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Army Chemical Review

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Chief of Chemical and Commandant,
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Brigadier General Andy Munera

Recently, we received great news for our Regiment that will shape our future and enable us to better support movement and maneuver. Field Manual (FM) 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, foundationally changes how we fight to align with FM 3-0, *Operations*.[1, 2] Also, Military Occupational Specialty (MOS) 74D10/20 (Chemical, Biological, Radiological, and Nuclear [CBRN] Specialist) Soldiers will be reintroduced to organic companies of brigade combat teams, which will better enable the U.S. Army Chemical Corps to support CBRN training and equipment maintenance across the force.

Our Army and Corps are at a critical point in history. We must refocus our efforts on support to large-scale ground combat operations and adapt to new CBRN threats. FM 3-11 is crucial to ensuring that we are prepared to counter new forms of battle being exercised and conducted by major regional players. The proliferation of new technologies, to include weapons of mass destruction (WMD) capabilities and materials, will remain constant. We must be prepared to enable movement and maneuver in complex CBRN environments for Army personnel and joint and coalition partners throughout the range of military operations. Friendly forces must retain freedom of action and be capable of employing our full breadth of capabilities within complex battlefield conditions that include CBRN environments. To support multidomain operations, our Corps must be agile and adaptive. It is essential that the entirety of our force across both components maintain operational readiness while restoring CBRN mastery at the tactical and operational levels of war. CBRN must be integrated into all training as a condition on the battlefield.

FM 3-11 provides a thorough doctrinal approach for the tactical and operational levels of war to provide tailorable CBRN capabilities at the point of need. It acknowledges that CBRN units must be integrated at multiple tactical and operational headquarters to enhance CBRN capabilities to counter WMD and retain operational flexibility. Most importantly, it will transform the CBRN enterprise to being offensive and proactive, interdicting CBRN before employment. We will focus on our core functions of assess, protect, and mitigate. The CBRN functions will be used to "communicate the CBRN tasks that provide the Army the means to accomplish its mission in a CBRN environment."[3]

FM 3-11 provides an overview of CBRN force capabilities and limitations as well as information on CBRN environments and the employment of CBRN forces in support of decisive action. I challenge each of you to read and understand this important manual to enable you to advise your junior leaders on how the U.S. Army Chemical Corps fights in large-scale ground combat operations.

FM 3-11 gives us the doctrine needed to move CBRN defense forward and to the next level. The reintroduction of CBRN Soldiers into maneuver formations will give us another critical tool to enable our force. In February 2019, the Army announced an increase of 522 MOS 74D authorizations in Active Component brigade combat teams from fiscal year (FY) 2019 through FY 21. From FY 21 through FY 25, the Army National Guard will allocate 472 spaces toward increasing MOS 74Ds and the U.S. Army Reserve will allocate three spaces.

This is a significant win for our Corps, and we could not have accomplished this growth without the support and advocacy of many of our leaders and Soldiers across our Army. Thank you! This also demonstrates the commitment of senior leaders to restoring CBRN readiness across the Army. With "all the bills on the table" to close Army-wide gaps in support of large-scale ground combat operations, growth is not easy.

Now that we have approval to bring MOS 74D10/20 Soldiers back to maneuver formations, I need everyone to help demonstrate to the Army that this was the right decision—we must deliver! Regardless of unit, we must all be personally invested in making this successful. Success starts with talent management at our camps, posts, and stations. Each of us must carefully balance our talent to ensure that the right Dragon Soldiers are occupying the right jobs in the Regiment. It starts with leaders at all levels being fully invested in our young enlisted Soldiers, noncommissioned officers, and officers. You may not own Dragon Soldiers according to your modified table of organization and equipment, but you must view all Dragon Soldiers on your installation as your responsibility to coach, teach, and mentor. Most importantly, our brigade and battalion level CBRN staffs must dedicate the effort and time to cultivate our company level Soldiers. We must ensure

(Continued on page 5)

Regimental Command Sergeant Major

Greetings to all! It hasn't been long since I became the 15th Chemical, Biological, Radiological, and Nuclear (CBRN) Regimental Command Sergeant Major. My first few months in the position have been surreal. I am extremely honored to have been selected to serve as your Regimental Command Sergeant Major. As a young Soldier moving through the Noncommissioned Officer Corps ranks, I never imagined that I would be sitting where I am today. Following guidance from the great leaders and mentors alongside whom I've had the privilege of serving and putting in countless hours of hard work, I have arrived at this historical moment in my career and our Corps' history. I owe a measure of my success to those who believed in me and invested their time to mentor and help develop me. I am the first brigade command sergeant major of the 48th Chemical Brigade, Fort Hood, Texas, to be selected as the Regimental Command Sergeant Major, but I'm sure that I will not be the last.

Command Sergeant Major Christopher Williams

I consider myself to be a humble leader from humble beginnings. I am down-to-earth, extremely approachable, and goal-oriented; and I lead by example. Being a down-to-earth leader involves understanding the importance of leader development. Developing and mentoring our future leaders allows Soldiers at all levels the opportunity to be successful. During my tenure as your Regimental Command Sergeant Major, my goal is to expand leader development opportunities, which will allow the alignment of leader career goals with personal goals ultimately providing more predictability for our Soldiers, our leaders, and their Families. Planning allows us to make decisions based on facts versus assumptions and provides certainty; if we make life better for our Soldier's Families, we make life better for our Soldiers. This will enable us to have a more focused, capable, and ready Chemical Corps. Providing that predictability will also aid in talent management and the selection of the right leaders for the right positions throughout the Army and our Corps.

Talent management is a deliberate and coordinated process that aligns systematic planning with the right number and type of people to meet current and future demands. While at the 48th Chemical Brigade, I, in coordination with the U.S. Army Human Resources Command, implemented a first sergeant slating board that used a process closely resembling that of the centralized selection board to capture the talented and eligible master sergeants and sergeants first class (promotable) from the U.S. Army Forces Command; the U.S. Army Training and Doctrine Command; the U.S. Special Operations Command; the U.S. Army Recruiting Command; and the Concepts and Requirements Division, U.S. Army Futures and Concepts Center to lead our companies. This process has continued for our Corps and has been adopted by other career management fields. As leaders, we should be transparent and approachable, providing guidance to young Soldiers—our future leaders. After all, you could be mentoring a future Regimental Command Sergeant Major.

We have already set in motion the implementation of our Military Occupational Specialty 74D (CBRN Specialist) Soldiers within two brigade combat teams in support of large-scale combat operations. The leaders of the U.S. Army Forces Command recognized the need to improve CBRN readiness across the force and recommended returning our CBRN specialists to the company level. We must have a process in place for their optimal success. Corps and division CBRN sergeants major must take the lead to ensure that we are placing the right Soldiers in the right jobs to successfully manage CBRN readiness at the company level.

Our One Army School System encompasses Regular Army, Army National Guard, and U.S. Army Reserve Soldiers so that we come together as one team to provide the best training possible for our CBRN Soldiers. We want our brightest and most capable leaders to give back to our Corps by becoming instructors, drill sergeants, and small-group leaders at the Noncommissioned Officer Academy, Fort Leonard Wood, Missouri; the National Training Center, Fort Irwin, California; the Joint Readiness Training Center, Fort Polk, Louisiana; and the Joint Multinational Readiness Center, Hohenfels, Germany. We need our very best leaders across the Army to rotate and serve in these critical positions.

One of my top priorities is to travel and personally meet our CBRN Warriors so that I can share some of my knowledge and receive feedback from across our formations. I sincerely value everyone's opinions with regard to the reshaping of our Corps. I also plan to establish different platforms for communication, one of which will be the Regimental's Corner, where Soldiers can directly reach out to me via the Internet for guidance or with recommendations. One important initiative that I have in mind is a partnership of education program. A college education is extremely important for Soldiers at all levels.

Again, I am extremely humbled and honored to be selected as your 15th Regimental Command Sergeant Major. I want to personally thank all of the Soldiers and leaders of our beloved Chemical Corps for your hard work, dedication, and support. I am Christopher Williams, and I am a Dragon Soldier—**C**ompetent, **B**rave, **R**eady and o**N**-point for our Nation.

Elementis regamus proelium!

Regimental Chief Warrant Officer

Greetings, Dragon Soldiers! Welcome to the 101st year of the U.S. Army Chemical Corps! Following my last article, in the middle of our 100th year, the second half of the year continued to yield great things for the Corps and the chemical, biological, radiological, and nuclear (CBRN) warrant officer cohort. In January 2019, we selected 10 highly qualified noncommissioned officers to join the CBRN warrant officer ranks. I would like to congratulate the following noncommissioned officers on their selections:

- Sergeant First Class Christopher M. Cichocki
- Sergeant First Class James H. Cook III
- Sergeant First Class Jesus M. Huerta
- Sergeant First Class Yesenia Vargas
- Staff Sergeant Donjuan T. Brown
- Staff Sergeant Jarrod Gasiorowski
- Staff Sergeant Daniel B. House
- Staff Sergeant Elease N. Jones
- Staff Sergeant Joshua E. Laplant
- Staff Sergeant Brandon M. Shissler

Chief Warrant Officer Three Robert A. Lockwood

Their addition to the force in the first quarter of fiscal year 2020, after completion of the Warrant Officer Basic Course, will bring our Active Component warrant officer strength to 100 percent. This will minimize unfilled positions in our formations, which will translate directly to increased readiness. Our aggressive recruiting and accessions strategy has paid large dividends in the Reserve Component as well. Since October 2018, the Army National Guard CBRN warrant officer strength increased from 32 percent to 58 percent and the U.S. Army Reserve CBRN warrant officer strength increased from 40 percent to 67 percent. These percentages do not include civil support teams; 10 of the 54 civil support teams now have a CBRN warrant officer as the analytic team leader or in the pipeline to become the next analytic team leader—an increase of seven. These increases are big wins for our young warrant officer program and the Corps. I'd like to take a moment to recognize our Army National Guard and U.S. Army Reserve senior warrant officer advisors (Chief Warrant Officer Two Dan Thomas and Chief Warrant Officer Two Matt Fisher) for doing an outstanding job of implementing the accessions strategy and getting much-needed results.

Shortly before publication of this article, our third and largest year group went before the board for promotion to chief warrant officer three. I am anxiously awaiting the results to be released in the next few months, and I expect to see a sizeable increase in our chief warrant officer three population. We began the transition of our professional military education courses to longer programs of instruction that will allow the technical knowledge that Warrant Officer Basic Course and Warrant Officer Advanced Course students receive at the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) to be increased. During the upcoming months, we will also finalize our work and establish Warrant Officer Intermediate Level Education Phase 3 to meet the technical-education needs for our growing chief warrant officer three population.

We are retiring the "Honoring our Past and Preparing for the Future" slogan of the last year. In the 101st year, we will talk about how we fight. Over the past 18 years, the Chemical Corps has become proficient in the counterinsurgency (COIN) fight. We focused our doctrine toward it, made organizational changes to support the demand of the conflict, and trained our leaders and Soldiers to fight and win in that operational environment. With limited resources, we developed and procured capabilities tailored to enable our success in the COIN fight, with little focus on applicability outside of that problem set. With the emerging threats and the great power competition that accompanies these threats, we understand that large-scale ground combat operations (LSGCO) require a much different approach than COIN. We cannot abandon what we have done over the past 18 years; to do so would be folly. Instead, proficiency in LSGCO must be gained at the tactical and operational levels of war while we maintain our hard-won COIN abilities. We continue to work toward that goal at USACBRNS by updating doctrine; most notably, the latest version of Field Manual 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, is our keystone doctrine for how we fight across the spectrum of operational environments.[1] We are also constantly analyzing organizations to ensure that they are structured to provide the capability needed on the battlefield of tomorrow, and we are ramping up Soldier and leader train-

ing by adding rigor and additional education requirements geared toward LSGCO. At the unit level, leaders must look for opportunities to maximize valuable training time and resources by finding and exploiting commonality between problem sets so that those commonalities can be trained simultaneously, leaving time and flexibility to train more specialized tasks.

The Army made some tough decisions concerning priorities for limited resources in the COIN fight, to include some difficult personnel decisions that directly impacted the Chemical Corps. Driven by emerging threats and coupled with recent world events, there is now a universal understanding that the possibility of CBRN use on the battlefield is greater than ever. This has led the Army to relook its readiness to fight in a CBRN environment and realize that it is not at an optimal level. Because of this, the Army has authorized the reintroduction of 522 Military Occupational Specialty 74Ds (CBRN Specialists) into maneuver formations over the next 3 years. It is imperative that we support these Soldiers and ensure that they have the tools necessary to succeed. Success in this case is defined as a measurable increase in the Army's CBRN readiness. I am looking to our division CBRN technicians to take a personal stake in this and share their knowledge and expertise to keep this initiative on the path to success.

In preparing for the future, readiness must be everyone's priority. The speed, intensity, and violence of LSGCO will quickly expose a lack of readiness. Warrant officers—as master level operators, integrators, and maintainers of Army systems—are key players in the readiness effort, although warrant officers must not solely focus on systems. They must view a system as the sum of all its parts, to include the operators. Warrant officers have a responsibility to certify that system operators understand the complexities and limitations of their systems in a given environment and how to best employ the systems to mitigate issues. To effectively do this, warrant officers must understand plans, operational requirements, and environments. They must anticipate the potential problems associated with them and develop solutions "left of bang." Warrant officers gain the requisite knowledge through professional military education, self-development, and sustained immersion in their field. Because of this immersion requirement, it is imperative that leaders who have CBRN warrant officers in their formations remain involved in and understand warrant officer utilization. When a warrant officer is used for a purpose other than his or her specialty or in a position that is not commensurate with his or her grade, it damages that warrant officer's growth as a subject matter expert and hampers the unit's ability to build and preserve readiness.

Over the next year, let's not only talk about how we fight, but also maintain an equal emphasis on readiness to ensure that potential aggressors don't want to fight. I am Rob Lockwood, and I am a Dragon Soldier—Competent, Brave, Ready, and oN-point for our Nation.

Endnote:

[1]Field Manual 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, 23 May 2019.

Elementis regamus proelium!

("Chief of Chemical . . .," continued from page 2)

adherence to Army Regulation 350-1, *Army Training and Leader Development*; oversee the preparation and execution of CBRN inspection programs; and support low-density training opportunities.[4] The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) will balance training programs to produce sergeants who are knowledgeable about maneuver company operations.

As many are aware, the manning process has begun. The U.S. Army Forces Command is in the midst of two MOS 74D pilot programs within the Army. The 2d Brigade Combat Team, 1st Infantry Division, and 2d Brigade Combat Team, 1st Cavalry Division, have full contingents of MOS 74D Soldiers. Both pilot programs will help determine how to best integrate our noncommissioned officers back into formations, to include balancing MOS 74D tasks and training/readiness support to company commanders. We at USACBRNS are supporting U.S. Army Forces Command by sending training support teams to help with the pilot programs, and we are willing to continue doing so based on the needs of the installation. I have seen some of these great Dragon Soldiers in action at the National Training Center, Fort Irwin, California, and I am very proud of them and those leaders who are working every day to enable their success. My lead for the integration is Regimental Command Sergeant Major Christopher Williams—it is that important!

As I end my time as the 30th Chief of the U.S. Army Chemical Corps and Commandant of USACBRNS, I feel an enormous sense of pride in our Regiment. I have no doubt that our Army is better prepared to fight and win in large-scale ground combat operations in a complex contaminated environment than when we first began to shift away from a counterterrorism and counterinsurgency focus. We do, however, have a lot of work left to do.

Fortunately, the Army has selected just the right leader to complete the job. Colonel Daryl O. Hood, our 31st Chief of Chemical, brings a wealth of knowledge and experience to the commandancy and is prepared to take us to the next level. I ask each of you to continue to dedicate yourselves to enabling the success of our Regiment. I know that all of you are up to the tasks ahead.

I'm thankful to have had this opportunity to serve the Soldiers, leaders, civilians, and Families of our Corps. Thank you for what you do for our Army and our Regiment every day! I am Andy Munera, and I am a Dragon Soldier—Competent, Brave, Ready and oN-point for our Nation.

Endnotes:

[1]FM 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, 23 May 2019.

[2]FM 3-0, *Operations*, 6 October 2017.

[3]FM 3-11, p. 1-3.

[4]Army Regulation 350-1, *Army Training and Leader Development*, 10 December 2017.

Lessons Learned in the Theater Force Protection Cell

By Major E. John Busuego

Young majors straight out of Command and General Staff College, Fort Leavenworth, Kansas, or senior noncommissioned officers assigned to operations sections may find themselves deployed to a joint environment, working with different branches at the operational or strategic level. Adding to the complexity, they may find themselves in a joint billet and in an organization with coalition partners in command, with multinational partners focused on a range of military operations.

This is often those Soldiers' first experience with working in a joint and coalition environment, which can initially pose various challenges. Some of these challenges include understanding the roles and responsibilities of chemical, biological, radiological, and nuclear (CBRN) officers and noncommissioned officers in the protection cell and filling positions beyond their training or education.

The top five lessons that I learned while working in a joint and coalition environment are—

- Build social capital.
- Ask questions and learn/understand capabilities.
- Judiciously read doctrine and standard operating procedures.
- Identify requirements and resources.
- Understand interoperability.

Build Social Capital

A simple smile, a greeting of the day (perhaps in the native language), or genuine interest in another service member's branch or country goes a long way toward building a working relationship. Generally speaking, especially in a deployed environment, many officers and noncommissioned officers find it hard to interact with other coalition partners due to multiple factors (language barriers, unfamiliarity with social norms). Taking the time to understand how coalition partners operate or how joint service members view things, especially in their branch of expertise (combat arms, intelligence, logistics), can foster the trust needed to build more cohesive working relationships.

