, prevent, and respond to threats aimed at the NCR and for conducting world-class ceremonial, musical, and special events in support of our Nation’s leadership.

The importance of the JFHQ-NCR/MDW mission cannot be overstated. After all, “the complexity and importance of the [NCR], combined with the changing and uncertain security requirement and man-made and natural disasters, create unique homeland security and preparedness challenges. The geographic area encompasses counties in Virginia and Maryland, as well as the District of Columbia. It is the epicenter of all three branches of government, 231 federal departments and agencies, and more than 7,000 political, social, and humanitarian nonprofit organizations.”²

Transition to the JTF-NCR

On 10 January 2009, the JFHQ-NCR transitioned to the Joint Task Force (JTF)–NCR to provide Department of Defense

(DOD) support and execute missions within the NCR joint operations area.

The symbolism of the 2009 Presidential Inauguration, coupled with the concentration of our Nation’s leadership in one place, provided a very lucrative target set for our adversaries. Therefore, significant measures were necessary to protect the safety of all participants and to ensure that our government could continue to function in the event of an attack.

The Secretary of the Department of Homeland Security designated the 2009 Presidential Inauguration as a national special security event (NSSE). This NSSE status, which covered the swearing-in ceremony at the U.S. Capitol, was also extended to the inaugural opening ceremony, the inaugural parade, the official White House reviewing stand on Pennsylvania Avenue, and associated inaugural balls. Extending NSSE status to these additional events allowed the full force of the federal government to develop event security and subsequent consequence management (CM) activities.

JTF-NCR DST

One of the essential tasks assigned to the JTF-NCR during the inaugural period was to provide CM response support following an incident. During ongoing mission analysis of the JTF-NCR supporting plan, certain scenarios emerged that would likely involve JTF-NCR response forces despite an undefined

and ambiguous threat. The planning approach focused on CM response planning for the most likely scenarios.

Within the framework of the commander’s vision, JTF capabilities that could be arrayed against each scenario were analyzed and a learning mechanism for assessing and responding to each scenario was developed. The resulting NSSE decision support template (DST) is shown in Figure 1. This DST provided a succinct snapshot of scenarios and response capabilities and proved invaluable in summarizing the complex CM planning for senior leadership inside and outside the command.

At the action officer level, work continued as each DST scenario was analyzed to determine an effective series of decision points for the JTF-NCR commander. These decision points were arrayed by function across a postincident timeline to provide a rough estimate of when the decisions would be made in relation to the incident and in temporal relation to each other. Figure 2, page 46, illustrates the first-priority scenario (an incident involving chemical, biological, radiological, nuclear, and high-yield explosives [CBRNE]), the timeline, eleven decision points, and applicable response forces.

Each of the eleven decision points was further parsed, eliciting a series of questions that the joint operations center and crisis action team used to develop scenario-specific situational awareness (What happened?) and situational understanding (How does it impact the JTF?). These questions were cross-referenced against existing JTF-NCR commander’s critical information requirements to facilitate the implementation and execution of DSTs. Figure 3, page 46, illustrates Decision Point 1-2 of the CBRNE scenario. This decision point revealed a gap in response capabilities; notification of this shortcoming was forwarded to the U.S. Northern Command for sourcing.

Development of the CBRNE Response Plan

Capability gaps were identified through the analysis of the NSSE DST. These gaps were the impetus for the CBRNE response plan for the inauguration. And multiple requests for assistance from the U.S. Secret Service (USSS) (the primary federal agency for the 2009 Presidential Inauguration) aided in the development of the plan.

To address these capability gaps and fully comply with the USSS requests for assistance, the JFHQ-NCR and MDW held weekly CBRNE working group meetings with subordinate units, interagency partners, and Title 32³ representatives. During these meetings, participants detailed their CBRNE capabilities.

In addition to the CBRNE working groups, the USSS chaired multiple subcommittees (crisis management, infrastructure protection), during which potential CBRNE response capabilities were often the most important discussion point. Our interagency partners were elated to learn that the DOD—specifically, the JFHQ-NCR and MDW—was taking a very proactive approach in planning for potential CBRNE response activities.

Concept of CBRNE Response Operations: “An Aid to Good Behavior”

The JTF-NCR commander continually emphasized to his staff that, in addition to providing world-class ceremonial support during the inauguration, DOD forces could be called upon to execute any number of missions, ranging from civil disturbance assistance to all-hazard CM. In any event, the JTF-NCR would be prepared to support the primary federal agency, as requested, and ultimately serve as “an aid to good behavior.”

