Army
Chemical Review

The Professional Bulletin of the Chemical Corps

2025 Annual Issue

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Chief of Chemical and Commandant

U.S. Army Chemical, Biological, Radiological, and Nuclear School

As the 34th Chief of Chemical and Commandant of the U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), Fort Leonard Wood, Missouri, I remain committed to advancing the Regiment and supporting the Maneuver Support Center of Excellence (MSCoE), Fort Leonard Wood, along four distinct lines of effort:

- Drive the change that shapes the force of the future Army.
- Promote leader development and stewardship of the profession.
- Care for, retain, and inspire current and future Soldiers, civilians, and Families.
- Train warriors of character.

Drive the Change that Shapes the Future Army

As the face of warfare evolves, so must we—to assess, protect, and mitigate emerging CBRN threats. In collaboration with the Joint Requirements Office, Washington, D.C.; the Joint Program Executive Office, Aberdeen Proving Ground, Maryland; and industry partners, USACBRNS is redefining chemical, biological, radiological, and nuclear (CBRN) defense in support of the protection warfighting function to prepare for large-scale combat operations.

Colonel Alexander C. Lovasz

Transformation in Contact 2.0 serves as the Army innovation laboratory for rapid modernization. Units from the 1st Cavalry Division, Fort Cavazos, Texas, will field and rigorously test new equipment spanning across warfighting functions. Their feedback will directly inform broader CBRN force integration and modernization efforts.

Units across the Army will receive the upgraded CBRN reconnaissance assets. The trusted nuclear, biological, chemical reconnaissance vehicle (NBCRV) will be enhanced with a Sensor Suite Upgrade and a modular mission payload, dramatically expanding capability while increasing standoff distance and the protection of warfighters. In addition, human-machine integration is being accelerated through the use of unmanned aerial systems equipped with sensors, autonomous decontamination systems, and CBRN systems integrated into robotic platforms, improving survivability across formations.

Also, smoke has returned to the Chemical Corps! While obscuration is a historic capability, modern threats demand modern solutions. Modern obscuration is not only visual—but needs to encompass the the electromagnetic space. The screening obscuration module will provide traditional visual concealment (smoke) as well as bispectral and multispectral (electromagnetic) obscuration.

Promote Leader Development and Stewardship of the Profession

The primary mission of USACBRNS is to train and develop Soldiers and leaders of the Chemical Corps. CBRN courses are constantly refined to align with changes in doctrine, structure, and technology. Leader development extends beyond professional military education provided at USACBRNS. Through tools such as the USACBRNS Newsletter; the *Army Chemical Review*; the Chemical Corps mentorship program; and the CBRN Knowledge, Information, and Tools (KIT) website, USACBRNS empowers leaders across the force to invest in the future of the CBRN Regiment.

Care for, Retain, and Inspire Current and Future Soldiers, Civilians, and Families

During the past year, the Regimental leadership team visited Dragon Soldiers in 34 locations across three continents. These visits allowed the team to observe world-class training, engage directly with Soldiers and civilians, and—my personal favorite—recognize excellence through awards, the Order of the Dragon inductions, and Regimental coins.

Transparent, consistent communication is essential for organizational health. Based on the town hall meetings hosted by the Regiment, I can say with certainty: our Dragon Soldiers are ready. As the 83d Chemical Battalion proudly says—"Confront Any Mission!"

Regimental Command Sergeant Major

Greetings, Dragon Soldiers! I am truly honored to be your Regimental Command Sergeant Major. The past 8 months in this position have been amazing. I have enjoyed my interactions with everyone here at the home of the Chemical Corps Regiment, Fort Leonard Wood, Missouri, and during my visits to your installations. The command team and I look forward to visiting as many of you as possible as we continue to balance reductions in the defense budget. The past 8 months have seen significant shifts within the Chemical Corps Regiment, and more change is expected.

Over the past year, the Regiment has undergone changes to its force structure. We started transitioning some hazard response chemical, biological, radiological, and nuclear (CBRN) companies into heavy decontamination and reconnaissance CBRN companies and reducing technical escort companies, based on Total Army Analysis decisions. As much as I hate to say it, these may only be the beginning of additional cuts—depending on future Total Army Analysis decisions. The Commandant, Regimental Chief Warrant Officer, and I continually express the importance of our forces, capabilities, and functions to influence Army senior leader decisions.