Ask Questions and Learn/Understand Capabilities

The theater protection cell consists of other branches that typically include provost marshal; chemical, biological, radiological, nuclear, and explosives (CBRNE); explosive ordnance disposal (EOD); air and missile defense; engineer; operations security; and/or recovery personnel.[1] Joining discussions about capabilities; charting various enabler assets on-hand; and participating in various working groups, operational planning teams, and assessment boards are all part of the learning and decision-making process. Because every professional military education is different and specific to a function, the collective effort of a cell is enhanced when everyone understands what each function has to offer.

Elements of the Allied Rapid Reaction Corps and their CBRN Defence Brigade headquarters were in Liberec, Czech Republic, for Exercise Yellow Cross, 31 May–8 June 2018. NATO photograph by British Army Sergeant Jon Bevan.

Judiciously Read Doctrine and Standard Operating Procedures

There is a large amount of material that can be used to help understand operations and planning from a joint/coalition perspective. For example, North Atlantic Treaty Organization (NATO) joint doctrine lays out the foundation of coalition operations in Standardization Agreement (STANAG) 2437, *Allied Joint Doctrine*.[2] Moreover, some of the same language is found in Joint Publication 3-0, *Joint Operations*.[3] Standard operating procedures developed in a specific theater can help organizations operate "on the same page." For example, under the Resolute Support Mission in

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What Does LSGCO Mean, and How Does it Affect CBRN Support to Maneuver?

Compiled by Chief Warrant Officer Two Heather M. Hubbard

The U.S. Army's last large-scale ground combat operations (LSGCO) ended with the Cold War and transitioned to a counterinsurgency (COIN) fight that lasted 15 years and focused the approach to combat in a linear way. In 2006, General David Petraeus described COIN as a three-legged approach to "clear, hold, and build: push insurgents out of a designated area, prevent them from returning, and build local institutions that help the population move forward."[1] Lieutenant General Michael D. Lundy brought these concerns to the forefront, stating that "Major regional powers like Russia, China, Iran, and North Korea are actively seeking to gain strategic positional advantage. These nations and other adversaries are fielding capabilities to deny long-held U.S. freedom of action in the air, land, maritime, space, and cyberspace domains and reduce U.S. influence in critical areas of the world."[2]

"The Army's vision of how future operations will be conducted is forcing the Chemical Corps to reevaluate and restructure concepts, institutional education, and organizations in order to continue its role as a vital member of the fight."

The Army's vision of how future operations will be conducted is forcing the Chemical Corps to reevaluate and restructure concepts, institutional education, and organizations in order to continue its role as a vital member of the fight. Chemical Corps Soldiers have continuously adapted in multiple conflicts (Iraq, Afghanistan, Africa) while providing much-needed chemical, biological, radiological, and nuclear (CBRN) capabilities in the Pacific theater. The Chemical Corps has also evolved technologically against weapons of mass destruction and hazmat on the battlefield.

Unify

Field Manual (FM) 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, fills the gaps between the doctrine of Joint Publication 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments*; FM 3-0, *Operations*; Army Doctrine Publication 3-0, *Operations*, and Army Doctrine Reference Publication 3-0, *Operations*.[3, 4, 5, 6, 7] FM 3-11 provides a broad overview of CBRN capabilities and operations as a subset or annex to FM 3-0 to provide a basis for answering the question of how the Chemical Corps will support and integrate into maneuver during LSGCO.

In the forward of FM 3-11, Brigadier General Antonio V. Munera, Commandant of the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) notes that—

> *FM 3-11 provides a thorough doctrinal approach for the tactical and operational levels of war to provide tailorable, scalable CBRN capabilities across operations. It acknowledges that CBRN units must be integrated at multiple tactical and operational headquarters to enhance their capabilities to counter [weapons of mass destruction] WMD and retain operational flexibility. Most importantly, it transforms the CBRN enterprise to offensive and proactive, interdicting CBRN before employment, rather than simply practicing avoidance.*[8]

A key change noted between the 2011 and current versions of FM 3-11 is a paradigm shift of CBRN core functions from avoid, protect, and decontaminate to assess, protect, and mitigate to emphasize support and more effective incorporation into LSGCO.[9, 10] The new FM 3-11 describes how CBRN operations employ capabilities that assess, protect against, and mitigate the entire range of CBRN incidents to enable freedom of action. CBRN functions will change from a risk-adverse approach to CBRN warfare to acceptance of CBRN as a condition of the battlefield; the term "avoidance" will be removed from the Corps lexicon.

The 2011 version of FM 3-11 focuses on preventing the proliferation of WMD and consequence management, whereas the new version of FM 3-11 focuses on describing the capabilities of various CBRN forces and methods to use those CBRN forces during offensive, defensive, and stability operations. Current doctrine emphasizes

avoiding contamination, while new doctrine embraces the idea of protecting personnel so that they can "fight dirty" (contaminated by CBRN agents) and decontaminate during the consolidation of gains.

Assess, Protect, and Mitigate

The value and importance of placing Military Occupational Specialty (MOS) 74Ds (CBRN Specialists) back into maneuver units was echoed by many CBRN Warrant Officer Basic Course 501-19 course participants. A possible means of mitigation could be the addition of a Warrant Officer Military Occupational Specialty (WOMOS) 740A (CBRN Technician) to brigade combat team and Striker brigade combat team elements to support planning and analytical considerations. The brigade staff requires analyzing and interpreting capabilities of attached CBRN assets and sensors. Decontamination sites for gap crossings, in particular, tend to canalize forces and severely restrict maneuver.

"Strengthening the dismounted reconnaissance platoon with the current CBRNE response team structure would allocate additional explosive ordnance disposal assets to the brigade combat team structure when a hazard response platoon is task-organized for decisive action."

The intersection of lines of effort and the relationship between CBRN and intelligence collection also emphasized in the new version of FM 3-11. The claim is that CBRN personnel should liaise with the intelligence staff officer to ensure that intelligence personnel fully understand the developing picture and arrive at a more purposeful analysis of enemy CBRN capabilities. The importance of CBRN in the cultivation of named areas of interest for the purpose of further developing the operational picture and turning raw data into viable information is also an additional point of discussion.

The CBRN logistics burden entails employing full CBRN capabilities, further emphasizing the need for the correct command and support relationships to effectively direct assets according to the intent of the higher command. CBRN assets must be integrated into logistics, medical support, and maintenance support. If none of the sections of the commander's staff is prepared for enemy CBRN capabilities, that shortfall is extremely difficult to overcome, making it more difficult to execute LSGCO in contaminated environments. CBRN planning is conducted continuously; the CBRN staff exists to execute the commander's recommendation so that freedom of action can be maintained.

The ability to preserve and protect critical mobility nodes and assets is a prime concern for anticipated threat environments of future conflicts. To maintain tempo in a CBRN environment, fast-acting decontaminants with a small footprint must be developed. These decontaminants could be used by the maneuver force, with minimal support from CBRN enabling units, during operational decontamination. Combatant commanders consider the need for efficient decontamination to be highly important to continue fighting during LSGCO.

Forge the Way Ahead

As we look to the future force and anticipated challenges, additional considerations include the prospect of another force design update. Redundancies within CBRN units and structural concerns were two items that were also mentioned during Warrant Officer Basic Course 501-19 discussion. Army Techniques Publication 3-11.36, *Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Planning*, describes the four types of CBRN companies: area support; hazard response; biological; and chemical, biological, radiological, nuclear, and explosives (CBRNE).[11] CBRNE response teams provide additional capabilities that a mounted or dismounted reconnaissance platoon cannot provide, but CBRNE response teams have similar features to those of the dismounted platoons. The CBRNE response team has explosive ordnance disposal assets, improvement analysis equipment, and a warrant officer in the platoon configuration. Hazard response companies could transition into CBRNE companies by splitting the current CBRNE companies or creating additional manning slots in hazard response dismounted reconnaissance platoons. Strengthening the dismounted reconnaissance platoon with the current CBRNE response team structure would allocate additional explosive ordnance disposal assets to the brigade combat team structure when a hazard response platoon is task-organized for decisive action. This would simplify the definition of our Active Component companies and provide support to maneuver operations.

Another recommendation mentioned during class discussion was the further refinement of occupational specification within the MOS 74 series through the establishment of additional enlisted MOSs of 74R and 74Z. Two primary missions essential to the Corps are hugely divergent and require highly technical skills, training, and experience. MOS 74D would be changed to consist of unit CBRN specialists and staff positions with operational, thorough, and area decontamination and biological sampling functions. MOS 74R would consist of special operations and staff positions with mounted and dismounted reconnaissance functions. MOS 74Z would consist of CBRN first sergeant/command sergeant major positions. Differentiation and additional specialty designation within MOS 74R and 74Z wouldn't be foreign to the CBRN MOS series. During the Vietnam War, the MOS 54 series (MOS 54B [Decontamination Specialist] and MOS 54C [Smoke Operations Specialist]) were broken down to cover a very specific technical aspect of CBRN. The logistical field even has multiple warrant officer technicians such as WOMOS 920A (Property Accounting Technician) and WOMOS 920B (Supply Systems Technician).

Endnotes:

[1]James F. Jeffrey, "Why Counterinsurgency Doesn't Work," *Foreign Affairs*, March/April 2015, <https://www.foreignaffairs.com/articles/united-states/2015-02-16/why-counterinsurgency-doesnt-work>, accessed on 29 March 2019.

[2]Jen Judson and Todd South, "The New Way to Fight: U.S. Army Unveils Field Manual 3-0," *Defense News*, 10 October 2017, <https://www.defensenews.com/digital-show-dailies/ausa/2017/10/10/the-new-way-to-fight-army-unveils-field-manual-3-0/>, accessed on 3 April 2017.

[3]FM 3-11, *Chemical, Biological, Radiological, and Nuclear Operations*, 23 May 2019.

[4]Joint Publication 3-11, *Operations in Chemical, Biological, Radiological, and Nuclear Environments*, 29 October 2018.

[5]FM 3-0, *Operations*, 6 October 2017.

[6]Army Doctrine Publication 3-0, *Operations*, 6 October 2017.

[7]Army Doctrine Reference Publication 3-0, *Operations*, 6 October 2017.

[8]FM 3-11, 23 May 2019.

[9]FM 3-11, *Multiservice Doctrine for Chemical, Biological, Radiological, and Nuclear Operations*, 1 July 2011, this publication is obsolete.

[10]FM 3-11, 23 May 2019.

[11]Army Techniques Publication 3-11.36, *Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Planning*, 24 September 2018.

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Mike Lundy and Rich Creed, "The Return of U.S. Army Field Manual 3-0, *Operations*," *Military Review*, November–December 2017, <https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/November-December-2017/The-Return-of-US-Army-Field-Manual-3-0-Operations/>, accessed on 29 March 2019.

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Editor's note: This article was authored by the following students of CBRN Warrant Officer Basic Course 501-19: Warrant Officer One Matthew J. Ayuyu, Warrant Officer One Robert S. Baugh, Warrant Officer One James M. Benecke, Warrant Officer One Michael A. Kandewen, Warrant Officer One Robert W. Nabors, Warrant Officer One Daniel N. Perez, Warrant Officer One Gregory Pointdujour, Warrant Officer One Jose L. Salinas, and Warrant Officer One Johnethan M. Wright.

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("Lessons Learned . . . ," continued from page 6)

Afghanistan, there are more than 50 standard operating procedures that help synchronize efforts in the combined joint operations area and streamline the processes and systems in a theater of war. Of these, a handful are tied specifically to theater force protection.

Identify Requirements and Resources

Language or jargon can be confusing for a staff officer who has never worked in a combined joint environment. Requests for support, assistance, or guidance can be misinterpreted and may lead to more confusion and less staff function interaction. The best way to frame the situation is to identify the requirement. Whether speaking with respect to personnel, equipment, or logistics, the question that should always be asked during mission or operations planning is: "What do we need?" Once the need is established, the next question posed could be: "What do we have or what can be provided?" There are terms, labels, and acronyms specific to each branch and partner nation, but keeping the focus on the requirements and resources can help organizations stay focused on what they are trying to accomplish.

Understand Interoperability

The ability to communicate with other branches and coalition partners, including the ability to transmit and receive information, can be the difference in life or death for Service members on the ground, in the air, or at sea. It is important to first understand the communication architecture. What systems are available aside from our U.S. government communication networks? For example, in support of the NATO Resolute Support Mission in Afghanistan, our NATO partners communicate internally using the NATO unclassified and classified networks. To increase interoperability and more effectively plan in-theater force protection functions, staff sections must ensure that they have the ability to communicate with joint services and coalition partners to address capability gaps that may degrade force protection.

Conclusion

As force protection continues to remain in the forefront of maintaining fighting potential in our forces, trained, talented, and dedicated individuals will continue to be required. I hope that some of the lessons I learned will help prepare other CBRN leaders with this unique opportunity.

Endnotes:

[1]Richard Comitz, "Understanding the Protection Cell," *Army Chemical Review*, Summer 2009, p. 35.

[2]STANAG 2437, *Allied Joint Doctrine*, 28 February 2017.

[3]Joint Publication 3-0, *Joint Operations*, 17 January 2017.

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The CDTF Training Enhancement Initiative:

A New Era of Live, Toxic Training in Large-Scale Ground Combat Operations

By Lieutenant Colonel Daniel S. Murray (Retired)

In 1980, U.S. Secretary of Defense Harold Brown, along with Army Chief of Staff General Edward C. Meyer, supported the 1980 Chemical Systems Program Review, which documented the need for the U.S. Army Chemical Corps to embark upon a new training paradigm to prepare our Soldiers and joint force partners to fight, survive, and win in a chemical environment.[1] This support laid the foundation for construction of the Chemical Defense Training Facility (CDTF) at Fort McClellan, Alabama, beginning in 1985 and later opening on 2 March 1987.[2] Thus began a training program that immerses our Soldiers, Sailors, Airmen, and Marines in a live, toxic-agent environment, outfitted in chemical protective gear and employing a range of chemical defense equipment. The CDTF was later moved to Fort Leonard Wood, Missouri.

During the 32 years that the training program has been in place, approximately 181,000 Soldiers, Sailors, Airmen, and Marines have completed training in the live, toxic-nerve-agent environment at the CDTF. They emerge as true "chemical veterans," becoming part of the 1 percent of all U.S. Service members who have gone before them. Germany and the Netherlands have been our longest-standing international partners, training more than 4,000 and 2,000 of their service members, respectively.

In 2008, after engaging in combat for nearly 5 years, the need to prepare chemical, biological, radiological, and nuclear (CBRN) technical forces to handle new threats and new missions was recognized. In order to deliver a new training capability as quickly as possible, the CDTF embarked upon an effort to build, with relatively little money, several clandestine weapons of mass destruction (WMD) laboratories within the array of training bays. This new capability served the force well for a number of years but still fell short of the capability needed.

In 2013, the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) commissioned, via the CDTF, a Chemical Knowledge Network survey to query the joint force on the types of missions, hazards, and environments that, if unconstrained, it would like to train at the CDTF. That survey closed in 2015, and the results formed the basis for a concept plan that would not only take live, toxic training at the CDTF to the proverbial next level but would also maximize the training capability of the CDTF. The concept plan leveraged the full potential of CDTF in terms of space and opportunity to create the most immersive, realistic, rigorous training venue.

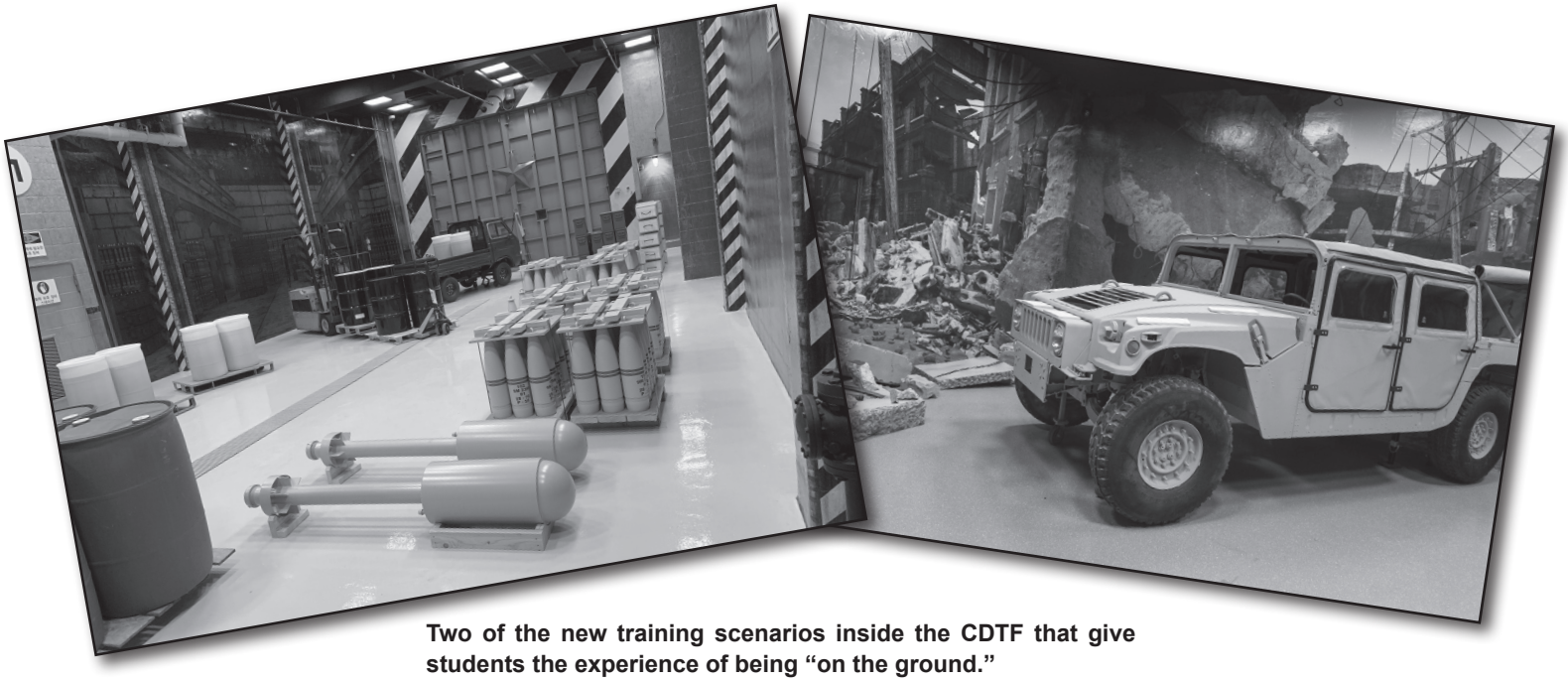
With our Nation engaged in combat operations for 10 years, coupled with rising crises in Syria and the Korean Peninsula, it became evident that the CDTF needed to change to ensure that our military Service members were prepared to assess, protect, and mitigate the effects of what was now growing into a widely expanding WMD threat.