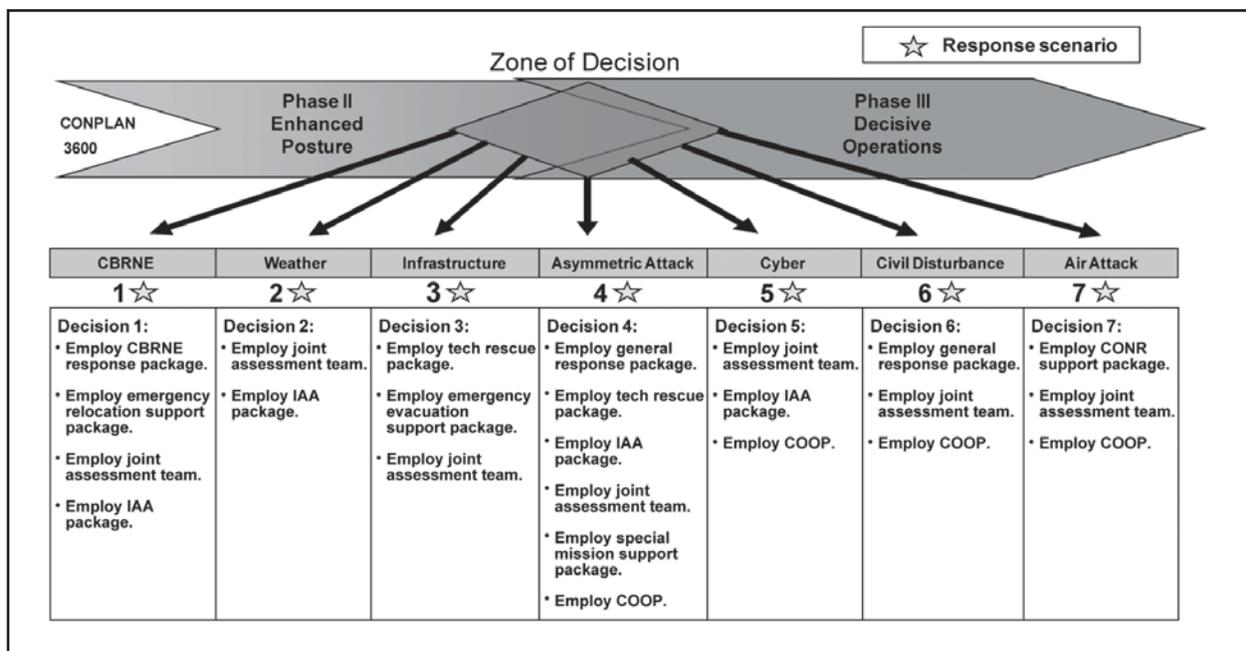


Figure 1. NSSE DST

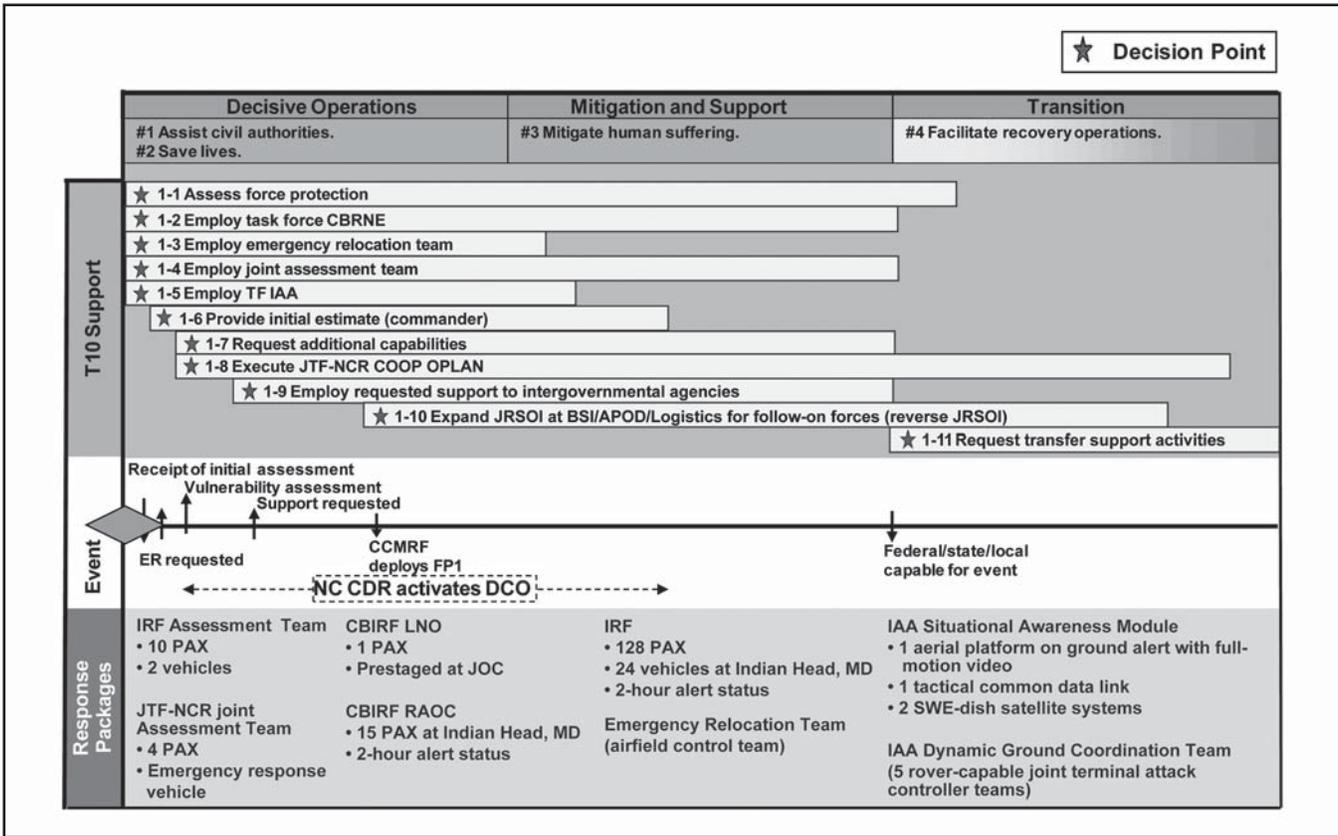


Figure 2. Commander's CBRNE DST-1

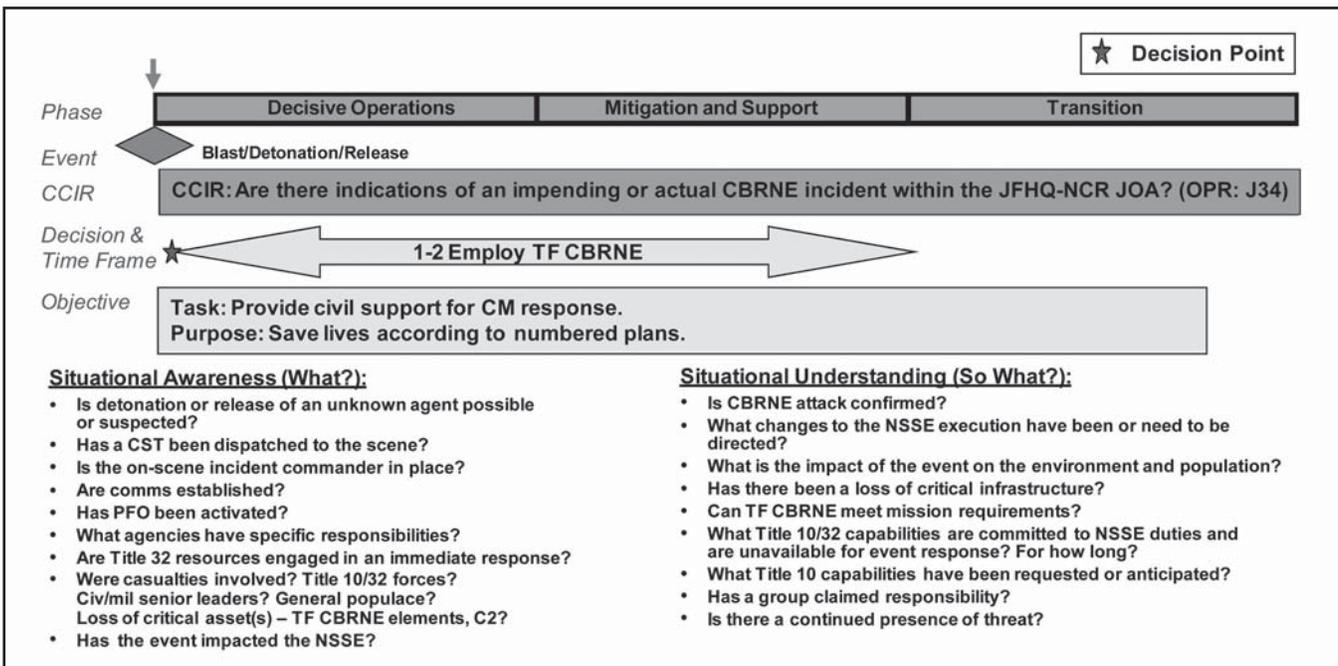


Figure 3. Commander's Decision Point 1-2

Though local, state, and federal emergency first responders were the centerpiece of any response or recovery effort necessary during the inaugural period, a multitude of Title 10⁴ and Title 32 DOD CBRNE assets were available to respond if necessary.

Title 10 CBRNE Forces

The following active duty CBRNE CM response capabilities were positioned at intermediate staging bases to facilitate a rapid DOD response:

- **U.S. Marine Corps chemical-biological incident response force (CBIRF).** A special-purpose incident response force was staged on the National Mall for immediate response activities (extraction, decontamination). A second incident response force was preloaded on a landing craft, air cushion (LCAC) located at the home station.
- **Defense Threat Reduction Agency consequence management advisory team (CMAT).** This team provided hazard prediction modeling, reachback capabilities, and subject matter expertise.
- **20th Support Command (CBRNE) weapons of mass destruction (WMD) coordination element.** This element provided subject matter expertise and assistance with the integration of CBRNE CM assets into current and future plans.
- **JTF–Civil Support joint planning and augmentation cell.** This cell provided a future operations planning (branches, sequels) capability.