Command Sergeant Major
David C. Henderson

In addition to force structure changes, CBRN equipment is going through developmental and operational testing. One armored brigade combat team has been identified as a Transformation in Contact 2.0 brigade. As they prepare for their mission, the brigade will be outfitted with additional CBRN equipment such as the Nuclear, Biological, Chemical, Reconnaissance Vehicle (NBCRV) Sensor Suite Upgrade, autonomous decontamination systems, and screening obscuration modules. This experiment will enable our forces to test the systems and provide valuable feedback for future development.

 The feedback from CBRN Soldiers assigned to the Transformation in Contact 2.0 brigade will be vital to the Regiment as we continue to increase CBRN capabilities to support the future Army. Specific changes that will occur here at Fort Leonard Wood are overhauls of our initial military training, professional military education, and functional training. Updated programs of instruction (POIs) for Advanced Individual Training and the Basic Officer Leader Course are set to be implemented later this year, while the updated Warrant Officer Basic Course POI is scheduled for implementation in 2026. In addition, the Advanced and Senior Leader Course POI implementations are scheduled for the end of fiscal year (FY) 2025, other warrant officer professional military education POI implementation dates are scheduled for the beginning of FY 26, and the Captain's Career Course POI implementation is set for the beginning of FY 27. The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) has discontinued teaching the Biological Integrated Detection Systems Course and is preparing to implement an updated POI for the CBRN Reconnaissance Course, which will include updates in support of the NBCRV Sensor Suite Upgrade.

Another positive development is the upcoming update to the Fort Leonard Wood Chemical Defense Training Facility (CDTF) hairstyle policy. CDTF leaders have continuously collected mask fit test data for all Soldiers who attended training, specifically those who had hairstyles that are authorized by Army Regulation (AR) 670-1, *Wear and Appearance of Army Uniforms and Insignia*,[1] but were previously not allowed in the CDTF. This data has been provided to the Joint Program Executive Office for CBRN Defense (JPEO-CBRND), Aberdeen Proving Ground, Maryland, and USACBRNS. The CDTF has pushed for JPEO-CBRND to update the technical manuals pertaining to protective masks and the Protection Assessment Test System. JPEO-CBRND has agreed to update the respective technical manuals to remove restrictive wording that opposed AR 670-1. As a result, Soldiers will be allowed to attend training at the CDTF with the current protective masks, regardless of hairstyles, if they successfully pass the Protection Assessment Test System test at the proper level. However, this update does not apply to beards. In fact, according to AR 600-20, *Army Command Policy*,[2] Soldiers assigned to Career Management Field 74 are not authorized to have a religious accommodation that allows beards.

Finally, I will discuss changes to Department of the Army (DA) Pamphlet (PAM) 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide*.[3] We have been making updates to this document for the past few years, and we are now getting ready to implement even more changes. Sergeant Major Gedney P. Riley served as the Regiment representative at a Training and Doctrine Command (TRADOC) conference that reviewed all proponent inputs to DA Pam 600-25. We will implement the updates once they are finalized by TRADOC. Some of these updates will streamline some requirements to be the same across the board, regardless of the career management field. For example, following the conference, all regiments were directed to remove wording that implied the completion of college courses and/or degrees was required for promotion to senior noncommissioned officer ranks. However, although this wording is being removed, please be aware that college can still be used as an indicator of individual initiative, and it can set you apart from your peers during noncommissioned officer evaluation boards.

In closing, I would like to say congratulations to those who recently assumed their new positions as brigade and battalion command sergeants major:

- Command Sergeant Major Jessica Cho, Dugway Proving Ground, Dugway, Utah.
- Command Sergeant Major Ronis J. Gutierrez, 3d Chemical Brigade, Fort Leonard Wood, Missouri.
- Command Sergeant Major Peter R. Dallas, 22d Chemical Battalion, Fort Bliss, Texas.
- Command Sergeant Major Jawayne A. Gibbons, 110th Chemical Battalion, Joint Base Lewis-McChord, Washington.