Mr. Adam Taylor reports in his article "Chlorine, Sarin or Something Else? The Big Questions in the Alleged Syrian Chemical Weapons Attack":

> *The Syrian government's chemical weapons program dates to the early 1970s. Syria was thought to have one of the largest stockpiles of chemical weapons in the world, including not only nerve agents such as [venomous agent X] VX but also blister agents like mustard gas.*
>
> *The most noteworthy of the chemical weapons used during the Syrian war was sarin. This nerve agent, first developed by Nazi Germany, was banned under international law in 1997. It has no smell or taste, but exposure quickly leads to death through asphyxiation.*
>
> *The Syrian government is believed to have used sarin on a number of occasions, including the 2017 Khan Sheikhoun assault, as well as attacks in 2013—including one on the Damascus suburbs that is thought to have killed 1,429 people according to a White House estimate.*[3]

Mr. Kyle Mizokami notes in his article "Everything You Need to Know: North Korea's Chemical Weapons are No Joke":

> *North Korean military forces train to operate in a chemical environment on a regular basis, and North Korea manufactures its own chemical protective gear and detection systems, some of which have been found bound for Syria.*



Two of the new training scenarios inside the CDTF that give students the experience of being "on the ground."

Chemical weapons could be used in a number of ways, but the primary goal is the suppression of enemy defenses, allowing the [Korean People's Army] to overcome [the Republic of Korea] and U.S. forces. Troops fight less effectively while in chemical protective gear, and defenses are dispersed to mitigate the effects of chemical attack.

Given the unpredictability of the battlefield and chemical weapons in particular, North Korean planners will use them as early in the war as possible when their overall picture of the battlefield is at its maximum. As the war progresses and uncertainty mounts, the use of chemical weapons will become less productive and even counterproductive.[4]

At the same time as the 2013 attacks reported in Syria, sequestration spending cuts began to take a toll on the Department of Defense, particularly affecting the ability of CBRN units across the operational force to resource quality CBRN defense training. Amid the growing global WMD threat and with this emerging concept to transform the CDTF, the USACBRNS Commandant, Major General Maria R. Gervais, and then, later, Brigadier General James E. Bonner, directed that a CDTF training enhancement initiative be developed to provide affordable collective-training opportunities to our operational units across the components and joint force. With this guidance in mind, a concept that focused on achieving the following objectives was generated:

- Expand and enhance CDTF training capability for the operational force.
- Challenge the cognitive, physical, and social aspects of the human dimension.
- Incorporate a wider range of hazmat options.
- Create a completely immersive, multidimensional training experience.
- Create timeless scenario environments applicable to a range of large-scale ground combat operations.

In 2016, Brigadier General Bonner socialized the training enhancement initiative concept with stakeholders on Army and joint staffs in an effort to garner support that would lead to a commitment to fund the project. Due to the project total cost, estimated at more than $6 million, there was clearly no realistic hope of securing funding below the department level. However, with the sizeable commitment of the CDTF in training members of the joint force, it certainly seemed worth a gamble to secure joint dollars for this project. And, ultimately, that is what Brigadier General Bonner accomplished.

In March of 2017, with the CDTF training enhancement initiative concept fully developed, Brigadier General Bonner approached the Director of the Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense (JPEO CBRND) with the idea of supporting this effort from within the JPEO CBRND portfolio. The possibility held some promise; and following a brief visit to the CDTF that same month, the JPEO CBRND Director immediately threw his full support behind the effort. Planning with JPEO CBRND staff began in earnest. Plans included securing the legal reviews necessary to move forward and then teaming with key JPEO CBRND industry partners to begin the intensive design effort.

As we enter 2019, the live, toxic-agent training paradigm is shifting again—into a much-needed new direction. It is shifting toward total sensory immersion within multiple target venues, which will challenge technical skill performance, cognitive capabilities, and leadership prowess. The design effort began in December 2017 and continued for the next 10 months.

On 1 October 2018, the CDTF shut down all training operations for 6 months somewhat limiting the number of Service members who would miss out on training at the CDTF due to the holidays. Shutting down the facility was of no small consequence. Approximately 1,500 Army and

The CDTF Safety Specialist explains how agent vapor is exhausted from the mock agent production hood.

joint Service members attending initial-entry training and follow-on officer and noncommissioned officer education system courses would not have the benefit of completing toxic-chemical defense training, which has been a long-standing course graduation requirement for all Services. The trade-off, however, was that the CDTF transformation would deliver a new training capability that would, without question, establish CDTF as the global leader in dismounted countering weapons of mass destruction (CWMD) training in a live chemical warfare agent environment.

The improvements to CDTF expanded and enhanced training capabilities for the operational force. Multiple target scenarios support CWMD missions that are expected to be encountered during large-scale ground combat operations. The scenario environments are diverse and offer ample opportunity for combat, combat support, and combat service support organizations across the joint force as well as our international partner base to gain experience in mitigating CBRN threats as they reinforce individual and collective tasks in a CWMD mission environment. Scenario environments include subterranean operations, state level chemical production and storage facilities, dismounted defense against enemy counterattack, dense urban ruins post-chemical attack, and a mass transit system chemical attack.

Through painstaking efforts, 11 fully immersive target venues were designed to span nearly 13,000 square feet of indoor, climate-controlled training space, including 3,600 square feet of newly leveraged space supporting three target scenarios. On 1 October 2018, the CDTF staff, along with support from the CDTF operations and maintenance contractors, executed the most comprehensive facility decontamination effort ever undertaken at CDTF. Overseen by the CDTF Deputy Director, the facility decontamination was completed and verified clean in 12 days on 18 October and released as safe for entry by the Chemical Biological Application and Risk Reduction Division of Edgewood Chemical Biological Center, Aberdeen Proving Ground, Maryland. Clearing this major hurdle allowed unprotected entry into the former toxic training area so that tradesmen could begin work without need of chemical protective equipment.

From October 2018 through March 2019, the JPEO CBRND team built the 11 training venues that now give Service members the experience of "being on the ground" in some of the most intense scenarios. In addition to sound and lighting effects, the scenarios include gun battles against enemy forces. All the action, both sound and video, are captured on DVD for operational units to take back to home station.

After undergoing the multimillion-dollar training enhancement, the CDTF ended it's 6-month operational hiatus and reopened to deliver a CBRN dismounted reconnaissance training capability matched nowhere else in the world. On 1 April 2019, recommissioning of the CDTF and staff certification training were completed in preparation for toxic operations. The USACBRNS Commandant, Brigadier General Antonio (Andy) V. Munera, in conjunction with the JPEO CBRND Director, hosted a ribbon-cutting celebration at the CDTF on 8 April 2019. The celebration was followed by a 2-day open house, attended by leaders and stakeholders from across the Department of Defense and joint and allied partners. On 15 April 2019, toxic operations resumed at the CDTF. The training is better than ever, continuing a legacy of greatness that, for generations, has prepared our warriors to fight with confidence, survive, and win our Nation's battles. **C**onfident, **B**rave, **R**eady, o**N** point for the Nation.

Endnotes:

[1]Chief of Staff of the U.S. Army, Subject: Chemical Defense Training Facility Action Memorandum, Memorandum, 27 February 1987.

[2]Ibid.

[3]Adam Taylor, "Chlorine, Sarin or Something Else? The Big Questions in the Alleged Syrian Chemical Weapons Attack," *The Washington Post*, 11 April 2018, <https://www.washingtonpost.com/news/worldviews/wp/2018/04/11/chlorine-sarin-or-something-else-the-big-questions-in-alleged-syrian-chemical-weapons-attack/?utm_term=.bb545cef947a>, accessed on 10 April 2019.

[4]Kyle Mizokami, "Everything You Need to Know: North Korea's Chemical Weapons are No Joke," *The National Interest*, 10 August 2017, <https://nationalinterest.org/blog/the-buzz/everything-you-need-know-north-koreas-chemical-weapons-are-21849>, accessed 10 April 2019.

Lieutenant Colonel Murray retired from active duty in 2007. In his last assignment, he served as the director of CDTF. In September 2007, he competed and was selected to return as the first Department of the Army civilian director of CDTF. He holds a bachelor of science degree in criminal justice from Western Illinois University, Macomb, and a master of science degree in the strategic defense of ports and airfields from the U.S. Army Command and General Staff College, Fort Leavenworth, Kansas.

Joint Training to Improve CRE Readiness

By Mr. William F. Sherman

The Chemical, Biological, Radiological, and Nuclear Response Enterprise (CRE) is composed of approximately 20,000 military personnel (Regular Army, Army National Guard, and U.S. Army Reserve) who provide focused, lifesaving capabilities with increased responsiveness for defense support of civil authorities. Technical support force (TSF) units include Army National Guard weapons of mass destruction civil support teams; chemical, biological, radiological, and nuclear enhanced response force packages (CERFPs); homeland response forces; the Defense Chemical, Biological, Radiological, and Nuclear Response Force (DCRF); and two command and control chemical, biological, radiological, and nuclear response elements (C2CREs). C2CREs are composed of Regular Army, Army National Guard, and U.S. Army Reserve forces allocated to the U.S. Northern Command (USNORTHCOM) to respond in support of civil authorities.

Background

The lifesaving capabilities of CRE are centered on TSF units. CRE elements are organized to operate as a balanced task force with the following capabilities:

- Mission command.
- Hazard detection and monitoring.
- Urban search and rescue.
- Chemical, biological, radiological, and nuclear (CBRN) mass casualty decontamination.
- Emergency medical triage, treatment, and stabilization.
- Medical and nonmedical evacuation.

TSF units are composed of individuals and organizational elements required to operate in a contaminated environment. These Soldiers require special hazmat awareness, operations, and technical rescue training to acquire civilian certifications in accordance with Title 29, *Labor*, Code of Federal Regulations.[1] TSF units are issued commercial, off-the-shelf and military equipment. As required, Soldiers are issued personal protective equipment that meets domestic civilian response requirements. TSF units, led by a mission command element, operate as a team in support of an incident commander in accordance with the Incident Command System, which is established by civilian authorities and meets federal regulations for conducting emergency operations to save lives within a CBRN-contaminated area.

TSF initial training, premission training, premission external evaluations, quarterly sustainment training, annual external evaluations, and joint exercises are conducted to sustain the ability of CRE components to deploy operationally and to employ collectively in support of civil authorities. CRE elements train locally (individual, unit, and collective training) and exercise regionally to the extent possible to validate capabilities and sustain readiness. They are capable of deploying and employing nationally.

Transition-in-Training Concept

Since the stand-up of TSF units years ago, most training has been conducted on military installations, which were missing the essential components of civil authorities and unfamiliar environments in which TSF units are expected to operate. With that in mind, improving TSF training and readiness became the No. 1 priority for USNORTHCOM and U.S. Army North (USARNORTH). Integrating units, hiring role players within the Incident Command System, using ambulance support for mass casualty decontamination operations, and using installation urban search-and-rescue facilities made training and evaluations as realistic as possible with the limited resources of past years.

With USNORTHCOM assistance, USARNORTH established working relationships with major metropolitan area fire departments to improve training, making it more realistic. The goal was two-fold. First, conduct exercises with civil authorities and interagency partners in major metropolitan areas where the threat of terrorism or natural disasters is higher; this is a reality that first responders deal with daily. Second, expose units to the public, while building trust in their capabilities with local first responders.

Over the last 3 years, TSF units have transitioned from conducting training on their installations to participating with local first responders in exercises involving civil authorities and interagency partners in major metropolitan areas. The concept is to provide the most realistic training possible by conducting joint integrated exercises under the command and control of an incident commander. Soldiers integrate into one team and operate together during the response exercise. Participating in these exercises exposes Soldiers to real-world scenarios with population issues and traffic congestion. Soldiers gain experience with constrained

timelines by working under the Incident Command System. This experience could not be duplicated on an installation.

First responders and TSF Soldiers participate in a training exercise.

Nashville, Tennessee

Coordination between the Nashville Fire Department and the USARNORTH Civil Support Training Activity resulted in a tabletop exercise being conducted with Nashville city officials and first responders. This exercise was developed to enable the 2d CBRN Battalion, Fort Hood, Texas, to work with civilian authorities as it would during a real-world event. The city emergency operations officer and the chiefs of the fire and police departments were key players in the exercise. The tabletop exercise lasted 3 days and consisted of a dirty-bomb scenario with additional toxic industrial chemical and toxic industrial material mediation mission assignments and several CBRN extractions. One objective was to enable the battalion task force staff to develop an operations order for subordinate units.

There were some key takeaways from this tabletop exercise. Soldiers interacted with civil authorities to plan mission assignments. In-depth discussions enhanced the learning process of the responders and the Soldiers. The Nashville emergency operations officer wrote a policy to facilitate working with military TSF members at a real-world event. These types of exercises are crucial to the development of civil and military staff members. The 2d CBRN Battalion commander and command sergeant major indicated that this exercise really helped them understand their mission as a battalion task force and build a relationship with the city of Nashville.

New York City, New York

For the past 3 years, active duty DCRF Soldiers and U.S. Army Reserve Soldiers from C2CRE have been training and conducting joint exercises with first responders every 6 months in New York City. During this time, CBRN units trained and exercised with the New York City Fire Department on their plan to respond to a nuclear device by establishing community reception centers in each borough so that New York City residents could be monitored for radiation after a terrorist attack. This exercise allowed the New York City Fire Department to validate its community reception center plan and participating Soldiers to train with first responders on scenarios including terrorist attacks on a subway train in Pennsylvania Station and a subway platform in lower Manhattan.

In July 2018, C2CRE Soldiers participated with the New York City Fire Department in a joint exercise involving a terrorist attack in Times Square. The exercise was established around an attack at the "Times Square Church." New York City firefighters and Soldiers from the 468th Engineer Detachment (Firefighter), Danvers, Massachusetts, responded to a chemical attack at the church, where 300 people were attending services and had to be evacuated, decontaminated, and treated. In addition, the Soldiers assisted with a secondary device involving a car bombing. The incident was under the control of the Chief of the New York City Hazmat Battalion/Weapons of Mass Destruction Branch Director. Additional training events with the New York City Fire Department and TSF units are being planned for the future.

Miami-Dade County, Florida

In January 2018, with assistance from the 76th Operational Response Command, the 457th CBRN Battalion, Greenville, South Carolina, deployed to Florida to conduct a battalion task force sustainment exercise with the Miami-Dade Fire Department, with a culminating joint integrated exercise at the Homestead-Miami Speedway. The goal was to conduct a more realistic sustainment exercise with the integration of first responders. The plan was to conduct the training at several training venues in the Miami area and finish the exercise with a raceway incident that included more than 100 Miami-Dade first responders and 300 C2CRE Soldiers.

The 457th CBRN Battalion deployed elements from the 414th CBRN Company, Orangeburg, South Carolina; 409th Area Support Medical Command, Madison, Wisconsin; 328th Combat Support Hospital, Salt Lake City, Utah; and 468th Engineer Detachment (Firefighter). As part of C2CRE-Element A, the 457th CBRN Battalion task force (with down-trace units) conducted a postmission assumption collective battalion sustainment training event in accordance with USNORTHCOM and U.S. Army Forces Command executive orders. Units conducted tasks associated with mass casualty decontamination, the treatment of CBRN casualties, CBRN reconnaissance, surveying, casualty extraction, and rescue operations under

TSF Soldiers assist a casualty during a training exercise.

urban search-and-rescue operational concepts. Another C2CRE task force field training exercise is currently being planned with the Miami-Dade Fire Department and U.S. Army Reserve Command personnel for early 2019.

San Antonio, Texas

The 2d CBRN Battalion deployed from Fort Hood, Texas, to San Antonio, Texas, for a field training exercise, 25–30 August 2018. The goal was to exercise TSF units away from their installations, integrating first responders and making training more realistic. The plan was to conduct the training at several training venues throughout the greater San Antonio area.

The 2d CBRN Battalion task force deployed elements from the 44th CBRN Company, Fort Bliss, Texas; 581st Area Support Medical Company, Fort Hood; 411th Military Police Company, Fort Hood; and 22d Engineer Company, Joint Base Lewis–McChord, Washington. As part of DCRF, the 2d CBRN Battalion task force (with downtrace units) conducted a postmission assumption collective battalion sustainment training event in accordance with USNORTHCOM and U.S. Army Forces Command executive orders. Units conducted tasks associated with mass casualty decontamination, the treatment of CBRN casualties, CBRN reconnaissance, surveying, casualty extraction, and rescue operations under urban search-and-rescue operational concepts.

The Combined Arms Collective Training Facility at Camp Bullis, Joint Base San Antonio, Texas, was the primary battalion task force location for the duration of the event. Additional training venues included the Freeman Coliseum; San Antonio Fire Training Academy; and Retama Park, Selma, Texas.

How We Train

The old, often-quoted axiom, "We train as we fight," is very applicable to the joint integrated TSF exercises with first responders under the Incident Command System within major metropolitan areas. The exercises provided CRE units with integrated and realistic training under a real incident commander—training that they could not otherwise get. Working together on these exercises provides exposure for CRE units and builds confidence with local responders and military personnel.