Title 32 CBRN Forces

To meet the chemical, biological, radiological, and nuclear (CBRN) and CM requirements of local and federal agency partners and to facilitate a rapid DOD and interagency response, the District of Columbia National Guard established a Task Force (TF)–CBRN headquarters and developed a rapid detection team (RDT) concept of operations comprised of the following:

- **TF-CBRN headquarters.** This headquarters was established to provide command and control, communications, and intelligence information in support of the mission. TF-CBRN was staffed by the Command, Operations, Communications, and Medical components of the 31st WMD–Civil Support Team (CST), Delaware; 32d WMD-CST, Maryland; 33d WMD-CST, District of Columbia; and 34th WMD-CST, Virginia.
- **Four mobile RDTs.** Each RDT was comprised of three CST personnel and interagency personnel from the District of Columbia Fire and Emergency Medical Services, Metropolitan Police Department, U.S. Department of Energy, and Federal Bureau of Investigation (FBI). RDTs were located throughout the National Mall for rapid response, identification, and subsequent assessment and analysis.
- **Two Rapid Support Teams (RSTs).** Each RST was comprised of technical decontamination teams, the Analytical Laboratory Suite, and a command and control element. The RSTs were positioned on the National Mall to support RDT elements.

- **The 31st WMD-CST.** The 31st WMD-CST provided biological agent detection support on the National Mall.
- **35th WMD-CST, West Virginia.** The 35th WMD-CST was pre-positioned in Alexandria, Virginia, in a reserve capacity.
- **Virginia Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Enhanced Response Force Package (CERFP).** The Virginia CERFP was pre-positioned at Fort A. P. Hill, Virginia.
- **West Virginia CERFP.** The West Virginia CERFP was staged at Martinsburg, West Virginia.
- **Pennsylvania CERFP.** The Pennsylvania CERFP was staged at Fort Indiantown Gap, Pennsylvania.

Synchronization of Response Capabilities

Due to the size, scope, and complexity of the CBRNE response forces for the inauguration (Title 10, Title 32, interagency), the synchronization of response capabilities proved to be a difficult task; however, the JTF-NCR understood its importance. Synchronization was accomplished via a series of detailed, in-depth tabletop exercises involving participants from every major interagency partner within the NCR. DOD and interagency CBRNE capabilities were discussed during these tabletop exercises, and the construct facilitated the true joint and interagency synergy required for mission accomplishment during the inaugural period.

Conclusion

The 2009 Presidential Inauguration was an incredibly unique event with challenges at every step. Developing a successful CBRNE response plan required ingenuity, detailed planning, and determination. In the end, the inauguration was executed without incident—a testament to interagency teamwork and top-to-bottom vigilance. If a CBRNE CM event had occurred, the DOD was postured and ready to provide defense support to civil authorities to mitigate the circumstances to prevent conditions. 

Endnotes:

¹HSPD-5, *Management of Domestic Incidents*, 28 February 2003.

²JFHQ-NCR/MDW Strategic Plan, February 2008.

³United States Code (USC), Title 32, *National Guard*.

⁴USC, Title 10, *Armed Forces*.

Major DiGioia is the chief of the Emergency Preparedness Branch, JFHQ-NCR and MDW. He holds a bachelor's degree in communication sciences from Arizona State University and a master's degree in environmental management from Webster University.

Captain Ebbert is the operations officer of the 33d WMD-CST, Washington, D.C. He holds a bachelor's degree in history from the Virginia Polytechnic Institute and State University (commonly referred to as Virginia Tech).

DOCTRINE UPDATE

U.S. Army Maneuver Support Center Directorate of Training Doctrine Development Division

Publication Number	Title	Date	Description
Current Publications			
FM 3-11 MCWP 3-37.1 NWP 3-11 AFTTP(I) 3-2.42	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Defense Operations	10 Mar 03	A multiservice tactics, techniques, and procedures (MTTP) manual which provides commanders and staffs a key reference for the planning and execution of service chemical, biological, radiological, and nuclear (CBRN) defense operations, with focus on the passive-defense component of counterproliferation. Status: Under revision Fiscal Year (FY) 2009.
FM 3-11.3 MCRP 3-37.2A NTTP 3-11.25 AFTTP(I) 3-2.56	Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Contamination Avoidance	2 Feb 06	An MTTP manual for conducting CBRN contamination avoidance. Status: Current.
FM 3-11.4 MCWP 3-37.2 NTTP 3-11.27 AFTTP(I) 3-2.46	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical (NBC) Protection	2 Jun 03	An MTTP manual which establishes principles for CBRN protection and addresses individual and collective protection (COLPRO) considerations for the protection of the force and civilian personnel. Status: Current.
FM 3-11.5 MCWP 3-37.3 NTTP 3-1.26 AFTTP(I) 3-2.60	Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination	4 Apr 06	An MTTP manual which addresses the principles and levels of CBRN decontamination operations in a tactical environment. Status: Current.
FM 3-6 (FM 3-11.6) AFM 105-7 FMFM 7-11-H	Field Behavior of NBC Agents (Including Smoke and Incendiaries)	3 Nov 86	An MTTP manual which addresses the battlefield influences of weather and terrain and the use of smoke and obscurants on CBRN operations. Status: Under revision FY09 (will be renumbered FM 3-11.6 and supersede FM 3-6, FM 3-11.14, and FM 3-101).
FM 3-11.9 MCRP 3-37.1B NTRP 3-11.32 AFTTP(I) 3-2.55	Potential Military Chemical/Biological Agents and Compounds	10 Jan 05	An MTTP manual which provides commanders and staffs with general information and technical data concerning chemical-biological (CB) agents and other compounds of military interest, such as toxic industrial chemicals (TICs). Status: Current.
FM 3-11.11 MCRP 3-3.7.2	Flame, Riot Control Agent, and Herbicide Operations	19 Aug 96 C1 10 Mar 03	An MTTP manual which describes the tactics, techniques, and procedures (TTP) for employing flame weapons, riot control agents (RCAs), and herbicides during peacetime and combat. Distribution of this manual is restricted due to the sensitive nature of the information contained in it. Status: Current.
FM 3-11.14 MCRP 3-37.1A NTTP 3-11.28 AFTTP(I) 3-2.54	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Vulnerability Assessment	28 Dec 04	An MTTP manual for conducting CBRN vulnerability assessments; analyzing, managing, and assessing risks; and measuring, mitigating, and reducing vulnerabilities. Status: Under revision FY09 (to be consolidated with FM 3-11.6).
FM 3-11.19 MCWP 3-37.4 NTTP 3-11.29 AFTTP(I) 3-2.44	Multiservice Tactics, Techniques, and Procedures for Nuclear, Biological, and Chemical Reconnaissance	30 Jul 04	An MTTP manual for planning and conducting CBRN reconnaissance operations to detect, define, limit, mark, sample, and identify CBRN and toxic industrial material (TIM) contamination. Status: Under revision FY09 (will be combined with and supersede FM 3-11.86).
FM 3-11.20	Technical Escort Battalion Operations	29 Aug 07	An Army-only manual which provides the TTP for the employment of technical escort battalions. Distribution of this manual is restricted due to the sensitive nature of the information contained in it. Status: Current.
<p>NOTE: Current CBRN publications can be accessed and downloaded in electronic format from the Reimer Digital Library at <http://www.adtdl.army.mil/>, Chemical Knowledge Network (CKN) at <https://www.us.army.mil/suite/portal.do?&p=409522>, or Maneuver Support Knowledge Network (MSKN) at <https://www.us.army.mil/suite/page/275589>.</p>			

DOCTRINE UPDATE

U.S. Army Maneuver Support Center Directorate of Training Doctrine Development Division