Congratulations to these sergeants major who were selected on the most recent command select list for brigade and battalion command sergeant major positions:

- Command Sergeant Major Vincent D. Green, U.S. Army Environmental Command, Joint Base San Antonio, Texas.
- Sergeant Major Jody L. Mease, 2d Chemical Battalion, Fort Cavazos, Texas.

Additionally, congratulations to the 17 Regular Army and U.S. Army Reserve CBRN master sergeants who were selected to attend Class 76 of the resident Sergeants Major Course and the associate nonresidence course at Fort Bliss.

Endnotes:

[1]AR 670-1, *Wear and Appearance of Army Uniforms and Insignia*, 26 January 2021.

[2]AR 600-20, *Army Command Policy*, 6 February 2025.

[3]DA PAM 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide*, 11 September 2023.

Train Warriors of Character

Fort Leonard Wood is the home of USACBRNS; basic combat training; and advanced individual training for Army CBRN, military police, and engineer forces. The 3d Chemical Brigade, Fort Leonard Wood, leads three basic combat training battalions and one CBRN advanced individual training battalion—developing more than 2,800 new Dragon Soldiers annually. In addition to initial entry training, the Regiment conducts seven specialized functional courses—each delivering skilled, mission-ready CBRN professionals to the operational force.

Conclusion

It is an honor and a privilege to lead the organization I have proudly served for 27 years. Any success the Regiment has achieved is due to the relentless dedication of CBRN instructors, drill sergeants, and professional staffs. These incredible men and women are not only shaping what the CBRN Regiment will become in 10, 20, or 30 years—but they are also laying the very foundation for that future.

Dragon Soldiers! CBRN Warriors! Elementis Regamus Proelium!

Regimental Chief Warrant Officer

Greetings to all my fellow Dragon Warriors! As we pause to reflect on the past year, it's truly remarkable to acknowledge the significant strides we've made together. We have not only met challenges head-on, but we've also forged new paths, expanded our capabilities, and welcomed exceptional individuals into our ranks.

Key Accomplishments

One of the most significant achievements of the past year was the establishment of the Proponent Warrant Officer position. This crucial role strengthens our ability to advocate for our community, ensuring that our voices are heard and our needs are met. This represents a pivotal step in solidifying our future and enhancing professional development. Furthermore, we successfully established a Military Occupational Specialty 740A –Chemical, Biological, Radiological, and Nuclear Warrant Officer presence at the 1st Special Forces Command, Fort Bragg, North Carolina. This strategic positioning underscores the vital role that CBRN expertise plays in supporting critical missions at the highest levels. CBRN warrant officers are now seamlessly integrated into the fabric of this elite command, providing invaluable technical leadership and support.

Chief Warrant Officer Four Matthew D. Chrisman

Another groundbreaking milestone was the execution of the very first Warrant Officer Intermediate-Level Education Technical Follow-On Course, U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), Fort Leonard Wood, Missouri. This innovative program exemplifies the commitment to continuous learning and professional growth, equipping our warrant officers with the advanced skills and knowledge necessary to excel in complex operational environments.

New Warrant Officers

Beyond these organizational achievements, the Regiment experienced significant growth in our ranks. It is with immense pride that the Regiment welcomed eight outstanding Military Occupational Specialty (MOS) 740A –CBRN Warrant Officers to the cohort. These new warrant officers bring a wealth of talent, dedication, and expertise to the Regiment, and we are confident that they will make invaluable contributions to our mission.

Looking Ahead

As we look to the future, we are committed to continuing our momentum and building upon these successes. We are actively exploring several key initiatives to further enhance our capabilities and strengthen our position within the U.S. Army:

- **Update force design**. We are examining potential updates to our force design at the base of our rank pyramid to ensure that we have the right personnel in the right roles to meet the evolving demands of our mission.
- **Expand influence**. We are open to the idea of expanding our influence within the U.S. Army Special Operations Command to further leverage our expertise and contribute to the overall success of the command.
- **Conduct assessments**. We are exploring innovative ways to improve how we assess new warrant officers, ensuring that we select and develop the most talented and capable individuals to join our ranks.
- I**mprove professional military education**. We are committed to continuing our efforts to modernize our professional military education programs, providing warrant officers the most up-to-date knowledge and skills.
- **Provide subject matter expertise**. We will be sought after as subject matter experts for the Transformation in Contact 2.0 and human-machine integration initiatives, leveraging our unique expertise to shape the Army of the future.