These training exercises paint a picture of real-world events in major metropolitan areas for participating leaders and Soldiers. Questions that rose to the forefront include—

- How do we move large vehicles through the tunnels and streets of New York City?
- How do we operate with limited lighting and existing electrical issues in the subway systems in New York City and Boston, Massachusetts?
- How do we coordinate for security?
- How do we move equipment and casualties with limited visibility and space?

Working together during joint exercises provides CRE personnel with an understanding of first responder tactics, techniques, and procedures and the requirements to successfully respond and assist the first responder. Communication problems are another issue that must be overcome at the "ground floor," especially when combining entry teams, trying to relay information between first responders, and sharing information from the first responders who are making each entry.

Conclusion

The way ahead is to continue to build on what has already been established by providing a more realistic exercise environment and bringing additional stakeholders including "affected state" Army National Guard elements, state offices of emergency management, defense and state coordinating officers, and the Federal Emergency Management Agency to the event.

A CBRN attack on one or more of our major metropolitan areas would create havoc and confusion among Americans. We must remain vigilant in protecting the Homeland and ensure that CRE units are prepared to respond once they are notified to deploy. CRE sustainment training and exercises will continue to build on joint training exercises between TSF units and first responders in the future.

Endnote:

[1]29 Code of Federal Regulations, *Labor*, July 2018, <https://www.govinfo.gov/app/collection/cfr/2018/title29>, accessed on 5 March 2019.

Mr. Sherman is the director of the Civil Support Readiness Group—Central, Civil Support Training Activity, USARNORTH, Fort Sam Houston, Texas. He oversees five assigned divisions responsible for providing training assistance and evaluation support to TSF units assigned to CRE. He holds a bachelor's degree in economics from Midwestern State University, Wichita Falls, Texas, and a master's degree in business from Webster University.

Maximizing

Training Opportunities Across a Company in a Resource-Constrained Environment

By Mr. Damon M. Yourchisin

The Army is changing. We are transitioning to a smaller and more capable force, reducing budgets and returning to large-scale ground combat operations (LSGCO); we must be able to "do more with less." This cycle has been repeated many times, and it will continue in the future. We must learn from the past in order to ensure that this latest transition doesn't take us by surprise. The biggest change is that unlimited wartime resources of money and manpower are being greatly reduced as we rebuild an Army capable of executing LSGCO in a multidomain environment in 2028 and beyond. This will impact all facets of Soldier training and create a new catchphrase: "maximizing training benefit from limited resources."

The best way to accomplish this transition is to incorporate the necessary tactical skills into everyday activities that must occur on a consistent basis, such as physical training (PT) and preventive maintenance checks and services (PMCS). This article describes some options for commanders to incorporate selected basic Army warrior tasks (AWTs) and battle drills (BDs) into everyday training and mission accomplishment routines. These options will free up more traditional duty time for larger-scale, more complex, more resource-intensive training events, allowing the unit to focus on high-end technical skills.

The ability to take normal routines to the next level by incorporating tactical tasks is complex and time-consuming and must be done in a crawl-walk-run format. Success is a direct measure of the effort invested on the front end of execution (planning and preparation). If the proper planning, preparation, and pre-execution checks are conducted, Soldiers can become tactically competent at their core and directed training time can be filled with the technical aspects of their particular military craft. A truly efficient training method is characterized by—

- The upfront investment of a long-term vision (nested within well-thought-out quarterly and annual training guidance).
- Short-term goals. (The eight-step training model and troop leading procedures are followed to the letter.)
- Distribution of the load. (Everyone involved takes key roles in planning and execution on a nearly daily basis.)

In order for the efficiency of this method to be recognized, leadership must take an active role. This starts with the training of leaders.

As you, as commanders, delegate specific tasks derived from your vision and guidance to lower-level leaders, there are opportunities for junior leaders to practice mission analysis, the eight-step training model, and troop leading procedures on a daily basis. With your tutelage, they can work on aspects of the military decision-making process, warning orders, mission and operation orders, proper leader reconnaissance, and mission briefings in support of smaller-scale, maximized training opportunities. The opportunity to gain training and experience during these tasks is often overlooked. Do you recall the last time a junior leader wrote an operation order? Was it written for the annual certification, for validation of the unit, or for the quarterly range? Why aren't we frequently publishing orders so that everyone has an opportunity to plan and execute?

Here's *one* way to implement this in your company. A company commander has a vision of successfully completing four AWTs and one BD during a quarter. The executive officer—

- Divides the tasks amongst platoon leaders and platoon sergeants to ensure that expertise can be gained before the task is trained.
- Conducts a calendar review and overlays specific PT and PMCS sessions in which teaching, training, initial evaluation, and retraining events will occur.

The PLs/PSGs then begin their mission analysis and eight-step training model process and back brief the executive officer on their plan for execution. Over the next 3 months, roughly 24 PT sessions (company, battalion, and other mandatory PT events), four command PMCS sessions,

and one emergency deployment readiness exercise are available. In the end, the company will have easily taught, trained, and evaluated four AWTs and one BD—all without having taken a traditional training day from the schedule. Over a 1-year period, the entire list of AWTs and BDs can be executed—with redundancy built in for those more difficult and perishable skills. Reinforcement is performed during normal training events, which can be tactically done at a near-run pace so that the focus can be on technical skills.

A unit assessment is required to determine weak and strong points, the starting baseline (crawl, walk, or run), and the best time to perform the tasks based on mission requirements. This article contains a few suggestions about how to make a program like this work.

Example Training Vision

Select one AWT from each of the major categories of shoot, move, communicate, survive, and adapt and two BDs that focus on mounted operations or that complement the AWTs selected. It may not be appropriate to incorporate all of the listed subtasks for each AWT or BD; but throughout the quarter, 90 percent of the subtasks can easily be accomplished. These should all be completed during PT hours (dependent on local policy) and on command maintenance days, with no degradation to overall Army physical fitness test performance or equipment readiness.

Over the next quarter, all individuals are trained to a "T" on—

- Five AWTs. The five example AWTs are—
  - Employ Hand Grenades.
  - Perform Individual Movement Techniques.
  - Perform Voice Communications.
  - Perform Combatives.
  - Grow Professionally and Personally.
- Two BDs. The two example BDs are—
  - Perform Actions as a Member of a Mounted Patrol.
  - Evacuate a Casualty.

Example Incorporation of AWTs

Employ Hand Grenades

Perform this AWT during PT. Based on the subtasks and minimal equipment needs, this can be incorporated into multiple PT sessions. Arm and shoulder strength and hand and eye coordination are necessary for success. Therefore, as the PT program for the quarter is developed, incorporate arm and shoulder strength building and hand and eye coordination drills. Later, bring the two together by adding dummy hand grenades, then add in hand grenade trainers, and then integrate with other tasks (such as individual movement techniques). If this seemingly easy task is taken seriously and sufficient planning rigor is applied, instructors can net great additional benefits (research, coordination for integration of the task, long-term PT planning, rehearsals).

Perform Individual Movement Techniques

Perform this AWT during PT. Although there are only two subtasks to this AWT, the subtasks are quite complex and require teaching and training. This is a good AWT for which to use the crawl-walk-run method, performing at half or full speed. Perform these subtasks first while wearing the Army physical fitness uniform, then the Army operational camouflage pattern uniform and, finally, full tactical gear. As a finale, add the hand grenade. Perform these subtasks on a consistent basis and with small teams. These subtasks present a great workout and all that is required is the preparation and provisioning the venue and resources. Four-Soldier stacks can be performed while multiple floors are cleared—all in less time than it takes to run 4 or 5 miles.

Perform Voice Communications

Perform this AWT during PT and PMCS. This AWT has a great set of subtasks that can be conducted in coordination with any activity, such as a weekly ruck march for PT, with communication via radio or hand and arm signals only. The march is not administrative in nature; it is a tactical forced foot march. Teach some of the skills during stretching, and then go straight into execution. As time goes on, and if leaders are disciplined, the unit will easily communicate during all missions. Also, when performing the required weekly road test at the end of PMCS activities, ensure that the convoy briefing includes a signal portion. Emphasize training over tactical communication while on a convoy (navigating to a refuel point or other location, conducting a recovery operation of a sister vehicle).

Perform Combatives

Perform this AWT during PT. Combatives refers to a technique of neutralizing the enemy after primary and secondary weapons have failed. This task may seem easy; and with a unit that is 100 percent Level 1-trained, it may be. But that just means you can really dig into this task. Combatives, a perishable skill, needs to be regularly incorporated into a long-term PT program. Ensure that you have appropriate instructors, and tailor the training to events that are likely to be encountered. For example, focus on individual movement techniques and work on urban operations that will require close-quarters combat. This will also build confidence in Soldiers who may not have completely understood combatives in the 2 weeks that it took to become certified while at basic training.

Grow Professionally and Personally

Perform this AWT during an extended PT session or during officer/noncommissioned officer PT. At first, this may seem a difficult and inappropriate choice for a task. However, if we leave the task to each individual, many may never accomplish it. A great way to tackle some of the subtasks associated with this AWT (even though the subtasks are not well codified) is to perform what was once known as a leader reaction course. This brings a unit closer together and builds teams, trust, and confidence. It allows subordinates the opportunity to step up to a leadership role and shine; it is also mentally and physically challenging. This is a great way to grow as an individual and as a small unit. This type of training will pay big dividends over time, especially as you counsel and develop your leaders.

Example Incorporation of BDs

Perform Actions as a Member of a Mounted Patrol

Perform this BD during each complete PMCS period of rolling-stock items. This level of training is only for units that already have a robust maintenance plan. The following three phases are suggested components of a maintenance program plan to take advantage of tactical training:

- **Phase 1.** Implement a grassroots PMCS program that involves the entire unit, including all leaders (officers and noncommissioned officers). The place of duty during the determined time and date is a motor pool, where a "by the book" PMCS of rolling stock is being conducted. Go through the equipment manual, read it literally, and correctly perform each action step by step. PMCS is supervised and resourced; small operator actions (rust removal, minor paint repairs, fluid top-offs, bolt tightening) are handled on the spot. Always ensure oversight from maintenance personnel so that everyone learns something during the process. Conduct PMCS of the command vehicle with the driver, and quiz Soldiers on the system parts and functions. Establish a solid baseline, and then progress to Phase 2.
- **Phase 2.** Exercise each of the systems with a road test—a mandatory part of PMCS. Start with small-scale road tests (before, during, and after operations PMCS). The road test phase is subdivided into parts. First, just roll everything out (get tires moving; work lubricant into vehicle joints; heat up petroleum, oil, and lubricant products throughout the vehicle). Stay on paved roads initially; travel to the refuel point, top off fuel, and return. As you improve and get more efficient, start exercising all of the vehicle systems. Take vehicles onto the highway; operate them at highway speeds and full operating temperature; then take them off-road, over rough terrain, to exercise the suspension, steering, transfer case, and differentials (mandate the use of four-wheel drive, high and low). Once you really get into the swing of performing this phase, you can incorporate value-added training while still in the vehicle.
- **Phase 3.** Phase 3 of the plan will not be realized or appreciated in the beginning. Make a plan and rehearse it during close-out procedures. Leaders refine convoy planning and briefings, select small tasks on which to focus during training, and give everyone opportunities to execute tasks. For example, when performing self-recovery with a tow-strap and then a tow-bar, Soldiers operate their communications and navigation equipment with discipline. A typical administrative day in which Soldiers leave early for lunch can be turned into a great training opportunity that reinforces tactical work performed on a daily basis. The phase is painful, takes longer than normal, and seems difficult to plan. But once everyone gets used to bringing full "battle-rattle" and dummy weapons, it becomes second nature. After 3 months of performing this phase, equipment runs better, faults in equipment can be identified quicker, repairs are handled faster (maintenance personnel notice the extended effort and involvement and want to help), and tactical actions fall into place. Every week presents an opportunity for a miniature field training exercise, with all the associated planning, preparation, and rehearsals required. Precombat checks and inspections, rehearsals, and other preparations that normally trip up a unit while executing a major event become a habit—not something unit members forgot.

Evacuate a Casualty

Perform this BD during PT or PMCS tactical training or as a drill. There are many subtasks; you can tailor a venue to focus on particular subtasks. A great PT session incorporates survival, communication, movement, and shooting skills. While Soldiers are stretching, pass out instructions and equipment (dummy weapons, combat lifesaver bags, stretchers, rescue equipment/sleds, Joint Tactical Radio Systems, maps, and compasses) and provide a mission order.

As an example, consider a mission order that involves finding a downed helicopter, searching for and rescuing survivors, establishing a landing zone (LZ), transporting personnel and sensitive equipment to the LZ, and calling for medical evacuation (MEDEVAC) if necessary. As a unit, move to the first location and find the dummies (casualties). At this point, some personnel pull security, others evaluate and treat casualties, and others call for support. Transport the group of casualties to a good LZ location, set up the LZ, and wait for MEDEVAC. Train on your skills along the way, and then critique your operation at the LZ.

Issue another mission order, and change personnel positions. Given the running, carrying of gear, and dragging or carrying of 200-pound dummies, this training is physically strenuous. It is also a great opportunity to learn first aid techniques. It combines some of the other tasks performed at other PT sessions (radio communication, security operations, individual movement techniques). Complete this using a crawl-walk-run approach so that by the end of the quarter, you are using rucksacks and in full battle-rattle gear.

Example Culminating Event

With extra time added to the PT or PMCS window, a culminating event, with evaluations of multiple tasks, can be fun and challenging for the unit. It takes months of training to build up to this culminating event and to certify that everyone is capable of accomplishing each of the tasks (such as drown proofing or rappelling). A week before the culminating event, the unit might receive a warning order that includes a packing list and report times. Some of the possible actions associated with tactical tasks discussed in this article include—

- Start on the second floor of a facility, and issue a task to safely get personnel and equipment to the ground (with no stairs available). This forces personnel to rappel to the ground floor.
- Use a tactical road march formation to land navigate to the first point in a multiroom/multistory building.
- Use four-Soldier stacks to set up a rally point, drop rucksacks, and secure and clear the building.

(Continued on page 21)

Communication Gaps in Austere and Nonpermissive Environments

By Major Chi L. Truong

Communication in an austere and nonpermissive environment is a challenge for the chemical, biological, radiological, and nuclear (CBRN) and explosives ordnance disposal (EOD) Soldiers of the 20th Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Command.[1] The U.S. Army does not have a solution for the current communication challenge in underground systems, tunnels, and caves in the event of subterranean warfare. There are two reasons that it is imperative to create communication solutions for the subterranean warfare challenge. First, the strategic and operational environment requires CBRNE Soldiers to communicate in underground tunnels. Second, a brief historical background illustrates that this challenge is not new and that solutions to fill the communications capabilities gaps are suitable, feasible, and acceptable. Due to the limited scope of this research, only the materiel and training domains are discussed.

First, it is critical for Soldiers to be able to communicate in austere and nonpermissive environments, specifically in subterranean environments.[2] The first pillar of the *National Security Strategy of the United States of America* directs, "Protect the American people, the homeland, and the American way of life" by "securing its borders and territories . . . [and] defending against [weapons of mass destruction] WMD."[3] Specialty skilled Soldiers, such as CBRN and EOD Soldiers, work with WMD and CBRNE hazards. CBRN Soldiers identify and decontaminate hazards, and EOD Soldiers render-safe explosive materials. These actions enable freedom of movement, maneuver, and action for follow-on units to continue missions. Moreover, the tactical and operational CBRNE missions may confirm or deny enemy use of CBRNE or WMD materials that have strategic implications.

Second, background information to illustrate tunnel warfare is not new, yet it is relevant and there are suitable, feasible, and acceptable solutions to this communication capability gap. Major Allan D. Reece reviewed more than 130 years of U.S. subterranean warfare, spanning the Civil War, World War I, World War II, the Korean War, and the Vietnam War.[4] Major Kha M. Nguyen described more current tunnel type engagements between the Israel Defense Force, Hamas (a Palestinian Sunni-Islamist fundamentalist group), and Hezbollah (a militant group based in Lebanon) from 2006 to 2014 and the Islamic State of Iraq and the Levant's large network of tunnels discovered in Mosul, Iraq, in 2015.[5] Furthermore, for more than 60 years, the North Koreans improved and fortified tunnel operations under the military demarcation line and along the demilitarized zone.[6] The U.S. military preparation for future engagements in subterranean areas is paramount to success, as U.S. near-peer adversaries continuously improve their defensive and offensive areas of responsibilities.

The 20th CBRNE Command is using the Army's force management Joint Capabilities Integration and Development System process to determine a materiel solution to the communications capability gap. Soldiers' inability to communicate in subsurface areas impedes the CBRNE mission. A lack of communication degrades mission command for teams, squads, platoons, and higher echelons. Moreover, without communication, the risk increases exponentially—tactically with discovery of improvised explosive devices and operationally/strategically with CBRN and WMD materials. The operational environment of subterranean areas denies, degrades, and disrupts freedom of action and movement.

Current communication systems using radio frequencies (analog), satellite (digital), and wireless capabilities do not work well in subterranean environments. The cause of disconnected communication is environmental; minerals, rocks, sediments, and angles of tunnels (buildings) do not allow electromagnetic waves (radio and other frequencies) to propagate effectively.[7] Furthermore, communication is

complicated and disrupted by electronic warfare and the use of the electromagnetic spectrum (analog and digital technology) by offensive or defensive means.[8]

A 1978 underground mine study presented viable solutions to this problem using analog, wired communication technology (telephones, pager telephones, and magneto telephones).[9] "Lessons Learned No 56: Operations Against Tunnel Complexes," published in 1966, discussed a wire communication from a subterranean environment to the surface to maintain continuous verbal and auditory connections; it provided control inside and outside the tunnel system.[10] In 2012, U.S. Army signal officers trained with plain old telephone systems (POTS) at their captains career's course. POTS utilized wired and cable technology for communications.[11] However, there are no wired or cabled communication systems in the U.S. Army inventory due to upgrades from analog to digital wireless and technologically advanced communication systems.