Publication Number	Title	Date	Description
Current Publications (Continued)			
FM 3-11.21 MCRP 3-37.2C NTTP 3-11.24 AFTTP(I) 3-2.37	Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Consequence Management Operations	1 Apr 08	An MTTP manual which provides commanders and staffs a key reference for mitigating the CBRN aspects of consequence management. Status: Current.
FM 3-11.22	Weapons of Mass Destruction–Civil Support Team Operations	10 Dec 07	An Army-only manual which provides the suggested doctrinal TTP for use by weapons of mass destruction–civil support teams (WMD-CSTs), which are designed to provide support to local, state, and federal response systems. Status: Current.
FM 3-11.34 MCWP 3-37.5 NTTP 3-11.23 AFTTP(I) 3-2.33	Multiservice Tactics, Techniques, and Procedures for Installation CBRN Defense	6 Nov 07	An MTTP manual which provides a reference for planning, resourcing, and executing CBRN defense of theater fixed sites, ports, and airfields. Status: Current.
FM 3-11.50	Battlefield Obscuration	31 Dec 08	An Army-only manual which provides TTP to plan obscuration operations and employ obscurants during or in support of full spectrum military operations at the tactical through operational levels of war. Status: Current.
FM 3-11.86 MCWP 3-37.1C NTTP 3-11.31 AFTTP(I) 3-2.52	Multiservice Tactics, Techniques, and Procedures for Biological Surveillance	4 Oct 04	An MTTP manual for planning and conducting biological surveillance operations to monitor, detect, sample, identify, report, package, and evacuate samples of biological warfare agents. Status: Under revision (to be consolidated with FM 3-11.19).
FM 3-101	Chemical Staffs and Units	19 Nov 93	An Army-only manual which provides fundamental principles for chemical staff functions, command and control of chemical units, and chemical unit employment. Status: Under revision FY09 (to be consolidated with FM 3-11.6).
FMI 3-90.10	Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Operational Headquarters	24 Jan 08	An Army-only tactics manual which provides the basic doctrine for the employment of a chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) operational headquarters to conduct tactical-level weapons of mass destruction elimination (WMD-E) operations or transition to a joint task force-capable headquarters for WMD-E operations to support campaigns and civil authorities. Status: Under revision FY09.
<p>NOTE: Current CBRN publications can be accessed and downloaded in electronic format from the Reimer Digital Library at <http://www.adtdl.army.mil/>, CKN at <https://www.us.army.mil/suite/portal.do?p=409522>, or MSKN at <https://www.us.army.mil/suite/page/275589>.</p>			
Emerging Publications			
FM 3-11.2	Multiservice Tactics, Techniques, and Procedures for Weapons of Mass Destruction Elimination (WMD-E) Operations	To be determined	An MTTP manual that provides the tactical doctrine and associated TTP that each Service provides in support of the joint WMD-E mission area in an effort to operate systematically to locate, secure, disable, and/or destroy a state or nonstate actor's WMD programs and related capabilities. Status: Under development FY09.
<p>NOTE: CBRN draft publications can be accessed and downloaded in electronic format from CKN at <https://www.us.army.mil/suite/portal.do?p=409522> or MSKN at <https://www.us.army.mil/suite/page/275589>.</p>			



RESERVE COMPONENT UPDATE

Professional Military Education

Soldier/Noncommissioned Officer Qualification Training. Five courses are instructed by five Total Army School System (TASS) chemical, biological, radiological, and nuclear (CBRN) battalions at Fort Leonard Wood, Missouri. Additional information (including dates, times, course requirements, and handouts) is available for the following courses (School Code R031) on the Army Training Requirements and Resources System at <https://www.atrrs.army.mil/>:

- **74D10 (Transition) Military Occupational Specialty (MOS) Course.** This is a four-phase course (formerly the Reclassification Course). Phase I is provided through distributed learning (dL). Soldiers who experience problems with Phase I should telephone the Army Correspondence Course Program at (800) 275-2872 (Option 2) or (757) 878-3322/3335; if no Army Correspondence Course representative is available, they should contact Ms. Karen Campbell, 3d Brigade (Chemical), at (860) 570-7117 or karen.a.campbell@usar.army.mil. Phases II–IV consist of resident training conducted at the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), Fort Leonard Wood; and Soldiers can now complete them consecutively. This course is expected to be reduced to three phases in mid-2009.
- **74D Basic Noncommissioned Officer Course (BNCOC).** This is a four-phase course. Phase I, which is common to all MOSs, is offered as resident training at various locations. Phases II–IV consist of 74D-specific resident training at USACBRNS.
- **74D Advanced Noncommissioned Officer Course (ANCOC).** This is a three-phase course. There is no dL portion; the entire course is provided through classroom instruction at USACBRNS.
- **CBRN Defense Course.** This course is conducted by TASS battalions at various locations.
- **Joint Biological Point Detection Systems Course.** This course (formerly the Biological Integrated Detection System Course) is conducted by TASS battalions at Fort McClellan, Alabama.

Note: The TASS Training Center is now operational at Fort Leonard Wood. The U.S. Army Reserve (USAR) plans to build an equipment set to alleviate availability issues.

Officer Training. The Reserve Component Chemical, Biological, Radiological, and Nuclear Captain's Career Course (RC-CBRNC3) is a five-phase course. Phase requirements are currently undergoing revision; and until further notice, Phase I (also referred to as C5) is no longer available. Phase II, which is still required, is branch-specific and provided through dL. Soldiers who experience problems with Blackboard while completing Phase II should telephone the Blackboard Help Desk at (800) 275-2872 (Option 2). Phase IV is currently under development and not yet available. Phases III and V are two-week resident training sessions conducted at the USACBRNS. Phase III is branch-specific, focusing on radiological operations; live, toxic-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 Phase III attendance. Phase V consists of 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. Phases III and V will be offered in July 2009.

If you are a field grade Reserve Component (RC) officer and want to transfer into the Chemical Corps, contact the USACBRNS Deputy Assistant Commandant–Reserve Component (DAC-RC) for specific branch qualification information. You should also plan to attend the Joint Senior Leader's Course at Fort Leonard Wood and complete the RC Senior Officer Course via dL. The Joint Senior Leader's Course is a four-day course that offers outstanding presentations; training at the Chemical, Biological, Radiological, and Nuclear Decontamination Training Facility; and the opportunity to interface with attendees from across the Services.

CBRN Emergency Response Force Package (CERFP), CBRN Consequence Management Response Force (CCMRF), and Civil Support Team (CST) Training

The following training is available for USAR and Army National Guard (ARNG) Soldiers:

- **Mass Casualty Decontamination Course.** The USACBRNS offers a ten-day Mass Casualty Decontamination Course (School Code 031, Course 4K-F25/494-F-30), which is appropriate for CERFP and domestic-response casualty decontamination team members. In addition, CERFP members may complete the class to obtain operations level training.



- **CBRN Responder Course.** Anyone requiring hazmat technician level training may complete the CBRN Responder Course (School Code 031, Course 4K-F24/494-F29). The ten-day course is appropriate for CCMRF members requiring hazmat technician certification. Personnel may also complete the course to obtain hazmat operations level training.
- **Civil Support Skills Course.** This eight-week course (School Code 031, Course 4K-F20/494-28) is typically attended by ARNG CST members, but members of all Services and components may attend. Students receive advanced training in hazmat technician and incident command and CBRN survey, point reconnaissance, and sampling operations in support of an incident commander at a weapons of mass destruction site. The course provides training in command, control, and communications operations; personal protective equipment selection and use; and individual decontamination procedures. It also provides specialized training on a variety of military and commercial CBRN detection equipment and self-contained breathing apparatus certification. This course contains practical application and field training exercises and culminates with a situational training exercise.

Note: All students who successfully complete these courses are awarded certificates issued by the International Fire Service Accreditation Congress (IFSAC) and the Department of Defense (DOD). Additional copies of certificates can be obtained from <<http://www.dodffcert.com>>.