Call to Action

As we move forward, let us continue to embrace these initiatives and work together to build a stronger, more capable, and more influential Dragon Warrior community. Together, we will continue to uphold the proud legacy of our organization and make a lasting impact on the U.S. Army.
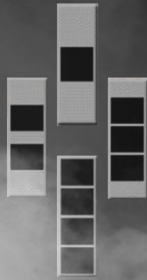
The Need for 740As in BCTs

By Captain Chase B. D'Amato and Chief Warrant Officer Four Mazie C. Benefield

The Chemical Corps is a highly technical branch integrated across every type of formation in the U.S. Army. Inherently, the Regiment faces challenges with maintaining Chemical, Biological, Radiological, and Nuclear (CBRN) equipment and operational readiness and integrating CBRN capabilities with maneuver formations and staffs at echelon.

The Chemical Corps exists to protect the force from weapons of mass destruction and CBRN threats. We provide commanders decision space by operationalizing technical information related to all things CBRN. The core functions of the Regiment are to *assess*, *protect*, and *mitigate*. When those core functions are properly executed, the Regiment successfully enables lethality. The Chemical Corps plays a huge role in the protection warfighting function. As the protection warfighting function continues to evolve, CBRN officers will undoubtedly play an integral role in protection integration as they strive to identify existing gaps and recommend viable solutions.

Integrating CBRN formations with maneuver formations is difficult because units conduct culminating training exercises, combat training center rotations, or operational deployments with units from different geographical locations. CBRN units are subordinate in an operational command relationship with maneuver units. While maneuver units have Military Occupational Specialty (MOS) 74A–Chemical, Biological, Radiological, and Nuclear Officers, they typically do not possess the same technical expertise or experience as CBRN warrant officers. The presence of MOS 740A–CBRN Warrant Officers on maneuver staffs would facilitate building stronger relationships between CBRN units and maneuver elements, ensuring that CBRN units are aligned with applicable mission sets.

Brigade combat teams (BCTs) across the Army have been unsuccessful in maintaining CBRN readiness standards as specified in Army guidance and applicable equipment technical manuals. More specifically, BCTs have struggled to maintain adequate CBRN programs. The degradation of CBRN readiness within BCT equipment and training is well documented Army-wide. While some BCTs have fared better than others, it is a systemic issue that must be addressed.

As the 740A population grows and the Army updates existing force designs to support large-scale combat operations, the BCT CBRN elements must also be updated. Adding 740As to a BCT staff would have an immediate impact on CBRN readiness by integrating CBRN defense with other staff sections. The 740A would also be responsible for integrating the entire protection warfighting function with the BCT staff.

Existing readiness trends paired with the existing operational need clearly articulate the need for 740As to be assigned to BCTs. The purpose of this article is to highlight how 740As could add value and improve CBRN readiness within BCTs.

Warfighting Focus

Integrating CBRN formations with maneuver units is the most important part of our job, yet it is one of the most challenging tasks we face. CBRN formations are highly technical, require a lot of sustainment, and address threats with high destructive potentials. Furthermore, CBRN formations are always integrated at a much higher echelon.

An acceptable best practice for CBRN units to overcome the challenges of integration is to task their CBRN warrant officers to serve as liaison officers with the maneuver units they are supporting. An example of this would be a hazard response company tasking a company CBRN warrant officer to serve as a liaison officer on the brigade staff. While the hazard response company would lose a technical expert, the return on investment would be substantial once the warrant officer was fully integrated with the BCT staff. In the operational environment, the warrant officer is an asset to the existing brigade CBRN section. BCTs would then have a technical expert who could help them directly solve relevant problems and ensure that the correct assets are summoned to where they are most needed. Adding a 740A to the BCT staff would allow CBRN units to retain their warrant officer while giving BCTs an increased capability.