Miners have been using a hybrid communications system in mining operations. This hybrid system is composed of wired and wireless technology, in which radio frequencies are retransmitted through hard-wired communications systems. Due to the complexity of tunnel systems and their three-dimensional angled bends, electromagnetic spectrum frequencies can be retransmitted but this requires the operator to emplace more equipment at each bend. Hybrid wired/wireless technology installed in tunnel systems may enable continuous communications, but time is needed for deliberate installation and a permissible environment. The hybrid system should be considered for nontactical and mid- to long-term solutions for communications in subterranean environments.

Another possible course of action would be to use the U.S. Army POTS or the TA 312/PT telephone (a two-wire, battery-operated field telephone) or modern fiber optics wired digital technology.[12, 13] There are some assumptions, limitations, and risks involved in using POTS, TA 312/PT, or fiber optics. Existing U.S. industries have the capability and capacity to mass-produce fiber optics in a short period, but POTS and TA-312/PT are no longer standard issue for the U.S. military. Fiber optic wires are lightweight and allow information to travel near the speed of light; cabled wires are made of a heavy-metal alloy, and clarity decreases with distance. Furthermore, wired cables, to include fiber optics, do not have built-in security measures. Anyone can splice and tap into telephone and fiber optic lines. The security risk is mitigated with encryption technology.

Colonel Dale Sean Crockett, the 3d Chemical Brigade Commander, believes that the subterranean communications gap can be mitigated by a hybrid method using robotics to drop retransmitted devices to maintain continuous communications underground.[14] This course of action, as described in Field Manual 6-0, *Commander and Staff Organization and Operations*, is suitable, feasible, and acceptable.[15] It is suitable because it solves the security problem, and it is legal and ethical. It is feasible because it is achievable with available resources. It is acceptable when the benefits outweigh the cost and risks are mitigated. Training, which depends on an approved materiel solution, is required to ensure that there are no communication gaps in subterranean operations.

The Maneuver Support Center of Excellence (MSCoE), Fort Leonard Wood, Missouri, is executing a doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy (DOTMLPF-P) analysis for this capabilities gap. The training portion of DOTMLPF-P, ranging from basic training to advanced individual training to unit training, deals with how the Department of Defense prepares to fight tactically. The lessons learned from tunnels in Vietnam are simple and are applicable to current operational environments. Leaders must create, detail, improve, and rehearse effective training that addresses how to operate tactically in austere and nonpermissive environments. Additional training to mitigate security problems and other challenges associated with using wired technology is required. Finally, the U.S. Army Training and Doctrine Command and the U.S. Army Chemical, Biological, Radiological, and Nuclear School, Fort Leonard Wood, are renovating the Chemical Defense Training Facility to accommodate training in an underground scenario.[16]

The 20th CBRNE Command is working with the U.S. Army Force Management System to close the communications gap for subterranean operations.[17] The U.S. strategies and Army warfighting functions require Soldiers to operate in nonpermissive, austere environments and detect, protect, and mitigate future WMD threats and CBRNE hazards to maintain freedom of action. It is critical for Soldiers to communicate in underground tunnels. Subterranean operations were conducted throughout history and, most likely, will also be executed in the future.

Endnotes:

[1]James E. Bonner (Brigadier General, commanding general of the 20th CBRNE Command), personal interview, 20 September 2018.

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[5]Kha M. Nguyen, "Learning to Mow Grass: IDF Adaptations to Hybrid Threats," School of Advanced Military Studies, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, 2 June 2017, <http://cgsc.contentdm.oclc.org/utils/getdownloaditem/collection/p4013coll3/id/3691/filename/3692.pdf/mapsto/pdf/type/singleitem>, accessed on 13 March 2019.

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[7]Chenming Zhou et al., "RF Propagation in Mines and Tunnels," ResearchGate Web site, August 2015, <https://www.researchgate.net/publication/282271017_RF_Propagation_in_Mines_and_Tunnels>, accessed on 14 March 2019.

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[11]Jung Oh (Major, U.S. Army cyber officer), personal interview, 21 October 2018.

[12]Mary T. Eberest (Lieutenant Colonel, U.S. Army signal officer), personal interview, 22 October 2018.

[13]Harley D. Rinerson, "Communications and Imaging Technology: Revolutionizing Command and Control of the Future Battlefield," Ike Skelton Combined Arms Research Library, 7 June 1991, <http://cgsc.contentdm.oclc.org/cdm/singleitem/collection/p4013coll2/id/1362/rec/4>, accessed on 14 March 2019.

[14]Dale Sean Crockett (Colonel, U.S. Army, 3d Chemical Brigade Commander), personal interview, 30 October 2018.

[15]Field Manual 6-0, *Commander and Staff Organization and Operations*, 5 May 2014.

[16]Crockett.

[17]David R. Rickard (Chief, G-3 Force Management, 20th CBRNE Command), personal interview, 21 September 2018.

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("Maximizing Training . . . ," continued from page 18)

- Have each stack encounter a noncombatant who must be physically subdued due to the rules of engagement and a casualty who must to be treated and transported to an LZ, where MEDEVAC personnel are called.
- Issue a mission order for a follow-on mission to link up with another unit and conduct an ambush.
- Conduct a tactical road march, and land navigate to the link-up point (and unfortunately, the information provided was determined to be incorrect and you are on the wrong side of a water obstacle—but the link-up must be made immediately).
- Cross the river, creek, pond, or lake using poncho rafts.
- During the road march, call for fire on an observed enemy position, conduct numerous movement drills while attempting to break contact with the enemy, and set up a hasty ambush according to the mission order.

The culminating event could be performed over a 4- to 5-hour period and could easily be tailored to the time available. Although culminating events are incredibly challenging, they are very rewarding and a lot of fun. They are not as resource-intensive as they seem, and people will talk about them for a long time—and others will want to join in. When trained for over a long period of time, and with minimal external resources required, culminating events are easily completed at the team, squad, platoon, or company level. These are also great events for officers or senior noncommissioned officers to ensure that the first part of the eight-step training model is completed to satisfaction (and leaders are certified).

Conclusion

Less money and fewer personnel do not equate to reduced capability. However, greater ingenuity is required to maintain the same capability or to improve the existing capability that has been eroded away by more than a decade of a very specific type of sustained combat. The time to adjust is now. We are transitioning to a smaller and more capable force, reducing budgets, and returning to LSGCO. Whether we win or lose on the battlefield will be determined by how well we weather this budget and force reduction and transition back to LSGCO. We must maintain our tactical and technical skills; and for the foreseeable future, the only way to do that is to see everything as a training opportunity and then maximize those opportunities.

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Three Rules for Realistic Readiness: Building CBRN Capability in Reserve Component Maneuver Battalions

By First Lieutenant John F. Triolo

The mission of the chemical, biological, radiological, and nuclear (CBRN) officer of a Reserve Component maneuver battalion, if taken seriously, is not easy. With the limited number of training days available, most units have difficulty making time to train all of the capabilities that commanders consider most relevant to the unit mission-essential task list (METL). The usual allotment of unit training assemblies and 15 annual training days is not nearly enough time to build and maintain proficiency on all required tasks. The need to prioritize means that capabilities that are not in the forefront of senior leaders' minds will not receive emphasis. Unfortunately, a lack of focus on CBRN readiness could potentially lead to adverse consequences. These consequences might include a lack of proficiency with modified table of organization and equipment detection equipment, the inability to properly employ mission-oriented protective posture (MOPP), a lack of assigned or fit-tested protective masks for Soldiers, or a lack of capability with self- or operational decontamination. Without support for a proper plan to address or avoid such deficiencies, CBRN officers may stop making pragmatic attempts to build readiness and may withdraw into a time-serving mindset or continually make resource and time-intensive reform proposals that over-stretched leaders have no option but to reject. If a CBRN officer were to disengage in this way, he or she would be seriously failing to protect the force.

One important task of a maneuver battalion CBRN officer is to work vigorously to counteract the tendency to ignore CBRN priorities. CBRN readiness is vital for all Army elements, but it is especially vital for maneuver elements that are most likely to be in direct contact with the enemy as part of large-scale ground operations. Given our Nation's wide range of offensive capabilities and current focus on reshaping the Army with peer/near-peer competitors, the enemy incentive to use CBRN weapons to seize the initiative or deny access to key terrain is high. When this incentive is combined with relatively frequent incidents of battlefield employment of chemical warfare agents (such as in Syria and Iraq), the ability of our forward-most units to assess, protect against, and mitigate CBRN threats is absolutely critical. Army Regulation 350-1, *Army Training and Leader Development*, supports this view, requiring a significant amount of CBRN defense training for all units and calling for careful assessments by commanders to determine what METL tasks a unit should be able to perform in CBRN conditions.[1] The ultimate goal of a maneuver battalion CBRN officer is a unit that can turn enemy CBRN employment into an opportunity to close with and destroy that same enemy through a superior ability to operate in a contaminated environment. A CBRN officer's efforts should start with a recognition of the limits placed on his or her ability to prepare the unit and a desire to be active in the pursuit of realistic readiness.

We might define realistic readiness as a basic level of competence in CBRN defense and mitigation that is built around, and does not hamper, other training. CBRN personnel must understand that they will be required to build readiness within the existing organizational framework and resource constraints of their elements. This article proposes three relatively simple rules that can be used to guide a new CBRN officer's effort to build CBRN capability and lay the foundation for future growth.

Rule 1: Consider Staff Positions as Sales Positions

I was personally blessed with receptive, supportive commanders and senior officers while on a maneuver battalion staff. Anecdotal evidence suggests, however, that this is not the norm. In many units, CBRN training is viewed as a distraction at best and an impediment to meeting METL requirements at worst. A major part, perhaps the most important part, of a battalion CBRN officer's job is making the case for the relevance of CBRN readiness. One must "sell" the usefulness of the knowledge, capability, and training provided by the Chemical Branch. Without supportive command influence from battalion senior staff and company commanders, there are generally very firm and narrow

limits to how much a CBRN section can do to build readiness.

One method for demonstrating the necessity of building CBRN readiness is tying CBRN training to upcoming events. Upcoming or potential deployments are the events that can most obviously provide impetus and urgency to CBRN readiness training. The stringent, evaluated requirements for a unit that is mobilizing to go overseas typically include a number of CBRN tasks which, while not difficult in themselves, present a challenge to units that do not regularly train on those tasks. Premobilization checklists often include MOPP exchanges, detection, CBRN warning and reporting, and employment of weapons systems in a CBRN-contaminated environment. Performed on a regular or semi-regular basis, these and related tasks present no difficulty for otherwise well-trained Soldiers. When Soldiers attempt even common tasks in MOPP gear for the first time in years, however, inefficiency and incorrect performance are often the results. Respectfully, but frankly, speaking to superiors about the potential for failure if adequate resources are not devoted to CBRN readiness training can help to secure a portion of limited unit training time. Training center rotations and state or regional combined arms exercises can also provide useful deadlines for building CBRN readiness. Any event that includes outside evaluators can be the spur that prods a unit toward realistic CBRN readiness. The CBRN officer's job includes appropriately outlining deficiencies, evaluating the risks that those deficiencies create, and suggesting potential courses of action for correction. Once commanders and operations officers have this information, they have the power to make the right choices for CBRN readiness.

Another way that battalion CBRN officers can help sell CBRN readiness is by educating leaders on the CBRN threats in today's operational environments. From the danger of North Korea's robust CBRN warfare programs to the use of nerve agents in the Syrian Civil War to the increasing employment of toxic industrial chemicals by terrorists and insurgents around the world, the threat posed to units is very real. The CBRN officer must ensure that the right people are aware of this reality. This education can be accomplished in a number of ways. The easiest way is to develop a CBRN update newsletter that keeps leaders throughout the battalion apprised of relevant incidents involving chemical and biological warfare agents. Formal presentations addressing a specific CBRN incident are another method. These presentations could be incorporated into officer or noncommissioned officer (NCO) professional development programs or given to senior staffs and commanders to provide situational awareness. To remain in keeping with the unit maneuver context, presentations should focus on battlefield employment, such as the use of sulphur mustard and chlorine in the Mosul region in 2016 by the so-called Islamic State. CBRN officers should address what similar CBRN employment would mean for the battalion and the readiness steps to take in advance to mitigate risk.

"From the danger of North Korea's robust CBRN warfare programs to the use of nerve agents in the Syrian Civil War to the increasing employment of toxic industrial chemicals by terrorists and insurgents around the world, the threat posed to units is very real."

The primary audience of a sales-oriented CBRN education program is the senior leadership. The main goal is to influence action rather than to purely educate. It is also important to remember the significance of personal relationships. Key leaders in the battalion are more likely to value the input and emphasize the priorities of the CBRN officer if that officer has built a reputation as a helpful, industrious, pleasant team player. It is important to make the case for the relevance of CBRN readiness and take the time to cultivate the relationships necessary for productive cooperation.

Rule 2: Pick the Low-Hanging Fruit

While a light infantry or armored battalion may not have the time or resources to intensively focus on CBRN readiness, there are numerous areas in which the hard work of a CBRN section can positively impact readiness without requiring too much of others. Early in his or her tenure, the battalion CBRN officer should focus intensely on easily implemented changes in readiness, or the "low-hanging fruit." Showing positive results in these areas should encourage leaders to use command influence to support more significant changes in the future.

The simplest change that an incoming CBRN officer can make is improving the organization of the battalion CBRN room. While CBRN defense equipment and supplies are often stored in an appropriate location, an informal inspection of such facilities typically reveals a number of areas in which significant alterations could be profitable. For example, although most line company supply NCOs can easily ensure that detection equipment is calibrated on schedule, it can be more challenging to provide proper preventive maintenance checks and services for all CBRN equipment. This is particularly true in companies that no longer have Military Occupational Specialty (MOS) 74D (CBRN Specialist) personnel on their modified tables of organization and equipment. The CBRN section has an opportunity to support this effort by rotating CBRN personnel through company armories over a number of drill weekends. Another fairly typical opportunity in CBRN rooms is shelf-life management of CBRN consumables. The battalion CBRN section should compile a full inventory of all CBRN consumables with expiration or wear-out dates. Such a list allows the CBRN section to support company personnel who track and dispose of items that are no longer serviceable and to order replacements when necessary. The CBRN officer or section NCO in charge should carefully monitor the Joint Acquisition CBRN Knowledge System for amendments or extensions to expiration dates. The CBRN officer should pay particular attention to safety messages from the Life Cycle Management Command, U.S. Army Tank-Automotive and Armaments Command, Warren, Michigan, to ensure that unsafe equipment is never used for operational or training purposes.

In many units, another relatively simple change with a potentially large impact on CBRN readiness is ensuring that every Soldier in the battalion has an assigned, properly fitted, and regularly fit-tested chemical protective mask. Despite a long-standing Army requirement that all Soldiers be assigned a mask and receive an annual fit test, Army National Guard and U.S. Army Reserve maneuver units commonly fail to meet this standard. This necessary task often goes uncompleted simply because there is no CBRN readiness advocate to facilitate it. The battalion CBRN officer should work with company commanders, first sergeants, and platoon leaders to ensure that fit tests are performed and integrated into training as seamlessly as possible. Rather than have an entire company stand in line behind a Protective Assessment Test System, the goal is to have small groups rotate through a testing station during natural breaks in training. A good opportunity for fit testing might be during the unit periodic health assessment or the cold-weather drill typically used to complete many classroom-based mandatory training requirements.

A slightly more ambitious area for improvement, which might still be considered low-hanging fruit, is the integration of CBRN tasks into ordinary METL or Soldier skills training. There are many tasks in which commanders are required to train Soldiers. These range from simple individual tasks such as employing a personal weapons system to complex unit level tasks such as conducting a movement to contact. Published training guidelines indicate that in order for an element to be considered fully trained in many of these critical tasks, some iterations must be conducted in a simulated CBRN environment. Battalion CBRN officers should seek out company commanders and offer to help integrate CBRN defense equipment, especially MOPP gear, into regular training plans. Many company commanders appreciate the additional skills acquired and the rigor of incorporating CBRN readiness into training events. The battalion CBRN officer, however, must act as the subject matter expert, bringing commanders solutions for incorporating CBRN readiness. The company commander should be presented with a well-developed plan for approval—not asked to develop a plan in addition to his or her other duties.

Time is limited in Army National Guard and U.S. Army Reserve units and will only become more so as the intent of Objective T (the objective task assessment methodology discussed in Field Manual 7-0, *Train to Win in a Complex World*) is fully incorporated into training plans.[2, 3] The more limited the time, the less attention that is likely to be paid to CBRN readiness tasks. CBRN officers can counter this tendency by keeping abreast of all battalion operations and constantly looking for ways to easily facilitate increased readiness.

Rule 3: Grow the Team

A persistent challenge faced by CBRN officers in their efforts to build CBRN readiness in maneuver battalions is maintaining an adequate number of personnel throughout the organization to support this effort over the long term. Some line companies no longer have MOS 74D NCOs, and units that maintain line company MOS 74D NCOs typically have only one per company. This may not be a large enough pool of fully trained personnel to facilitate training and readiness.

One way to address this potential deficiency is to develop a network of battalion personnel who have trained in CBRN skills to a level that allows them to meaningfully contribute to CBRN readiness. This training should include operating CBRN detection equipment, conducting chemical protective mask fit tests, training Soldiers in mask and Joint Service Lightweight Integrated Suit Technology employment, and assisting with the operational decontamination of the company when necessary. Such a program would require the approval and support of the battalion commander and operations section. A battalion-wide policy should direct subordinate elements to provide a certain number of Soldiers for the program. The CBRN section should train team members annually, at a minimum, to a level of knowledge and ability that supports CBRN readiness based on the company commander's needs and the CBRN officer's assessment. Back at home station, team members could act as auxiliary CBRN subject matter experts, teaching classes, using CBRN equipment, and assisting supply NCOs with shelf-life management. More ambitiously, these Soldiers could be trained to assist the CBRN section in facilitating operational decontamination of its company.