CBRN Brassard

The CBRN brassard is not a patch. It is authorized for wear by operational units dealing with weapons of mass destruction—civil support teams, CERFPs, CCMRFs, consequence management advisory teams, and chemical reconnaissance teams. Units deployed in support of the War on Terrorism are also authorized to wear the CBRN brassard. Soldiers who perform these types of missions are not authorized to wear the brassard while in temporary-duty status, including attendance at advanced individual training, the 74D10 (Transition) MOS Course, Noncommissioned Officer (NCO) Education System courses, and Officer Education System courses. Similarly, members of units that redeploy or are terminated from their missions must remove the brassard. For further clarification, contact Sergeant Major Gwendolyn Evans at (573) 563-7376 or <gwendolyn.evans@conus.army.mil>.

Free Online Hazmat Training

Soldiers who successfully complete the 74D10 (Transition) MOS Course, BNCOC, ANCO, RC-CBRNC3 (Phase III), and functional courses (Mass Casualty Decontamination, Civil Support Skills, CBRN Dismounted Reconnaissance, CBRN Responder, and Technical Escort) are certified at the awareness, operations, or technician level depending on the course attended. Soldiers may prepare for and increase their success rate in these courses by completing online Hazmat Awareness Training and IFSAC certification at <<https://afcesa.csd.disa.mil>>. If there are any problems, contact the appropriate proponent NCO below.

USACBRNS RC Job Opportunities

Drilling individual mobilization augmentee (DIMA) positions. There are twenty authorized DIMA positions throughout USACBRNS, with twelve officer slots (O-3 through O-5) and eight noncommissioned officer slots (E-7 through E-9). Some of these slots are currently open. The mission is to expand the USACBRNS training base in the event of full mobilization. We currently support and train the RC-CBRNC3. Our goal is 100 percent manning with qualified instructors. If you are ready to join our team, contact us!

Instructors and writers. There are USACBRNS administrative active duty for operational support opportunities (ADOS) available for MOS 74-series RC instructors and writers in grades E-5 through E-7 and O-2 through O-4. If you are interested in these opportunities, contact the appropriate proponent NCO below.

Contact Information

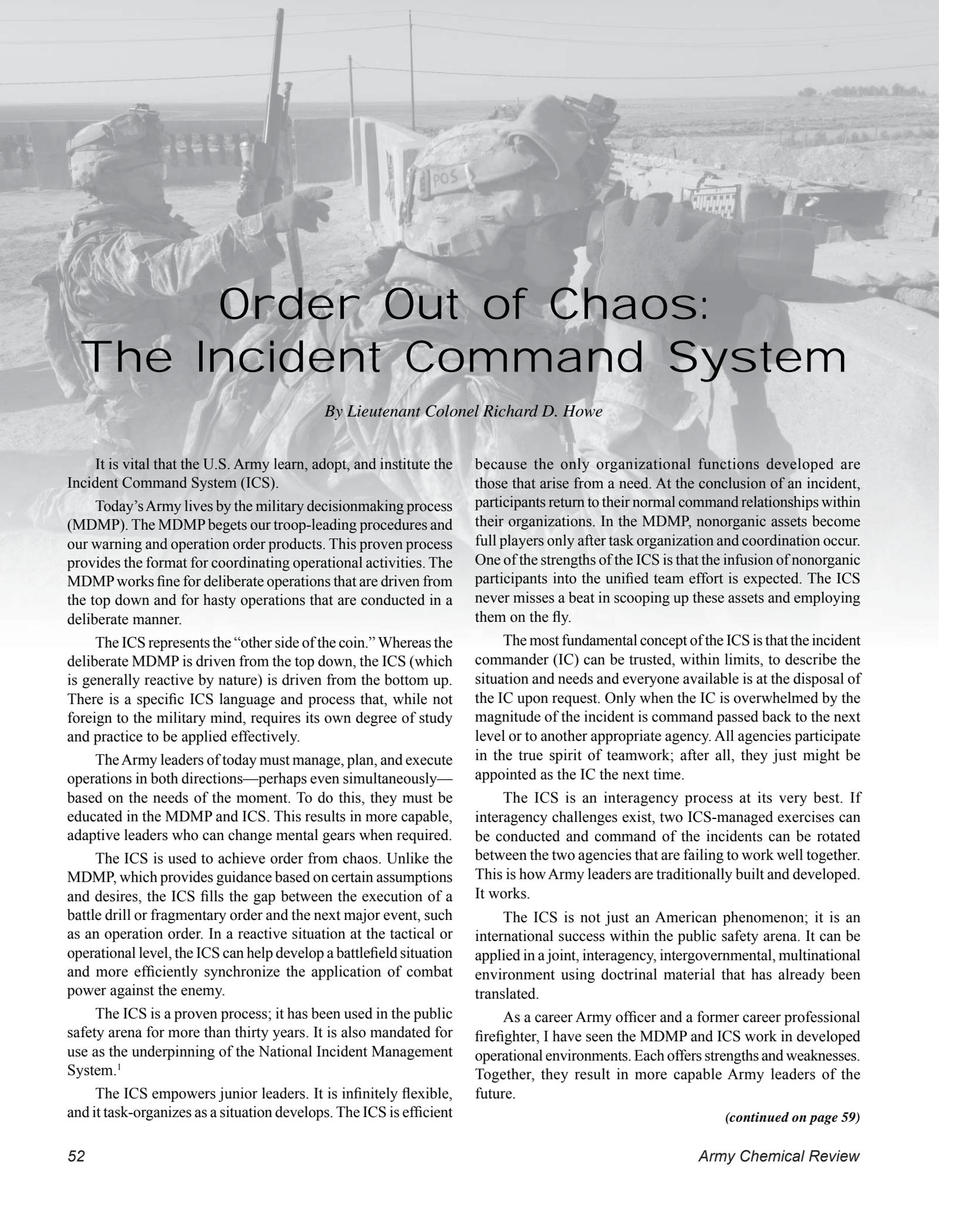
Colonel Lawrence Meder (DAC-RC), (573) 563-8050 or <lawrence.meder@us.army.mil>.

Sergeant Major Richard Lamy (USAR RC Liaison Officer Advisor), (573) 596-2141 or <richard.lamy@us.army.mil>.

Master Sergeant Mark Vasquez (USAR Proponent NCO), (573) 563-7757 or <margarito.vasquez@us.army.mil>.

Master Sergeant Robert Wheat (ARNG Proponent NCO), (573) 563-7667 or <robert.a.wheat@us.army.mil>.

Ms. Sandy Meyer (Secretary), (573) 563-6652 or <sandy.meyer@us.army.mil>.



Order Out of Chaos: The Incident Command System

By Lieutenant Colonel Richard D. Howe

It is vital that the U.S. Army learn, adopt, and institute the Incident Command System (ICS).

Today's Army lives by the military decisionmaking process (MDMP). The MDMP begets our troop-leading procedures and our warning and operation order products. This proven process provides the format for coordinating operational activities. The MDMP works fine for deliberate operations that are driven from the top down and for hasty operations that are conducted in a deliberate manner.

The ICS represents the "other side of the coin." Whereas the deliberate MDMP is driven from the top down, the ICS (which is generally reactive by nature) is driven from the bottom up. There is a specific ICS language and process that, while not foreign to the military mind, requires its own degree of study and practice to be applied effectively.

The Army leaders of today must manage, plan, and execute operations in both directions—perhaps even simultaneously—based on the needs of the moment. To do this, they must be educated in the MDMP and ICS. This results in more capable, adaptive leaders who can change mental gears when required.

The ICS is used to achieve order from chaos. Unlike the MDMP, which provides guidance based on certain assumptions and desires, the ICS fills the gap between the execution of a battle drill or fragmentary order and the next major event, such as an operation order. In a reactive situation at the tactical or operational level, the ICS can help develop a battlefield situation and more efficiently synchronize the application of combat power against the enemy.