The senior CBRN officer within a BCT is typically a pre-command captain. This officer plays a vital role in the operations section of the brigade staff. While captains can effectively plan CBRN operations and assist with integration,

it is not their primary role, and they typically lack longevity in the position as they seek command opportunities. In part, this has hindered CBRN readiness. Data provided from the U.S. Army Forces Command ground readiness evaluation, assessment, and training CBRN after action reviews indicate that almost all BCTs continuously failed these inspections. Findings included, but were not limited to—

- Inadequate maintenance plans.
- Improperly enrolled equipment information into the Global Combat Support System–Army.
- Incomplete service data.
- Late services.
- Nonoperational CBRN equipment.
- Inaccurate evaluation reports.
- Untrained CBRN teams.
- Unexecuted operational decontamination.

740As are force multipliers who possess a high degree of technical and tactical skills. Habitual failures in meeting CBRN readiness requirements pose a significant risk to the mission and force. If the BCT is required to fight on a contaminated battlefield, a lack of serviceable CBRN equipment and training could have strategic implications.

Career Structure

The current 740A career map is horizontal for the first 7 years, with assignment opportunities being limited to company or team positions. The addition of a BCT assignment opportunity for company-grade 740As would be career-enhancing by creating an additional developmental assignment within the BCT that could serve as a bridge between company-level assignments in preparation for assignments to CBRN battalions and division positions as a chief warrant officer three. Working in BCTs would provide critical experience in the employment of CBRN forces during different phases of operations and would better prepare 740As to transition from company-grade to field-grade warrant officers. This experience would be invaluable when advising CBRN chiefs in a division CBRN cell or commanders in CBRN battalions.

Formation Prioritization

In an ideal world or in a "growth" Army, it would make sense to create authorizations for warrant officers in every BCT. Unfortunately, we are currently a "no-growth" Army—meaning that additional funding is needed before such authorizations can take place. Armor brigade combat teams (ABCTs) and Stryker brigade combat teams (SBCTs) would most benefit from 740As. There are currently 11 ABCTs and 6 SBCTs in the Army, resulting in the need for 17 additional 740A billets. Adding 740As to BCTs would enhance CBRN capability in those formations and be a major step forward toward modernizing the Chemical Corps for large-scale combat operations.

As the land component, the Army must be prepared to fight and dominate physical spaces despite CBRN weapon employment. Army BCTs have struggled to maintain a

Assess Protect Mitigate

high level of CBRN readiness due to competing requirements, equipment challenges, and training readiness. The CBRN warrant officer cohort is uniquely postured to meet these challenges to enable BCT CBRN readiness and survivability. Due to mission sets and the material required to survive in a CBRN environment, ABCTs and SBCTs are logical starting points at which to integrate 740As. The 17 active-component SBCTs and ABCTs would greatly benefit from the addition of a CBRN warrant officer to the brigade staff.

CBRN noncommissioned and officer roles and utilization are vastly different from those of 740As. 740As within BCTs would be focused on the CBRN material and training readiness of the brigades, advising staffs on CBRN considerations such as integrating technical forces, employing an organic reconnaissance platoon, examining technical planning considerations, maintaining CBRN warning and reporting systems, and integrating organic and higher-level modeling into operations. 740As could also permeate knowledge back into CBRN formations and vice-versa during normal career progression. This bilateral transfer of knowledge would benefit maneuver and CBRN formations and result in more lethal and survivable formations.

Proposed Change

Adding 740As to BCTs could have an immediate impact on CBRN readiness within BCT formations. 740As would be utilized in a technical capacity and could effectively improve CBRN readiness. The CBRN warrant officer is an expert on CBRN equipment, has extensive experience in developing and implementing technical training programs, and can integrate CBRN within other staff sections. The CBRN warrant officer is technically focused and uniquely suited to provide expertise on CBRN system maintenance, training, and integration. The 740A authorization would be an addition to the existing 74A and MOS 74D–CBRN Specialists and would deliver the full complement of expertise our career management field provides to the BCT. 👓

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Chief Warrant Officer Four Benefield is the proponent warrant officer for USACBRNS. She holds a bachelor's degree in general studies from Columbia College, Missouri.