Conclusion

CBRN training and readiness will not, and should not, be the primary focus of maneuver battalions. CBRN readiness is, however, a necessary capability for every unit in the current operational environment and for those envisioned for the future. In order to ensure that units are as prepared as possible to operate in a CBRN environment, battalion CBRN officers must set pragmatic goals for building readiness and pursue those goals with energy and inventiveness. It is absolutely essential that battalion CBRN officers remain entrepreneurial, constantly seeking new opportunities to "sell" the importance of CBRN readiness, pick the low-hanging fruit of easy improvements at all levels, and grow the unit CBRN readiness team. These incremental changes, while maintaining a focus on CBRN capabilities as maneuver support, can provide a path toward true realistic readiness.

Endnotes:

[1]Army Regulation 350-1, *Army Training and Leader Development*, 10 December 2017.

[2] Brian J. Ketz et al., "Objective T: Preparing Units to Fight Tonight," U.S. Army Web site, 1 March 2018, <https://www.army.mil/article/199639/objective_t_preparing_units_to_fight_tonight>, accessed on 18 April 2018.

[3]Field Manual 7-0, *Train to Win in a Complex World*, 5 October 2016.

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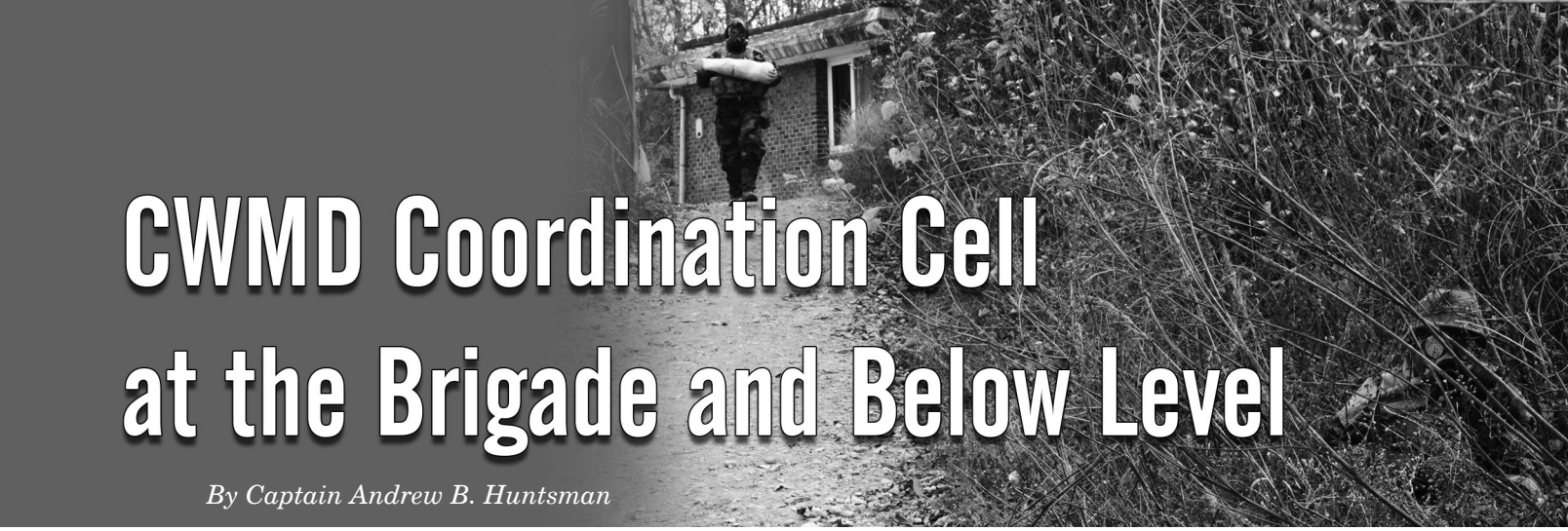

CWMD Coordination Cell at the Brigade and Below Level

By Captain Andrew B. Huntsman

Army Warfighting Challenge No. 5, Countering Weapons of Mass Destruction (CWMD), continues to be a significant problem set that baffles leaders across echelons. As the situation on the Korean peninsula escalates, the operational Army needs to understand CWMD and how to implement it at the brigade and below level, now more than ever. With the publication of Army Techniques Publication (ATP) 3-90.40, *Combined Arms Countering Weapons of Mass Destruction*, in June 2017, the Army firmly established doctrine from the CWMD exercises executed by the 2d Infantry Division (2ID) and 8th Army over the last 3 years.[1]

With Republic of Korea Army partners, 2ID conducts quarterly CWMD exercises, collectively called Warrior Strike, to maintain proficiency in its assigned CWMD mission-essential tasks. These exercises train rotational unit forces assigned to 2ID to integrate chemical, biological, radiological, nuclear, and explosives (CBRNE) and other critical-enabler personnel (human collection teams, engineers) in mission planning and execution of isolating, seizing, securing, and exploiting a weapons of mass destruction site in a complex environment under all conditions.

Additionally, in conjunction with the Republic of Korea–U.S. Combined Forces Command and U.S. Forces Korea, 2ID and 8th Army participate in biannual computer-assisted command post exercises that integrate the complexities of CWMD operations into a computer simulation. The rotational units and technical enablers, to include the 20th CBRNE Command, join together as a combined joint task force for elimination to participate in the exercises.

The operations process is one of the most critical aspects of the CWMD process; extensive planning across all warfighting functions is required for successful operations. The CWMD task force at the brigade and below level requires task organization that allows the right enablers to be leveraged at the right time. Enablers are extremely technical forces that general-purpose maneuver forces responsible for CWMD operations are often inexperienced in employing. Once specialized enablers are task-organized to a CWMD task force, a CWMD fusion cell should be established to properly employ these technical forces.

CWMD Coordination Cell

The CWMD coordination cell should be formed informally at the brigade and below level, but brigade and battalion CWMD task force commanders must be allowed to visualize and direct operations during technical forces employment. ATP 3-90.40 defines the CWMD cell as a group that is "formed to manage CWMD processes, capabilities, and tasks . . . [and] provides the commander with specialized, technical subject matter expertise to support CWMD operations."[2]

The CWMD coordination cell at brigade and battalion levels is headed by the senior technical enabler representative, who synchronizes the CWMD mission during the military decision-making process and execution. The senior technical enabler representative serves as a specialized staff member to the maneuver commander to ensure shared understanding of the mission and its desired end state.

CWMD at the Brigade Level

At the brigade level, CWMD operations require a constant evaluation of the forces assigned, the forces available, the current execution of CWMD, and the forecasted execution of CWMD as part of the operations process. At a minimum, the integration of a technical enabler liaison officer is required to properly capture complexities of the CWMD operations process. It would be more beneficial to integrate a technical enabler headquarters to support a brigade combat team CWMD task force. For example, a CBRN battalion headquarters element integrated into a brigade CWMD task force headquarters would allow the brigade commander to utilize the CBRN battalion commander and staff as the CWMD coordination cell to properly synchronize the allocation of technical CBRNE forces to subordinate battalion CWMD task forces.

Integrating an enabler headquarters would allow the brigade to leverage specific capabilities in training and experience to ensure that subordinate CWMD task forces were properly equipped, task-organized, and sustained for the full spectrum of CBRNE threats that are part of CWMD operations. Across all six warfighting functions, the CBRN headquarters could dramatically improve the brigade capability to conduct the military decision-making process against the CWMD problem set beyond the brigade organic capability.

Enabler headquarters assistance in the military decision-making process would provide the most benefit in the intelligence preparation of the battlefield process and the estimation of the number of technical enablers required for each weapons of mass destruction objective. This assistance would allow the commander to visualize the required efforts for protection and sustainment of the CWMD fight and the overall time required for CBRNE exploitation operations to reach the commander's desired end state.

The center of gravity during the CWMD fight is the command post; the major difficulty during CWMD training is the synchronization of maneuver, maneuver support (enablers), and sustainment efforts across the echelon. The initial integration of enabler units, the coordination with host nation or alliance partners, and the coordination with joint or special operational units require a robust and well-trained command post staff that understands the complexities of the CWMD fight. Thus, the early integration of the enabler headquarters is critical for providing the necessary experience for the initial success of the brigade CWMD task force.

Soldiers participate in a CWMD exercise during Warrior Strike.

CWMD at the Battalion Level

At the battalion level, CWMD operations are much the same as those at the brigade level. As objectives may differ in size, a CWMD battalion task force might only require one CBRNE enabler asset to accomplish the mission. This may require that the battalion organic CBRN officer be responsible for the CWMD coordination cell.

A battalion may have a more robust objective area that requires a CBRNE company or team to execute the mission (for example, during CWMD exercises such as Warrior Strike). In this case, the enabler company commander, as the senior CBRN enabler, should serve as the CWMD coordination cell officer in charge (OIC) at the battalion level. As at the brigade level, this function is best accomplished by fully integrating the enabler headquarters into the battalion command post.

Battalion and company level maneuver commanders and battalion CBRN officers (first lieutenants and second lieutenants) typically have little experience with the implementation of specialized technical enabler forces. In the case of a single enabler element, a liaison officer from the enabler unit (team or platoon) integrated into the battalion mission command node helps shape the correct employment of the technical forces; this can be done through frequency modulation or through joint capabilities release/upper tactical Internet (satellite-based computer). But during training exercises, face-to-face communication with the battalion CWMD task force commander is significantly more effective.

CWMD is a complex operation for all echelons. The CWMD coordination cell OIC (liaison officer or enabler company commander) helps decrease the battalion staff load during the overall mission. The OIC allows the battalion CBRN officer to focus on consequence management planning at the operational decontamination level in order to sustain maneuver combat power. He or she also allows operations to focus on the maneuver fight with host nation and alliance partners to ensure that the ground tactical plan is synchronized and that tactical tasks are properly assigned to support the desired CWMD end state. The CWMD coordination cell OIC allows the warfighting personnel to continue to focus on their role in the fight, while he or she provides assistance from personal experience and a specialized knowledge base. The coordination cell OIC serves as the subject matter expert who synchronizes the specifics of the CWMD fight by providing technical expertise regarding requests for information on weapons of mass destruction; he or she leverages technical enablers at the correct time to accomplish the mission.

Conclusion

CWMD operations require a team effort from maneuver and technical enabler forces. They require deliberate planning and understanding to achieve the desired end state. A CWMD coordination cell, led by a CBRNE enabler commander or, at a minimum, a dedicated liaison officer, is required to help maneuver commanders at brigade and battalion levels visualize, describe, and direct the mission to completion.

Endnotes:

[1]ATP 3-90.40, *Combined Arms Countering Weapons of Mass Destruction*, 29 June 2017.

[2]Ibid, p. 2-3.

Captain Huntsman is the commander of the 501st CBRNE Company (Technical Escort), 23d CBRN Battalion, 2ID, Camp Humphreys, South Korea. He holds a bachelor's degree in chemistry from Fordham University, New York.

DEBT is Looming Over Military Households, Even in Retirement

By Lieutenant Colonel Rodney S. Morris (Retired)

There is a debt problem in America. There is a debt problem in the military. Debt is prevalent in most American households, and it is the single largest reason that families are not building wealth. When a large percentage of family income is used to make a car payment or two or pay off student loans, credit cards, or other incurred debts, there isn't enough money remaining to invest in the family's future. That is not okay. That is especially not okay when the government Social Security Program, designed to supplement retirement, is in danger of failing to meet its mission by the year 2035.

Statistics show that unemployment is at its lowest level in 16 years. Furthermore, the economy has fully recovered since the 2008 housing crash and American families are much better off financially. However, the debt crisis in America suggests that Americans are in a much darker place economically than unemployment statistics show. A new study that surfaced in 2018 suggests that Americans are heading into retirement with larger amounts of debt than ever before.[1] Researchers found that since 2010, a higher percentage of people are retiring in their early 60s and that 70 percent of them are in some level of debt, up from 64 percent in 1992.[2]

According to a 2017 Harris Poll, 78 percent of working Americans live paycheck to paycheck, up from 75 percent in 2016, and 8 out of 10 Americans claim they are working and using all of their earned income to pay debt.[3] The survey highlights a troubling trend in American family households. At a time when unemployment continues to decrease, income earners continue to lose ground to debt problems.

Another recent study shows that Americans who are at retirement age are filing for bankruptcy at triple the rate since 1991.[4] These senior citizens now represent more than 12 percent of bankruptcy filers. This number has skyrocketed 479 percent over the last 25 years. There are several factors that contribute to this, including delayed social security benefits, eliminated pensions, out-of-pocket health care costs, and stagnant wages. The biggest reason, though, is the lack of a plan to maneuver through these times to ensure that disposable income is available for needs and is not going toward extraneous debt.

In speaking with military personnel over the past several years, I have discovered that trends for military Families are no different than recent nationwide statistics. But a survey for the National Foundation for Credit Counseling found that Regular Army Soldiers and veterans carry 7 percent higher credit card debt and 15 percent higher debt expenses than their civilian counterparts.[5] Regular Army Soldiers and veterans also have 16 percent fewer tangible assets than their civilian counterparts. The survey attributes these problems to frequent relocations and numerous deployments, which prevent consistency and predictability and cause significant strain on personal finances. Carrying excessive debt is particularly concerning for military personnel and Department of Defense employees because it could affect their security clearances.

Financial mismanagement is often the culprit that causes excessive debt. It is derived from the "I want what I want, and I want it now" mentality. The idiom "keeping up with the Joneses" was coined to describe this mentality. Purchasing items on impulse or without a budget or plan is almost always a mistake. Spending money that one does not have is almost always a mistake. Borrowing money to fund that next big purchase (with the exception of a reliable used car or a reasonable place to live) is almost always a mistake. Purchasing something that one wants when there are actual needs is almost always a mistake. Making bad financial decisions causes setbacks in attaining financial goals and objectives. When one bad decision is piled on top of another, the situation is further exacerbated. Eventually, there is no way out. Living paycheck to paycheck is inevitable; sometimes even bankruptcy is inevitable.

Making smart decisions about spending, saving, and investing is paramount to successful financial planning. It is not difficult to develop a financial plan, but it can be hard for some to follow one. It takes discipline and an intense desire to be freed from the chains of debt. A well-developed, detailed personal financial plan can lead toward financial freedom.

The most important first step in developing a successful financial plan is to recognize that excess spending is the cause of debt accumulation. Spending on anything that is not a necessity must stop immediately. This won't necessarily always be the case, but it is for now. Borrowing money, including borrowing on credit cards, must also stop. Most people find this step the most difficult because it involves changing poor financial habits that may have developed over many years. It can be done, but it takes discipline and commitment.

The second step in developing a successful financial plan is to gather all unpaid invoices, bills, and financial statements. To avoid unnecessary confusion, discard all except for the most current statement from each debtor. Next, develop a list of all expenses and debts owed and to whom they are owed and place them in order of importance. Anything that is required (food, energy, prescriptions) should be a priority. Anything that is not required (cable bills, streaming subscriptions) should be placed at the bottom of the list.

The third and final step necessary to get spending under control is to develop a monthly budget. If married, this step requires buy-in from the spouse—and the budgeting process should be done together when possible. While developing a budget is a simple process, care should be taken to ensure that every expense is included. Anything left out will cause unforecasted expenses that can lead to financial problems later in the month.

During the budgeting process, income is balanced against expenses. Every dollar of earned income should be included in the budget and accounted for in an expense or savings category. This ensures that each dollar is committed in the budget and is not lost. Managing spending is important; otherwise, it is the spending that will do the managing.

The phrase "knowledge is power" is often used by educators when they want to motivate their students to learn. Actually, it is the execution of knowledge that brings power. This is particularly true when it comes to personal finances. In order to start building wealth and enjoy a financially stress-free retirement, debt must be eliminated.

There is a debt problem in America. There is a debt problem in the military, and it is wreaking havoc on Families who work hard to get ahead. It is time to get control of your financial world. This is the time to make a commitment to stop unnecessary spending and borrowing. This is the time to develop a realistic budget and follow it. This is the time to eliminate the debt that is following so many military Families into retirement.

Editor's note: Contact your installation Army Community Service office for information on financial readiness.

Endnotes:

[1]Annie Nova, "This Growing Problem Threatens to Delay Your Retirement," *CNBC*, 4 June 2018, <https://www.cnbc.com/2018/06/04/debt-levels-could-delay-your-retirement.html>, accessed on 20 March 2019.

[2]Ibid.

[3]Ladan N. Hayes, "Living Paycheck to Paycheck is a Way of Life for Majority of U.S. Workers, According to New CareerBuilder Survey," *CareerBuilder* Web site, 24 August 2017, <http://press.careerbuilder.com/2017-08-24-Living-Paycheck-to-Paycheck-is-a-Way-of-Life-for-Majority-of-U-S-Workers-According-to-New-CareerBuilder-Survey>, accessed on 20 March 2019.

[4]Jill Schlesinger, "Behind the Surge in Seniors Filing for Bankruptcy," *CBS This Morning*, August 2018, <https://www.youtube.com/watch?v=1Ojsol6-nhI>, accessed on 20 March 2019.

[5]Herb Weisbaum, "Survey: Military Families Carry More Debt, Have Fewer Assets Than Civilians," *National Broadcasting Company*, 13 July 2015, <https://www.nbcnews.com/better/money/survey-military-families-carry-more-debt-have-fewer-assets-civilians-n390046>, accessed on 20 March 2019.

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Dave Ramsey, *Financial Peace Revisited*, The Penguin Group, 2014.

Lieutenant Colonel Morris (Retired) is an assistant professor for the Advanced Operations Course, Department of Distance Education, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas. He is also an associate professor at Barton Community College, Fort Leavenworth, where he teaches personal finance and economics. He holds a bachelor's degree in criminal justice from Chaminade University of Honolulu, Hawaii; a master's degree in administrative management from Central Michigan University; and a doctorate degree in adult education from Capella University.

A Community of Leaders for Leaders

By the Center for Junior Officers

Chemical, Biological, Radiological, and Nuclear (CBRN) junior officers: Are you looking for a professional space to connect with like-minded leaders about improving yourself and making your unit more effective? Check out Junior Officer (JO) at <http://jo.army.mil>, your dedicated space for professional development.