The ICS is a proven process; it has been used in the public safety arena for more than thirty years. It is also mandated for use as the underpinning of the National Incident Management System.¹

The ICS empowers junior leaders. It is infinitely flexible, and it task-organizes as a situation develops. The ICS is efficient

because the only organizational functions developed are those that arise from a need. At the conclusion of an incident, participants return to their normal command relationships within their organizations. In the MDMP, nonorganic assets become full players only after task organization and coordination occur. One of the strengths of the ICS is that the infusion of nonorganic participants into the unified team effort is expected. The ICS never misses a beat in scooping up these assets and employing them on the fly.

The most fundamental concept of the ICS is that the incident commander (IC) can be trusted, within limits, to describe the situation and needs and everyone available is at the disposal of the IC upon request. Only when the IC is overwhelmed by the magnitude of the incident is command passed back to the next level or to another appropriate agency. All agencies participate in the true spirit of teamwork; after all, they just might be appointed as the IC the next time.

The ICS is an interagency process at its very best. If interagency challenges exist, two ICS-managed exercises can be conducted and command of the incidents can be rotated between the two agencies that are failing to work well together. This is how Army leaders are traditionally built and developed. It works.

The ICS is not just an American phenomenon; it is an international success within the public safety arena. It can be applied in a joint, interagency, intergovernmental, multinational environment using doctrinal material that has already been translated.

As a career Army officer and a former career professional firefighter, I have seen the MDMP and ICS work in developed operational environments. Each offers strengths and weaknesses. Together, they result in more capable Army leaders of the future.

(continued on page 59)

Last VX Nerve Agent in CMA Stockpile Destroyed

By Mr. Greg Mahall

The U.S. Army Chemical Materials Agency (CMA) completed the destruction of all VX nerve agent munitions at U.S. chemical weapons destruction sites on 24 December 2008. This milestone was reached when the last land mine containing VX was destroyed at the Anniston Chemical Agent Disposal Facility (ANCDF), Anniston, Alabama.

CMA personnel and contractors previously destroyed VX nerve agent munitions at five other disposal sites: Umatilla Chemical Depot, Oregon; Newport Chemical Depot, Indiana; Pine Bluff Chemical Activity, Arkansas; Deseret Chemical Depot, Utah; and Johnston Atoll Chemical Agent Disposal System, about 800 miles southwest of Hawaii. The only nerve agent remaining for CMA to destroy is tabun (GA), located at the Deseret Chemical Depot.

The ANCDF site project manager, Mr. Timothy K. Garrett, declared, “We have reached a truly remarkable milestone following more than five years of deliberate, but careful, operations. All nerve agent munitions—those containing GB [sarin] and those containing VX—have been safely processed.”

“The elimination of the deadly chemical agent from each site’s stockpile is a relief to the stockpile communities and a sign of our commitment to other nations as we move one step closer to a safer world,” said the director of the CMA, Mr. Conrad Whyne. “I commend Anniston and all CMA destruction sites on this extraordinary achievement. By destroying the VX agent at each of CMA’s destruction sites, you have made the world a much safer place,” he said.

The CMA continues to safely and securely store the remaining VX in the U.S. chemical weapons stockpile located at the Blue Grass Chemical Activity, Kentucky. A separate Department of Defense organization—the U.S. Army Element, Assembled Chemical Weapons Alternatives—is charged with its destruction. A neutralization facility is under construction at that site.

VX was originally developed in the early 1950s; all of the Nation’s stockpiled VX (about 4,400 tons) was originally produced at the Newport Chemical Depot between 1961 and 1969. VX is the least volatile, but most potent, of all chemical warfare agents. Its effects are similar to those of pesticides—it attacks the nervous system, causing muscles to convulse

uncontrollably. Exposure can result in convulsions, paralysis, loss of consciousness, respiratory failure, and death. The United States never used VX in combat, and the Newport production facility was destroyed in 2006.

The destruction of chemical weapons is complete at the Newport Chemical Depot; Johnston Atoll Chemical Agent Disposal System; and Edgewood Chemical Activity, Maryland. The CMA is destroying or preparing to destroy blister agents at the ANCDF, Umatilla Chemical Depot, Pine Bluff Chemical Activity, and Deseret Chemical Depot. Chemical agent munitions continue to be safely stored at the Blue Grass Chemical Activity and at the Pueblo Chemical Depot, Colorado.

Additional information about the elimination of VX nerve agent munitions can be found at <http://www.cma.army.mil/endofvx.aspx>.

Mr. Mahall is the chief of the CMA Public Affairs Office. He holds a bachelor’s degree in communications from Saint Louis University, Saint Louis, Missouri.



Munitions handlers display markings on the last M23 VX land mine, denoting the end of nerve agent munitions processing at the ANCDF and the end of VX destruction for the CMA.

2009 Writing Contest

Each year, the Chemical Corps Regimental Association sponsors a writing contest to stimulate thinking and writing on issues of interest to the Chemical Corps. The contest is open to military personnel in all branches and services, including allied nations, and civilians of any nationality. The topics for the 2009 writing contest are—

- **The Chemical Corps Vision.** Visions, if they are successful, give us a positive, achievable view of our future. We have such a Vision. Now, how should we go about achieving it? What should come first?
- **Chemical, biological, radiological, and nuclear (CBRN) reconnaissance functions in the contemporary operational environment.** Describe how CBRN reconnaissance functions promote success in support of protection warfighting functions during full spectrum operations. Present the key and essential staff functions (from battalion through Army echelon levels) using a modular model. Illustrate the similarities and differences at each echelon, and determine how staffs at each level support the Army operations process (plan, prepare, execute, and continually assess). Present CBRN unit capabilities from team to brigade levels. Describe the CBRN unit commanders' roles for CBRN reconnaissance, and address the unit commanders' integration with supported commanders' staffs and joint force command operations. Finally, compare and contrast CBRN reconnaissance capabilities and responsibilities among various full spectrum operational themes (major combat operations [offense and defense], stability operations, and civil support operations).
- **Transformation from CBRN to chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE).** Describe the entire range of chemical, biological, and radiological hazards and how they relate to terms such as nuclear, biological, and chemical (NBC) and CBRN. Present arguments for changing our fundamental focus from NBC to CBRN. Propose a definition and descriptive discussion on CBRN hazards. Using this foundation, describe what is necessary to expand the scope of hazards from CBRN to CBRNE. What is the impact on Army organizations at various echelons? Are there existing organizational models that may serve as a baseline for future Army capabilities? Present arguments to compare and contrast a CBRN hazard focus against an expanded CBRNE focus.
- **Capabilities and manpower requirements in the infantry brigade combat team (IBCT) organic CBRN reconnaissance platoon.** Using lessons learned from Operations Iraqi Freedom and Enduring Freedom, the Chemical Corps recognized a capability gap in the ability of general-purpose CBRN units to assess the full range of hazards (particularly the ability to assess sensitive-site areas). The organic CBRN reconnaissance platoons in the IBCTs are extremely limited in their ability to provide adequate dismounted CBRN reconnaissance support to the brigade combat team. The platoon transport platform also offers inadequate survivability protection. A 2006 limited-objective experiment resulted in the determination that IBCT reconnaissance platoons could better provide commanders with CBRN hazard assessment analyses if they were equipped with a Joint CBRN Dismounted Reconnaissance System (JCDRS). The information gained from the JCDRS would determine if a hazard warrants further exploitation, can be mitigated using organic assets or with help from force-pooled CBRN units, or should be abandoned. An analysis is still needed to determine if the IBCT CBRN reconnaissance platoon is properly organized with eight personnel, two wheeled vehicles, and a dismounted commercial, off-the-shelf (COTS) CBRN reconnaissance system with a Level B protective ensemble for detection, identification, and limited sampling. Do platoons need a Level A capability? Can a small, eight-man platoon maintain training proficiency for Level A requirements? Can an IBCT fund sustainment training and equipment maintenance? Will eight personnel be enough to adequately provide site assessment, command and control, search, and support functions (including emergency extraction and limited decontamination operations)?
- **Open category.** Write about another CBRN-related topic with a training, current-mission, or historical focus.