CHAPLAINS AS AI ETHICISTS IN THE U.S. ARMY

By Chaplain (Major) Benjamin D. Reed

The Evolution of AI Implementation in the DOD

In one form or another, the U.S. Army Chaplain Corps has been responsible for the Army ethics training mission for almost 250 years. It has been training and employing/fielding specialists in ethics subfields for more than 3 decades. But a new field of ethics that is strategically relevant to the future security of our Nation has emerged. And now, the Chaplain Corps has an opportunity to adapt its ethics training to include artificial intelligence (AI) ethics and enhance its support for the Army of 2030 and beyond.

Innovative technology frequently outpaces the ability to anticipate its effects and respond appropriately. Critical examination of the production and employment of AI systems in an effort to anticipate and mitigate their potential negative effects is the foundation of AI ethics. The Department of Defense (DOD) approach to AI ethics has significantly evolved over the last decade.[1]

In 2018, the DOD published the DOD Artificial Intelligence Strategy (DAIS), which acknowledged that AI will impact every aspect of the DOD and directed a set of initiatives to rapidly and responsibly incorporate AI in order to enhance military decision making and operations across key mission areas.[2] The DAIS articulated guiding principles for the ethical employment of AI and committed the DOD to employing AI technologies in ways that advance peace and stability.[3] It also introduced concepts germane to the Chaplain Corps ethics training mission, stating, "By improving the accuracy of military assessments and enhancing mission precision, AI can reduce the risk of civilian casualties and other collateral damage."[4] Finally, it noted that the DOD must cultivate existing talent through a comprehensive AI training initiative that would allow Soldiers to adapt to new AI-involved roles in the future.[5]

In 2020, the DOD published the DOD AI Education Strategy (DAIES).[6] This document added a more specific AI implementation framework and formalized the structure of AI education within the DOD. The strategy directed the DOD to "train [AI] end users to ensure they understand the limitations of AI systems and applicability of models in real-world contexts."[7] Per the DAIES, competency in AI ethics requires, but is not limited to, the following:

- A clear perspective on the ethical governance of AI.
- An understanding of the ethical application of AI-enabled tools.
- An awareness of ethical risks associated with particular-use cases.
- The ability to adapt ethical AI principles for command and effectively communicate them across an organization.
- The ability to provide advice concerning acceptable risk mitigation in employing/adopting AI into missions and processes.[8]

In 2022, the DOD Responsible AI Working Council issued the *U.S. Department of Defense Responsible Artificial Intelligence Strategy and Implementation Pathway (RAISIP).*[9] The RAISIP advanced the DOD AI strategy by outlining the operationalization of the AI ethical principles.[10] It reiterated the DOD focus on the employment of AI in a manner consistent with national values, shared democratic ideals, and a steadfast commitment to lawful and ethical behavior. The *RAISIP* also reinforced responsible artificial intelligence (RAI) as the DOD term of reference for AI ethics, explaining that RAI is "an approach to design, development, and deployment that ensures the safety and ethical employment of our systems; it emphasizes the necessity to build effective, resilient, robust, reliable, and explainable AI, while recognizing the value of multidisciplinary teams to advise on ethics, accountability, and risk."[11] The *RAISIP* expanded upon six RAI foundational tenets established in the 26 May 2021 Deputy Secretary of Defense memorandum entitled "Implementing Responsible Artificial Intelligence in the Department of Defense"; those tenets are—

- RAI governance.
- Warfighter trust.
- AI product and acquisition lifecycle.
- Requirements validation.
- Responsible AI ecosystem.
- AI workforce.[12]

These evolving DOD documents unequivocally directed DOD elements to posture themselves to provide the capabilities required to complete future AI-enabled missions.