What is JO?

JO is an online space dedicated to the professional development of Army junior officers and the organizations they lead. In JO, junior officers can find a wide array of leader development resources, including—

- **Blog posts**—original articles on topics relevant to junior officers. New content from junior officers is welcome!
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- **Leader/Visual Metaphor Exercise**—an exercise used to identify current values reflected in the organization and to discuss future development.
- **Leadership Psychology Talk**—a presentation on a wide range of topics related to the psychology of leadership.

The Center for Junior Officers is an Army-sponsored unit that supports junior officers across the force. To find out more, contact the Center for Junior Officers by e-mail at <info@jo.army.mil>.

See you on JO!

Soldiers Take Advantage of a Rare Training Opportunity in Times Square

By Mr. Joshua R. Ford

Smoke ceaselessly poured into the theater at Times Square Church in New York City, New York, while Soldiers and New York City firefighters geared up in response to an incident involving a deadly chemical agent. New York City police officers quickly blocked 51st Street from automotive and foot traffic, while Soldiers and firefighters hastily set up decontamination tents and readied breaching equipment.

The training event, which was designed to resemble a real-world scenario that any major city across the globe could face, was a part of the National Homeland Response Conference that took place in New York City, 9–12 July 2018. For New York City firefighters, this is a familiar event; for Soldiers, the event provided experience and exposure to the big-city chaos that first responders handle on a daily basis.

The New York City Fire Department and U. S. Army North (Fifth Army) conduct a training event at the Times Square Church during the 2018 National Homeland Security Conference.

"We need to provide Soldiers [with] exposure to these types of training opportunities as much as possible," said Mr. Phillipe Kebreau, Echo Division Chief (Training and Readiness), Civil Support Training Activity, U.S. Army North, San Antonio, Texas. "What we're trying to do is involve the Soldiers so they can get that exposure and build a level of confidence with local first responders. They're here to reinforce the local response formation," he continued.

Civilian volunteers simulate casualties.

New York City provides a training environment (complete with traffic and population) that a military installation would not be able to replicate, making the venue and opportunity important. Kebreau relayed that it's hard to capture the mass confusion that goes on in a city in a military installation environment.

A safety officer and firefighter with the 468th Engineer

U.S. Northern Command personnel and New York City Fire Department officials evaluated members of New York's emergency services and the New York Army National Guard response to a simulated chemical event.

Detachment from Danvers, Massachusetts, stated that training with those who work as local first responders on a regular basis is invaluable, as it provides ideas on what to adjust. "You learn there's a lot of free thinking and problem solving that goes into a response," he said. "Everything I learn here, I [can] reuse in some fashion as a power electric employee. From tying knots to applying lessons learned here to our processes back home, it's useful," he continued.

The Times Square event did not just benefit the Army. "What we take away from this is knowing the many resources at our disposal," said the New York City Fire Department Hazardous Materials Battalion Chief and Weapons of Mass Destruction Branch Director. "We just never really knew how to get them, what they could do for us, what they couldn't do for us, and what capabilities could be brought to the table. Through this training, we have a greater understanding of what resources we have, not just at [Department of Defense] DOD disposal, but at our disposal," he continued.

Overall, the training event incorporated medical, hazmat, and firefighting training. From the Soldier/firefighter level, there've been tremendous growth and learning on both sides of the fence. "It's a two-way street. When it comes to the hazmat and [chemical, biological, radiological, and nuclear] CBRN mission, there's a lot of give-and-take on both sides," said the New York City Fire Department Hazardous Materials Battalion Chief and Weapons of Mass Destruction Branch Director. "DOD has access to equipment and resources that we'd normally not have access to; and in exchange for that, we have some very talented technical specialists that have devoted their entire careers to this work and they're able to give something back to DOD," he added.

Mr. Ford is a public affairs specialist for U.S. Army North.

Photograph and Illustration Guide

Photographs and illustrations contribute a great deal to the visual appeal of an article. When submitting them with your article, please keep the following in mind:

- **Subject matter**—Action shots that show Soldiers who are training or performing their jobs are the best way to enhance an article. Static photographs of landscapes, structures, or distant machinery in action are less useful. Photographs of groups of people smiling at the camera or "grip and grin" shots add little to an article and are unlikely to be used.
- **Format**—Photographs saved in JPEG (or JPG) format and sent as attachments to an e-mail are best. Photographs and other graphics should not be embedded in a Microsoft® Word document or PowerPoint presentation. Graphics files are large, and e-mail systems frequently have limits to the size of messages that can be sent. For example, our system cannot accept messages larger than 20 megabytes (MB). One solution is to send separate e-mails with just one or two attachments each.
- **Size and resolution**—The ideal photograph or graphic for print reproduction is 5x7 inches at 300 dots per inch (dpi), but smaller sizes may be acceptable. If the photograph is a JPEG, it should be no smaller than 150 kilobytes (KB). A 5x7-inch, 300-dpi photograph saved as a TIF should be 1 MB to 3 MB in size. When taking photographs, use the highest resolution setting on your camera and save them at a resolution no lower than 200 dpi. Photographs appearing on the Internet usually have a resolution of only 72 dpi. They will look fine on a computer monitor, but do not reproduce well in print. However, photographs that are available for download as "high resolution" will probably meet the minimum requirements. Do not manipulate photographs by sharpening, resizing, retouching, or cropping the image. Using a graphics software program (such as Adobe® Photoshop) to increase the size and/or resolution of a small photograph will not increase the quality of the photograph so that it can be used in a printed publication. Do not compress photographs. We will do all postproduction work. We will not publish photographs that are pixilated or out of focus.
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- **Photographs of foreign nationals**—Due to security restrictions, photographs of foreign nationals cannot be published without digital editing (blurring faces) unless the photograph(s) are accompanied by a permission to release signed by the subject(s).
- **Graphs/charts and illustrations**—We prefer to work with original digital graphic files. Submit the original PowerPoint slides and/or layered Adobe Photoshop/Illustration files. Do not save them in a different format or flatten the layers.

Implementation Plan for Your Professional Reading Program: Find-Fun-Fast!

By Colonel Paul J. Kremer

The value of a professional reading program is well understood. Additionally, there are numerous book lists recommended by key business and military leaders. The biggest challenge is the implementation plan, which describes the actual start-up and continuous effort involved in a professional reading program over an extended period of time. The purpose of this article is to describe how to develop an implementation plan for a professional reading program. I have had some success with reading programs at various points in my career; however, it has only been in the past few years that I have experienced success on an advanced and consistent basis. There are some important components when beginning a professional reading program—finding a book mentor, finding sufficient time, making it fun, and completing it quickly. Find–Fun–Fast!

Find a Book Mentor

It was not until I became an executive officer to a general officer in a combat zone that I had the opportunity to watch a senior leader in action from a close vantage point. I closely observed my boss as he fit a professional reading program into his incredibly demanding schedule. Like any quality mentor, he encouraged everyone on our small team, regardless of rank, to read. Furthermore, he cared enough to pass what he learned on to his staff. He described what he read during those few precious minutes between meetings and, most often, very late at night. More importantly, he implemented the best ideas into his work. Based largely upon my observation of his personal actions, I was inspired to restructure my own reading program. Having the general officer as my book mentor changed my behavior and enhanced my reading program beyond what I ever thought possible. It was cool to read; it was cool to learn. We were nerds!

Find Sufficient Time

A lack of time is probably the No. 1 excuse that individuals give for not having a professional reading program. Everyone is busy, but today's leaders are no more active than those of 50 years ago. Therefore, this excuse should be rejected. Leaders must make strategic choices for their time, as this implementation guidance does not add more hours to the day. As with any resource challenge, prioritization is key. The first step that I took was

"Everyone is busy, but today's leaders are no more active than those of 50 years ago. . . . Leaders must make strategic choices for their time. . . . As with any resource challenge, prioritization is key."

to decrease the time I spent watching television and movies. While initially challenging, this move saved at least 30 minutes each day. As the father of a large Family, I also spent time transporting kids to events, waiting at pick-up points, and sitting in the stands at practices and games. The next step I took was to put down my cell phone and pick up a book during those times. This added more than 30 additional minutes a day to the time available for my reading program. One last technique I used was dedicating 3 hours every weekend to my reading program. I accomplished this by watching one less football game, getting up earlier on Saturday morning, or making use of weekend coffee time.

It's possible to really burn through some pages during the weekend!

Make it Fun

Having fun is an essential part of a professional reading program. If reading becomes work, then the likelihood of success is dismal. If you read books only from senior leader book lists, then you are reading what interests them—not you. Reading must be enjoyable; otherwise, you will stop before you finish the first book. Do not start your reading program by reading *War and Peace.*[1] It may be a classic, but it is not a beginner's book. Instead, take baby steps and read short, exciting books such as *The Martian,*[2] *This Kind of War*,[3] *Who Moved My Cheese*?[4] or *It Doesn't Take a Hero.*[5] Build momentum by reading books that grab your attention quickly and are of great interest to you. Determining the initial reading list is one of the critical tasks of a book mentor. Your mentor should know you and have insight into your motivation and interests.

An important tip that applies to any tough challenge is to set a big goal, announce it, and talk about it. Make the goal interesting and meaningful. My personal goal over the past several years has been to read 50 books per year—almost one book per week. This year, I decided to stretch myself and go for 60 books. I use <www.goodreads.com>[6] to set and track my goals, plan my future reading list, and share book reviews with others. The Web site is free, and easy and fun to use.

A final tip is to seek diversity. I occasionally review the types of books I have read, I and have typically found that nearly 75 percent involve history. The reason is simple: I like history. While this interest fits nicely with many military senior leader reading lists, I do try to expand my intellect and I deliberately plan future readings to cover other areas such as business, economics, science, and fiction. While I keep true to myself by maintaining a healthy dose of historical readings, I deliberately plan to read about other subjects to become more well-rounded. For example, I read fiction to gain insight into potential future events. History describes the past—fiction is a potential window to the future. Furthermore, reading about science is key to understanding how life and nature work. Reading about these other subject areas allows me to expand my comfort zone and enhance my self-development.

Make it Fast

We generally start and finish a movie within a couple hours and, thus, gain a sufficient understanding of the characters and the crises they face. But imagine watching a movie in intervals of 10 minutes at a time over a period of 1 or 2 months until you had finished. How would you ever appreciate the character development or get into the action or drama that unfolds? Reading a book for only 10–15 minutes per day over a month's time does not allow for any depth in the experience. The outcome will be woefully unfulfilling, likely leading to the end of your reading program. Consequently, read the book faster.

Fast reading, however, does not equate to speed reading. I do not recommend speed reading, as it leads to skipping sentences and even entire paragraphs and does not allow sufficient time for the brain to process the material. If significant portions of text are skipped, the message is lost. Another tip is to avoid the exclusive use of audio books. While audio books can be an essential element to a reading program, I struggle to remember the details of the material after listening to an audio book. I find that when I engage multiple senses by reading a physical book (seeing the words and hearing myself read the words in my mind), I am better able to write a short note about what I learned after completing the book. I use audio books on long drives and while commuting to and from work—and largely for my fictional reading, as I don't need to highlight and remember key lines or concepts word for word. With leadership, business, and history books, I want to retain key concepts and I find that reading a physical book is best. The goal of a professional reading program is additional knowledge—not a specific number of books read. My self-evaluation metric is simple: Can I write a paragraph or two documenting my thoughts after reading the book? If I cannot remember enough to write coherent thoughts, then my retention was poor and I wasted my time.

Use these tips in developing your implementation plan for a professional reading program! Don't start with 50 books per year; start by reading two books this month. To enhance your odds of success, remember: Find–Fun–Fast!

Endnotes:

[1]Leo Tolstoy, *War and Peace*, Vintage Classics, 1869.

[2]Andy Weir, *The Martian*, Broadway Books, Danvers, Massachusetts, 2014.

[3]Theodore Reed Fehrenbach, *This Kind of War,* Potomac Books, Lincoln, Nebraska, 1963.

[4]Spencer Johnson, *Who Moved My Cheese*? G. P. Putnam's Sons, New York, 1998.

[5]Norman Schwarzkopf, *It Doesn't Take a Hero*, Bantam Books, New York, 1992.

[6]"GoodReads," <www.goodreads.com>, accessed on 4 December 2018.

Colonel Kremer serves as the deputy commander of the Great Lakes and Ohio River Division, U.S. Army Corps of Engineers. He holds a master's degree in human resources development from Webster University and is a certified project management professional.

HONORING A VETERAN DRAGON SOLDIER

Compiled by Ms. Cheryl L. Green

Possibly one of the oldest Dragon Soldiers alive, Command Sergeant Major George L. Murray (Retired) celebrated his 100th birthday on 31 March 2019. Murray is a veteran with an extensive connection to the U.S. Army Chemical Corps and Regimental Association. His military career spanned more than 30 years. He joined the U.S. Army under the Chemical Warfare Service in 1939 and retired in 1969, after 31 years of service. His military service was almost exclusively in the Chemical Corps, serving in Japan, Europe, and numerous locations in the United States. Significant highlights of Murray's career include—

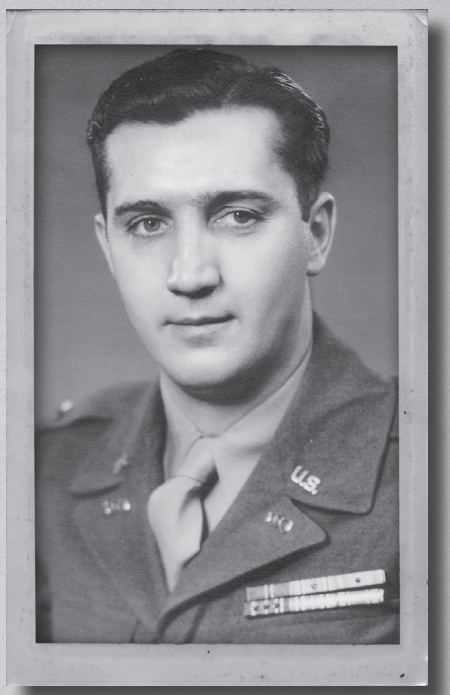
- Assignment as a corporal to Company A, 1st Separate Chemical Battalion, Schofield Barracks, Hawaii, during the Pearl Harbor attacks.
- Assignment as a second lieutenant to Company C, 86th Chemical Mortar Battalion, in France.
- Attachment to the 28th Infantry Division and assignment near the Germany-Belgium border during the Battle of the Bulge.

After World War II, Murray reverted back to enlisted status. He was promoted to sergeant major in 1959; and in 1969, he was one of the first Soldiers designated as a command sergeant major.

Following military retirement, Command Sergeant Major Murphy (Retired) remained active in his support of the U.S. Army and the Chemical Corps. He is a member of the Pearl Harbor Survivors Association, the Veterans of the Battle of the Bulge, and the 86th Chemical Mortar Battalion Association. He was the first honorary sergeant major of the Chemical Corps Regimental Association. In 1994, he was inducted into the U.S. Army Chemical Corps Hall of Fame.

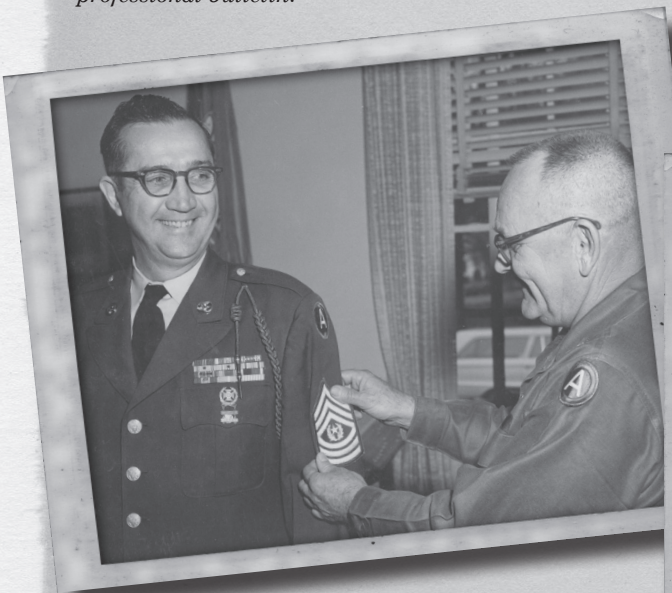
Command Sergeant Major George L. Murray (Retired) is the namesake of the Murray Leadership Award, a chemical, biological, radiological, and nuclear (CBRN) Soldier competition that tests technical and tactical skills and common Soldier knowledge.

Ms. Green is the editor for the Army Chemical Review *and the* Military Police *professional bulletin.*



Command Sergeant Major Murray

Staff Sergeant Murray (front row, left) with his unit in 1942 at Schofield Barracks, Hawaii.



Colonel William H. McKean pins stripes on newly promoted Command Sergeant Major Murray.

Command Sergeant Major Murray (Retired) and Lieutenant General Leslie C. Smith present the Murray Leadership Award to two recipients.