All articles should be submitted as a double-spaced paper manuscript accompanied by a compact disk containing the file in Microsoft Word format. All articles should contain 500 to 2,000 words and include the appropriate footnotes, bibliography, and graphic support. If digital photographs are submitted, they should be saved at a resolution of no less than 200 dots per inch and at 100 percent of the actual size. All submissions should include a cover sheet with the author's name, title, organization, mailing

address, and short biography. To ensure anonymity in the selection process, the author's name should not appear in the manuscript itself. The selection panel will rank submissions on a 100-point scale, with up to 40 points assigned for writing clarity, 30 points for relevance to CBRN Soldiers, 20 points for general accuracy, and 10 points for originality. The deadline for submissions is **5 January 2010**. Please forward your submissions to—

Mr. David C. Chuber, CBRN School Historian
401 MANSCEN Loop, Suite 1041
Fort Leonard Wood, Missouri 65473-8926

The authors of the winning articles will be awarded the following:

First place, \$500

Second place, \$300

Third place, \$150

For additional information, contact Mr. Chuber at (573) 563-7339, 676-7339 (DSN), or <david.chuber@conus.army.mil>.

The Chemical Corps Vision

A Corps and Army capable immediately of countering the entire range of CBRN threats and effects to protect our Nation, operating seamlessly with military and civilian partners, while conducting simultaneous operations from civil support to war.

Partnership

Develop an understanding of the key and enabling experts...and an ability to collaborate effectively with them...to include joint, interagency, intergovernmental, and multinational (JIIM)... and civil authorities, either domestically or within host nations abroad.

Capability

A professional U.S. Army Chemical Corps, expertly manned, equipped, and trained...preparing all U.S. Army organizations at all echelons through technical expertise...at the peak of readiness to perform immediately when called upon.

Operational Environment

Execute simultaneous full spectrum operations (offense, defense, and stability or civil support)... within the homeland and in an operational theater...across the spectrum of conflict, from permissive to hostile environments.

Effect

Proactively execute our role in combating weapons of mass destruction (WMD)...where chemical, biological, radiological, and nuclear (CBRN) are inclusive of traditional weapons and toxic industrial materials...and contribute to the protection warfighting function as it applies to people, equipment, and information.



A Coming of Age: The CERFP Sharpens Its Capabilities

By Major Michael A. Ladd

Like their chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) enhanced response force package (CERFP) brothers and sisters nationwide, the Florida CERFP has enjoyed a bit of a “coming of age” in recent weeks. Not only did the Florida CERFP pass its external evaluation (EXEVAL) by the congressionally mandated March 2009 deadline; but as part of the CBRNE consequence management response force (CCMRF) mission, it also conducted awareness level training for the 3d Infantry Division “Raider” Brigade and then hosted a grassroots joint, collective, interagency training event called “Operation Integration” at Camp Blanding Joint Training Center (CBJTC), Starke, Florida. This would be considered a busy month for just about any unit—let alone a unit that is barely two years old and largely comprised of traditional National Guard Soldiers and Airmen.

The Florida CERFP EXEVAL was conducted by a joint evaluation team formed from the Joint Interagency Training and Education Center and the U.S. Army North. The evaluation team replicated an incident command structure, resourcing various observers and trainers that proved vital during the capstone evaluation event, but even more importantly during the days of training and instruction leading up to the event. The evaluation was resourced by training consultants who assisted in the construction of training locations and the tactical mission of the

search and extraction team. Role players and a very experienced team of contractors were used to transform the CBJTC state-of-the-art “collapsed building simulation range” into an incredibly realistic disaster area representing “Anytown, USA.” The level of realism and doctrinal accuracy allowed Florida CERFP team members to become immersed in the scenario and helped them to pass the EXEVAL, receiving special recognition for their command and control, search and technical extraction, and medical capabilities. The momentum that the Florida CERFP garnered from validating its capability to save lives through a national-level evaluation paid nearly immediate dividends when working with the Raider Brigade during the CCMRF emergency deployment readiness exercise.

The Florida CERFP had another opportunity to expand its sphere of training partners by taking advantage of recent CCMRF exercises at CBJTC. As part of the CCMRF, the Raider Brigade was looking for some technical extraction training that could potentially take place during a defense support to civilian authorities mission; and the Florida CERFP (again supported by training consultants) conducted round-robin training that introduced the Raiders to some of the basic skills used by the Florida CERFP during a technical extraction event. The Raiders received valuable awareness level training that included high-angle extraction, jack hammering, cribbing

and shoring, and lifting and hauling operations. In addition to the technical extraction introduction, the Florida CERFP and training consultants provided the Raider Brigade with a hasty obstacle lane consisting of obstacles constructed of precast concrete, timber, and wire barrier material that helped test the Raiders' route-clearing methods.

But Florida does not have the corner on the CERFP preparedness market; rather, Florida is a proud member of a community that believes in a capability that is constantly being strengthened by proactive, aggressive Guardsmen finding the best way to complete the mission. Sixteen of the seventeen CERFPs nationwide have conducted EXEVALs and are certified by their state adjutants general as fully capable of providing search and technical extraction, mass decontamination, and medical triage operations to save lives. CERFPs from Colorado, Nebraska, Minnesota, and Georgia supported the Republican and Democratic National Conventions. Illinois and Georgia CERFPs have established very mature partnerships with foreign countries, and they continue to produce best practices, tactics, techniques, and procedures from an even broader, international source. Emergency managers and event planners are increasingly realizing the benefit of a modular, joint task force (JTF) that is trained to the operations level, equipped to Level C protective posture, and capable of saving lives following a CBRNE event or structural collapse. Although the two-year life span of the CERFP is short and the use of the CERFP capability in international, national, regional, and state events has been relatively recent, the readiness and vetting of first responders and follow-on federal forces continue to grow.

To complement these employment efforts, specialized CERFP equipment (including technical extraction kits, decontamination trailers and tents, communications equipment, and transportation assets) has been fielded to the states and is being leveraged by CERFP commanders to prepare their units for contingencies. The CERFP, a joint Army and Air National Guard capability, continues to hone skill sets and identify best techniques across "big three" (search and extraction, mass decontamination, and medical triage) missions. The task of developing tactics, techniques, and procedures has increasingly been accomplished at the tactical level while working side by side with some of the best in the business during national- and local-level exercises. Operation Integration was an example of such an exercise.

Operation Integration was a grassroots exercise created by planners from Georgia JTF 781 (CBRNE), the Florida CERFP, Indiana Federal Emergency Management Agency (FEMA) Task Force (TF) 1, and the Marine Corps' elite Chemical Biological Incident Response Force (CBIRF). Exercising units included the CBIRF, a contingent from Indiana FEMA TF 1, and Georgia JTF 781, with the Florida CERFP acting as the exercise administration and backside support. The operation was aimed at the identification of capability gaps, overlaps, and opportunities for integration. Facilitated by the Florida CERFP, Joint Interagency Training and Education Center,



CERFP participants performing medical triage

and training consultants at CBJTC, the exercise was a highly effective, relatively low-budget opportunity to truly integrate complementing capabilities from the National Guard, FEMA, and federal forces. The exercise was made possible by funding from the National Guard Bureau, U.S. Northern Command, and CBIRF.

Set against a mature incident scenario, participating units had opportunities to observe and then integrate with on-site response units working for an incident commander—especially if functionally aligned (medical, urban search and rescue). During Operation Integration, Indiana FEMA TF 1 augmented JTF 781 search and extraction efforts; the Marine CBIRF augmented JTF 781 decontamination efforts; Indiana TF 1, CBIRF, and JTF 781 conducted concurrent technical extraction missions; and units routinely coordinated "across the aisle" for hand offs of operational objectives and capabilities that would best fit a given problem. Operation Integration was a unique opportunity for CBRNE response forces to truly understand where they fit into a response and, more directly, where their capabilities differed from those of other CBRNE and urban search-and-rescue agencies.

The Florida CERFP and the CERFP community as a whole, along with their newly established training partners, look forward to expanding this very critical capability. Following the EXEVAL, the opportunity to work with CCMRF and the integrated operations of FEMA, CBIRF, and JTF 781 as part of Operation Integration has underscored the importance of collective capabilities and the mantra of "One Team—One Fight." 🎯

Major Ladd is the chief of CERFP Plans and Operations, Joint Force Headquarters—Florida, Florida Army National Guard. When mobilized, he is the commander of the Florida JTF CERFP. He is a graduate of the Civil Support Skills Course and the Command and General Staff College. He holds a master's degree in environmental management from Webster University.



CHEMICAL BONDS:

A Historic U.S.–Iraq CBRNE Training Partnership

By Lieutenant Colonel Joseph Hauer and Lieutenant Colonel Thomas Thompson

Chemical bonding is a fascinating study. The bonding of chemicals is what makes possible the millions of chemical compounds in the environment that surrounds us—including the very water we drink and oxygen we breathe. However, on rare occasions, it is possible to forge bonds stronger than those we study in science. The focus of this article is on the human element—specifically, on a particular human bond formed 18–19 November 2008, when U.S. Army chemical, biological, radiological, and nuclear (CBRN) and explosive ordnance disposal (EOD) Soldiers participated in a two-day training exercise with Iraqi counterparts from the Chemical Defense Section of the Iraqi Army Engineer School, Camp Taji, Iraq.

One of the goals of the Multinational Force–Iraq (MNF-I) is to aid in the transition of missions that are currently performed by coalition forces to the Iraqi army and the government of Iraq. The elimination of the remnants of Iraq’s chemical weapons is one such mission. The preparation of the Iraqi army to achieve this end state requires a long lead time and a number of

intermediate steps. In keeping with the philosophy of “partner, enable, and advise,” the MNF-I presented a chemical defense and response capabilities demonstration hosted by the Iraqi Army Engineer School. This demonstration brought CBRN and EOD Soldiers from A/22d Chemical Battalion and 2/25th Infantry Division together with soldiers from the Iraqi Chemical Defense Section.

On the first day, U.S. Soldiers trained their Iraqi hosts on the function and capability of CBRN defense equipment such as Level A personal protective equipment; the Improved Chemical Agent Monitor; and select commercial, off-the-shelf equipment such as the Lightweight Chemical Detector LCD3.2e. Soldiers from the 22d explained and demonstrated several pieces of equipment they use to assess suspect chemical munitions to determine if they contain chemical warfare material and if they are safe to transport or must be destroyed in place. United Nations Security Council resolutions and various sanctions had restricted technology transfers and research and development opportunities for the Iraqi Chemical Corps; however, this training revealed the technological advances in chemical, biological, radiological, nuclear, and high-yield explosives (CBRNE) detection equipment over the past two decades that allow real-time, on-site, presumptive analysis and characterization.

On the second day, Iraqi soldiers led an exhibition and demonstration of CBRN knowledge, equipment, and capabilities to officials of the Iraqi Ministry of Defense. The exhibition confirmed that Iraqi soldiers were eager to train on and use the equipment that the Iraqi army requires for individuals, chemical units, and a specialized chemical unit currently being generated and tasked to destroy remnants of Iraqi chemical weapons.



This event was the first of many planned, combined training efforts between U.S. CBRN and EOD Soldiers and their Iraqi Chemical Defense Section counterparts. MNF-I and the U.S. Army CBRN School will continue to strengthen the established bond and develop the capabilities of the Iraqi Chemical Corps and associated school, reducing the threat of weapons of mass destruction in the region and furthering stability efforts throughout Iraq. 

Lieutenant Colonel Hauer was the team chief for the CBRNE Fusion Cell, Combined Joint Operations, MNF-I. He holds a bachelor's degree in biology with a minor in chemistry from the State University of New York at Brockport.

Lieutenant Colonel Thompson was the CBRNE planner for the CBRNE Fusion Cell, MNF-I. He holds a bachelor's degree in political science from the State University of New York at Albany.



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("Order Out of Chaos: The Incident Command System" continued from page 52)

Slowly but surely, nearly all U.S. Government agencies that participate in "incident" responses are coming onboard with the language and process of the ICS as the method of managing interagency responses, including cases of deliberate operations that are not "emergencies." Therefore, fluency in the ICS is required not only for its potential tactical use in combat, but also for full Army participation in future multiagency incident responses.

Online ICS training is available at <http://training.fema.gov/EMIWeb/>. For more information about the ICS, go to http://www.fema.gov/txt/nims/nims_ics_position_paper.txt. 

Endnote:

¹Homeland Security Presidential Directive 5 (HSPD-5), *Management of Domestic Incidents*, 28 February 2003.

Lieutenant Colonel Howe is a U.S. Army Reserve infantry officer assigned to Headquarters, U.S. Army Training and Doctrine Command. He is a 2005 graduate of the U.S. Army War College and a graduate of the Smoke Diver Course, Florida State Fire College, Ocala, Florida.

CSTC-A Honors Fallen Texas Guardsman With Building Dedication

By Petty Officer First Class Douglas Mappin

After honoring fallen comrades during Veteran's Day ceremonies just one day earlier, officials from the Combined Security Transition Command–Afghanistan (CSTC-A), Camp Eggers, Kabul, Afghanistan, were reminded of the sacrifice of one of their own. On 12 November 2008, CSTC-A members dedicated a building in memory of Texas Army National Guardsman, Sergeant Jamie Gonzalez Jr., who was killed when his vehicle struck an improvised explosive device on 3 August 2008.

Sergeant Gonzalez, a 40-year-old native of Austin, Texas, who had previously served in the U.S. Army and the U.S. Navy, entered the Texas Army National Guard on 10 November 2006. A year later, he volunteered to join the 436th Chemical Company, Laredo, Texas, so that he could deploy to Afghanistan, where his unit provided security forces for Camp Eggers. Sergeant Gonzalez was highly regarded by his fellow team members.

"I am honored by the privilege to be at this building dedication to honor Sergeant Gonzalez," said Major General Robert W. Cone, CSTC-A Commander. "He was a valued member of our team who gave the ultimate measure of service as he courageously executed his mission."

Offering his condolences to Sergeant Gonzalez's family and fellow service members, Major General Cone commented on the bravery that Sergeant Gonzalez displayed during his service at Camp Eggers. "He was proud to serve. I consider myself privileged to have served with him and witness his team's dedication, selfless service, and commitment each and every day," he said.

Major Tonya Hightower, CSTC-A Garrison Commander, and Sergeant Juan Gonzalez-Martinez, a close friend of Sergeant Gonzalez, also delivered remarks during the ceremony. Major General Cone and Major Hightower then unveiled the dedication plaque.

Gonzalez's awards and decorations include the Bronze Star, Purple Heart, Combat Action Ribbon, National Defense Service Medal, North Atlantic Treaty Organization Medal, and the Navy Good Conduct Medal. He is survived by his parents, wife, and children. 🇺🇸

Petty Officer First Class Mappin is a U.S. Navy Reservist who is serving as the noncommissioned officer in charge of the CSTC-A Public Affairs Office. He holds a bachelor's degree in secondary education (English and U.S. history) from Indiana University.