DOCTRINE UPDATE

U.S. Army Maneuver Support Center of Excellence Capabilities Development Integration Directorate Concepts, Organization, and Doctrine Development Division			
Number	**Title**	**Date**	**Status**
Joint Publications			
The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) is not the proponent for joint publications (JPs). However, the Chemical, Biological, Radiological, and Nuclear (CBRN) Doctrine Branch; Concepts, Organization, and Doctrine Development Division; Capabilities Development Integration Directorate; U.S. Army Maneuver Support Center of Excellence, is often a key stakeholder and sometimes the lead agent for a JP. Five JPs affect the development or revision of tactical-level CBRN publications.			
JP 3-11	*Operations in Chemical, Biological, Radiological, and Nuclear (CBRN) Environments*	29 Oct 18	Current.
JP 3-11 focuses on maintaining the joint force ability to conduct the range of military operations in a CBRN environment. The revised JP 3-11 synchronizes and updates language with JP 3-40 and JP 3-41; recognizes the proponent change for global countering weapons of mass destruction (WMD) to the U.S. Special Operations Command; and updates, revises, or deletes definitions and discussions to synchronize with other doctrinal updates.			
JP 3-27	*Homeland Defense*	10 Apr 18	Current.
JP 3-27 discusses fundamentals of homeland defense (HD), to include threats; policy and legal considerations; active, layered defense; and the HD operational framework. It describes command relationships and interorganizational cooperation in HD. It outlines strategic guidance, operational factors, intelligence sharing, and joint functions considerations for planning and operations for HD. Finally, JP 3-27 updates the relationships between Homeland security, HD, and defense support of civil authorities (DSCA) reflected by the new National Defense Authorization Act for Fiscal Year 2017.			
JP 3-28	*Civil Support*	31 Jul 13	Under revision.
JP 3-28 provides overarching guidelines and principles to assist commanders and staffs in planning, conducting, and assessing DSCA. It introduces the principle of civilian agencies being in charge of domestic operations that receive military support. It also discusses the unique command relationships and coordinating processes to be used when operating in DSCA capacity. Finally, JP 3-28 discusses selected aspects of supporting and sustaining the joint force during these specific types of operations.			
JP 3-40	*Countering Weapons of Mass Destruction*	31 Oct 14	Under revision.
JP 3-40 provides an activities construct for countering WMD. Tasks to counter specific WMD threats are grouped within the activities of understand the operational environment, threats, and vulnerabilities; cooperate with and support partners; control, defeat, disable, and dispose of WMD threats; and safeguard the force and manage consequences.			
JP 3-41	*Chemical, Biological, Radiological, and Nuclear Response*	9 Sep 16	Current.
JP 3-41 describes CBRN response activities to highlight the unique Department of Defense (DOD) response capability and responsibility to minimize the effects of a CBRN incident. It incorporates the new DOD-integrated chemical, biological, radiological, and nuclear response enterprise (CRE) capabilities and joint force matrix and clarifies supporting roles during international CBRN response.			
Multi-Service Publications			
USACBRNS is the U.S. Army proponent and lead agent for eight tactical-level, multi-Service publications. Seven of the publications are sponsored by the Joint Requirements Office for CBRN Defense (J-8), Joint Chiefs of Staff.			
ATP 3-11.23 MCWP 3-37.7 NTTP 3-11.35 AFTTP 3-2.71	*Multi-Service Tactics, Techniques, and Procedures for Weapons of Mass Destruction Elimination Operations*	1 Nov 13	Current.
Army Techniques Publication (ATP) 3-11.23, describes the WMD–elimination isolation activity as the seam that links the battle handover from a conventional CBRN force conducting the assessment task to the technical CBRN force conducting exploitation and destruction tasks. It educates the reader on performing the entire process from cradle (reconnoitering) to grave (monitoring and redirecting) and on planning, preparing, executing, and assessing considerations throughout.			

Number	Title	Date	Status
ATP 3-11.32 MCWP 3-37.2 NTTP 3-11.37	*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Passive Defense*	13 May 16	Current. Change 1 published May 2018.
ATP 3-11.32 contains information for conducting operations; performing tactics, techniques, and procedures (TTP); and understanding how to carry out CBRN passive defense. A complementary technical manual (TM) (TM 3-11.32/MCRP 10-10E.5/NTRP 3-11.25) contains reference material for CBRN warning, reporting, and hazard prediction procedures.			
ATP 3-11.36 MCRP 3-37B NTTP 3-11.34 AFTTP 3-2.70	*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Planning*	24 Sep 18	Current.
ATP 3-11.36 includes the doctrinal employment of CBRN capabilities (organizations, personnel, technology, and information) to characterize CBRN threats and hazards, including toxic industrial material, for the commander and the force. This manual also incorporates the joint doctrine elements for combating WMD. It is designed to provide operational- and tactical-level commanders and staffs with capability employment planning data and considerations to shape military operations involving CBRN threats and hazards and operations in CBRN environments.			
ATP 3-11.37 MCWP 3-37.4 NTTP 3-11.29 AFTTP 3-2.44	*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Reconnaissance and Surveillance*	25 Mar 13	Current. Change 1 published. Under review for revision.
ATP 3-11.37 establishes forms, modes, and methods of (and tasks for) CBRN reconnaissance and surveillance. It also establishes four new CBRN hazard identification levels that have been accepted by combatant commanders and the medical community for environmental samples and clinical specimens. These hazard identification levels allow the conventional force to provide the commander with sample identification at higher levels of confidence. This, in turn, allows the commander to make timely, higher-level decisions that enhance force protection, improve mission accomplishment, and result in resource savings. ATP 3-11.37 establishes a sample management process and educates Soldiers on the protocols of the process, from sample collection through transfer. Finally, it instructs Soldiers on dismounted reconnaissance operations in urban environments.			
ATP 3-11.41 MCRP 3-37.2C NTTP 3-11.24 AFTTP(I) 3-2.37	*Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Consequence Management Operations*	30 Jul 15	Current. Under review with the creation of a new publication, ATP 3-11.42, *Domestic Chemical, Biological, Radiological, and Nuclear Response*.
ATP 3-11.41 provides commanders, staffs, key agencies, and military members with a key reference for planning and conducting CBRN consequence management. This publication provides a reference for planning, resourcing, and executing CBRN consequence management in support of domestic or foreign agencies responding to a CBRN incident. The principal audience for this multi-Service publication consists of CBRN responders who plan and conduct CBRN consequence management operations in domestic, foreign, or theater operational environments, to include military installations.			
ATP 3-11.42	*Chemical, Biological, Radiological, and Nuclear Domestic Response*	TBD	Under development.
ATP 3-11.42 will combine guiding principles to multi-Service forces within the CRE and conducting domestic CBRN response operations in support of DOD missions and national objectives. It will focus on planning, preparation, and execution at the tactical level. ATP 3-11.42 will incorporate changes in doctrine from updated JP 3-11, JP 3-28, and JP 3-41, and explain how the WMD-Civil Support Team (CST) concept of operations is integrated into the CRE structure. It will incorporate key doctrinal elements from ATP 3-11.41, ATP 3-11.46, and ATP 3-11.47.			
ATP 3-11.46 AFTTP 3-2.81	*Weapons of Mass Destruction–Civil Support Team Operations*	20 May 14	Current. Under review with the creation of a new publication, ATP 3-11.42, *Domestic Chemical, Biological, Radiological, and Nuclear Response*.
ATP 3-11.46 serves as the foundation for WMD–CST doctrine.			
ATP 3-11.47 AFTTP 3-2.79	*Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives Enhanced Response Force Package (CERFP) and Homeland Response Force (HRF) Operations*	26 Apr 13	Current. Under review with the creation of a new publication, ATP 3-11.42, *Domestic Chemical, Biological, Radiological, and Nuclear Response*.
ATP 3-11.47 contains detailed tactical doctrine and TTP and sets the foundation for the tactical employment of the CERFP and HRF.			

Number	Title	Date	Status
Army-Only Publications			
USACBRNS is the U.S. Army proponent for five tactical-level, Army-only publications.			
ATP 3-11.24	*Technical Chemical, Biological, Radiological, Nuclear, and High-Yield Explosives (CBRNE) Force Employment*	6 May 14	Current.
ATP 3-11.24 describes how CBRNE forces support combatant commanders through every phase of operations conducted in-theater and in the homeland. This is important in educating those who are outside the CBRN community with regard to the true capabilities of the technical CBRNE force. The appendixes include information about specific technical CBRNE force missions, organizations, capabilities, and employment considerations.			
ATP 3-11.50	*Battlefield Obscuration*	15 May 14	Change 1 published 1 Apr 19.
ATP 3-11.50 provides TTP to plan obscuration operations and employ obscurants during, or in support of, unified land military operations at the tactical through operational levels of war. The change corrected references to CBRN smoke units and responsibilities no longer uniquely belonging to CBRN staff or units.			
ATP 3-90.40	*Combined Arms Countering Weapons of Mass Destruction*	29 Jun 17	Current.
ATP 3-90.40 provides tactical-level commanders, staffs, and key agencies with a primary reference for planning, synchronizing, integrating, and executing combined arms countering weapons of mass destruction.			
ATP 3-37.11	*Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Command*	28 Aug 18	Current.
ATP 3-37.11 provides doctrine to facilitate the operations and training requirements of the CBRNE command. It also provides commanders, staffs, key agencies, and Service members with a key reference on the CBRNE command for operational and tactical planning and CBRN and explosive ordnance disposal structure, capabilities, and principles of employment.			
FM 3-11	*Chemical, Biological, Radiological, and Nuclear Operations*	23 May 19	Current.
Field Manual (FM) 3-11 is the only FM for which the USACBRNS is the lead agent. The revision of FM 3-11 will focus on integrating the core functions of the Chemical Corps into the large-scale combat operations of the new FM 3-0, *Operations.* FM 3-11 will no longer be multi-Service and will be the keystone doctrine for operations to assess CBRN hazards, protect the force, and mitigate the entire range of CBRN threats, hazards, and effects.			
Technical Manuals			
USACBRNS is the proponent and approving authority for three TMs.			
TM 3-11.32 MCRP 10-10E.5 NTRP 311.25 AFTTP 3-2.56	*Multi-Service Reference for Chemical, Biological, Radiological, and Nuclear (CBRN) Warning, Reporting, and Hazard Prediction Procedures*	15 May 17	Current. Change 1 published.
TM 3-11.32 provides reference material for CBRN warning messages, incident reporting, and hazard prediction procedures.			
TM 3-11.42 MCWP 3-38.1 NTTP 3-11.36 AFTTP 3-2.82	*Multi-Service Tactics, Techniques, and Procedures for Installation Emergency Management*	23 Jun 14	Current.
TM 3-11.42 addresses the installation commander's response to an incident that takes place on an installation. The scope of this revision has been expanded from CBRN defense to all-hazards installation emergency management, which includes the management of CBRN events. The publication defines the roles of DOD installation commanders and staffs and provides the TTP associated with installation planning and preparedness for, response to, and recovery from all hazards in order to save lives, protect property, and sustain mission readiness.			
TM 3-11.91 MCRP 3-37.1B NTRP 3-11.32 AFTTP 3-2.55	*Chemical, Biological, Radiological, and Nuclear Threats and Hazards*	13 Dec 17	Current. Change published.
TM 3-11.91 serves as a comprehensive manual for information to help understand the CBRN environment. It includes the technical aspects of CBRN threats and hazards, including information about the chemistry of homemade explosives. In addition to the technical information on CBRN threats and hazards, it also includes basic educational information and the field behavior of CBRN hazards (including riot control agents and herbicides). The appendixes contains scientific CBRN data. Change 1 adds Air Force designation.			

Professional Military Education

Qualification training courses are listed and described in Table 1.

Table 1. Qualification training courses

Enlisted/Noncommissioned Officer (NCO) Qualification Training Courses	
74D10 Chemical, Biological, Radiological, and Nuclear (CBRN) Specialist Course (School Code 031)	
Phase I (Course 031-74D10 [R1] [dL])	Once Soldiers are enrolled in Phase I, they will receive e-mail instructions from the Army Distributed Learning Program via Army Knowledge Online (AKO). Students must complete Phase I before reporting for Phase II training. An Army Correspondence Course Program (ACCP) certificate of completion (e-mailed) or other documentation must be presented as proof of Phase I completion during Phase II in-processing. Soldiers who experience problems with Phase I should telephone the ACCP at (800) 275-2872 (Option 3) or (757) 878-3322/3335. If no ACCP representative is available, they should contact Master Sergeant Jeremy Mann at (573) 563-4026 or <jeremy.a.mann.mil@mail.mil>.
74D10 CBRN Specialist Course (School Code L031)	
Phases II and III (Course 031-74D10 [R1])	These phases consist of resident training conducted at Fort Leonard Wood, Missouri. Soldiers must have an e-mail printout indicating that they have completed Phase I. Soldiers who fail to provide the printout are returned to their units.
74D 2/3/4 CBRN Transition Course (School Code L031)	
This is a three-phase resident course. Soldiers attending the CBRN Transition Course (031-74D2/3/4[T]) must be graduates of a military occupational specialty (MOS) Advanced Leader Course (ALC) or Basic Noncommissioned Officer Course (BNCOC). Soldiers who have not attended ALC or BNCOC must attend the CBRN Specialist Course (031-74D10) to become 74D10 MOS-qualified. Hazmat Awareness Training is now a prerequisite for all courses. Training can be completed at <http://totalforcevlc.golearnportal.org/>. (A common access card [CAC] is required.)	
74D30 CBRN ALC (School Code L031, Course 031-74D30-C45)	
CBRN ALC is a three-phase resident course. Phase I is waived for Soldiers who possess a certificate indicating that they have completed Department of Defense (DOD)-certified hazmat training at the technician level. Effective 1 October 2014, graduation from Structured Self-Development, Level II, is a prerequisite for attending CBRN ALC.	
74D40 Senior Leader Course (SLC) (School Code L031, Course 031-74D40-C46)	
This is a three-phase resident course conducted at Fort Leonard Wood. Graduation from Structured Self-Development is a prerequisite for attending CBRN ALC, CBRN SLC, and the CBRN Transition Course.	
Officer Qualification Training Courses	
CBRN Captain's Career Course (C3) (School Code 031)	
Phase I (Course 4-3-C23 [dL])	This branch-specific distributed learning (dL) phase consists of 75 hours of dL instruction, which must be completed within 60 days before attending Phase II. The successful completion of Phase I Federal Emergency Management Agency (FEMA) 100/200/700/800, Hazmat Awareness Training, and Defense Support of Civil Authorities (DSCA) Phase I are required for Phase II attendance. Unit trainers enroll Soldiers through the Army Training Requirements System (ATTRS). Students receive e-mail instructions from the Army Distributed Learning Program. Hazmat awareness training can be accessed at <http://totalforcevlc.golearnportal.org> and completed by students prior to attending Phase II. Students who encounter problems should contact the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) U.S. Army Reserve (USAR) Training Development NCO, Master Sergeant Jeremy Mann, at (573) 563-4026 or <jeremy.a.mann.mil@mail.mil>.
Phase II (Course 4-3-C23)	This branch-specific resident phase consists of 2 weeks of training conducted at USACBRNS. This phase covers chemical and biological agent effects, defense concepts, raidiological operations, consequence management, live toxic-agent training, and the basics of the Joint Warning and Reporting Network used within the Maneuver Control System.
Phase III (Course 4-3-C23 [dL])	This common-core (CC) phase consists of 59.2 hours of dL instruction. Unit trainers enroll Soldiers through ATRRS. Students receive e-mail instructions from the Army Distributed Learning Program. Students must complete Phase III within 60 days before attending Phase IV. Those who encounter problems should contact Master Sergeant Jeremy Mann at (573) 563-4026 or <jeremy.a.mann.mil@mail.mil>. The successful completion of Phase III is a prerequisite for Phase IV attendance.
Phase IV (Course 4-3-C23)	This resident phase consists of 2 weeks of training conducted at USACBRNS. The focus is on a computer-aided exercise that includes additional Joint Warning and Reporting Network and Maneuver Control System training, culminating in a military decision-making process exercise using state-of-the-art battle simulation equipment.

Joint Senior Leader Course (Course 4K-74A/494-F18)
This is a 4-day course for senior leaders focusing on operational- and strategic-level aspects of countering weapons of mass destruction (WMD). Participants also receive toxic-agent training at the Chemical Defense Training Facility. In addition, the Joint SLC forum offers a unique opportunity for senior military leaders, civilian government agency leaders, and leaders representing allied and coalition partners to exchange ideas. You are required to register for the Joint SLC through the Joint SLC action officer, Mr. Brad Sanders at <bradley.w.sanders.ctr@mail.mil> or (573) 528-9491. Registration through ATRRS will not guarantee a seat; prospective students may be bumped from the course.
CBRN Precommand Course (Course 4K0F4)
This is a 5-day course that prepares Regular Army and Reserve Component (RC) officers who have been selected for command of a CBRN battalion or brigade or a CBRN position in a division. Each student receives instruction in the application of Army Doctrine Publication (ADP) 7-0, *Training Units and Developing Leaders*, concepts to the battalion training management process.
Note: Additional information is available at <https://www.atrrs.army.mil/>.

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

Table 2. Functional training courses

CBRN Responder Operations Course (School Code 031, Course 4K-F30/494-F34(MC))
This 4-day course is appropriate for C2CRE members. All students attending the course must be International Fire Service Accreditation Congress (IFSAC) DOD Awareness-certified before arriving. Students who successfully complete the course receive certification at the operations level.
CBRN Responder Technician Course (School Code 031, Course 4K-F24/494-F29)
This 6-day course is appropriate for C2CRE members. All students attending the course must be International Fire Service Accreditation Congress (IFSAC) DOD Awareness- and Operations-certified before arriving. Students who successfully complete the course receive certification at the technician level.
Civil Support Skills Course (CSSC) (School Code 031, Course 4K-F20/494-28)
This 8-week course is appropriate for Army National Guard and U.S. Army Reserve WMD-CST members. Students receive advanced training in hazmat technician and incident command and CBRN survey, point reconnaissance, sampling operations, personal protective equipment selection and certification, and decontamination. They also receive specialized training on a variety of military and commercial CBRN detection equipment.
Note: All students who successfully complete hazmat training are awarded certificates issued by IFSAC and DOD. Additional copies of certificates can be obtained at <http://www.dodffcert.com>.

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

USACBRNS RC Personnel

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

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

The 3d Brigade (Chemical), 102d Division (Maneuver Support), is currently seeking instructors for various locations. An applicant should be an E-6 or E-7, should be qualified (or able to be trained) as an Army basic instructor, and should have completed the appropriate NCO Education System coursework. Interested Soldiers should contact the brigade senior operations NCO, Sergeant First Class Yabronda A.Battles at (573) 596-6221 or <yabronda.a.battles.mil@mail.mil>.

Contact Information

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VACANT (Training Development NCO-AR), (573) 563-7757

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Reference:

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

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