The Role of Chaplains

In the early stages of DOD AI strategy development, training and employing/fielding AI ethicists was not feasible. But as the DOD continues to posture for the future fight, it must transform at a pace that can be sustained by available resources. This will require difficult choices about the speed of modernization and the risks assumed in charting a long-term course for integrating new capabilities.[13]

Today, the fielding of AI ethicists would merely require an adaptation of the Advanced Civil Schooling ethics mission that the Chaplain Corps has been successfully executing by regulation and precedence since the Vietnam War. The Chaplain Corps possesses the human capital, institutional knowledge, and allocated funding necessary to execute the AI ethics mission.[14, 15]

AI ethicists typically have a background in data science or philosophy and understand psychology, philosophy, and the relevant aspects of law. In part, their duty description includes—

- Conducting ethical impact assessments of AI systems.
- Integrating ethical considerations into the design and development of AI systems.
- Developing and delivering educational and training materials on AI ethics.[16]

As religious support professionals, chaplains are especially qualified to serve as AI ethicists. Faith plays a crucial role in AI development, particularly regarding topics such as automation, surveillance, and AI in combat.[17] AI ethicists must have the intrinsic desire and motivation to ensure the creation of responsible technology in pursuit of humans as the end beneficiary.[18]

Future AI ethicist optimal utilization assignments will be available at the Chief Digital and Artificial Intelligence Office, Arlington, Virginia (where an Army ethics officer has already been assigned) or within commands supporting the U.S. Army Futures Command. These AI ethics subject matter experts may be embedded with integrated product teams employed across the DOD AI capabilities generation enterprise, and their duties might include forecasting potential ethical issues of new AI tools and implications of DOD efforts,tracking ethics-related concerns and addressing them through appropriate channels, and ensuring that end user experiences reflect RAI principles. They may also serve as AI ethics educators, similar to the ethics instructors who are currently staffed at training centers of excellence across the Army.

Conclusion

If we accept the DAIS and the "Army of 2030" information paper projections that AI-enabled systems will be employed at the tactical level, then the need for AI ethics proficiency will significantly increase. If unmanned combat systems really are the future of the battlefield, then AI ethics proficiency may be required in every battalion or brigade in the Army.

RAI implementation requires that DOD components begin training AI-proficient professionals (especially ethicists) now. A feasible training path and optimal utilization assignments now exist to enable the fielding of AI ethicists. Adapting the Chaplain Corps ethics training mission in order to field AI ethicists will ensure that the DOD is postured for success on the AI-enabled battlefields of the future.

As the DOD transforms to meet an uncertain future, the Chaplain Corps must adapt to ensure that it is ready and capable when the Nation calls. After all, "The present moment is pivotal: We must act to protect our security and to lead the world in the development and adoption of transformative defense AI solutions that are safe, ethical, and secure."[19]

Endnotes:

[1]*U.S. Department of Defense Responsible Artificial Intelligence Strategy and Implementation Pathway*, DOD Responsible AI Working Council, June 2022, p. 4, <https://media.defense.gov/2022/Jun/22/2003022604/-1/-1/0/Department-of-Defense-Responsible-Artificial-Intelligence-Strategy-and-Implementation-Pathway.PDF>, accessed on 20 November 2024.

[2]*Summary of the 2018 Department of Defense Artificial Intelligence Strategy: Harnessing AI to Advance Our Security and Prosperity*, DOD, 2018, <https://media.defense.gov/2019/Feb/12/2002088963/-1/-1/1/SUMMARY-OF-DOD-AI-STRATEGY.PDF>, accessed on 14 November 2024.

[3]Ibid.

[4]Ibid, p. 6.

[5]Ibid.

[6]*DOD AI Education Strategy*, DOD, 2020, <https://apps.dtic.mil/sti/trecms/pdf/AD1122946.pdf>, accessed on 20 November 2024.

[7]Ibid, p. 5.

[8]Ibid, p. 22.

[9]*U.S. Department of Defense Responsible Artificial Intelligence Strategy and Implementation Pathway*.

[10]Ibid, p. 5.

[11]Ibid, p. 6.

[12]Kathleen Hicks, "Implementing Responsible Artificial Intelligence in the Department of Defense," memorandum, DOD, 2021, <https://media.defense.gov/2021/May/27/2002730593/-1/-1/0/implementing-responsible-artificial-intelligence-in-the-department-of-defense.pdf>, accessed on 20 November 2024.

[13]"Army of 2030," information paper, U.S. Army, 2022, <https://api.army.mil/e2/c/downloads/2022/10/06/4632c205/army-2030-information-paper.pdf>, accessed on 20 November 2024.

[14]FM 1-05, *Religious Support*, 21 January 2019.

[15]Army Regulation (AR) 165-1, *Army Chaplain Corps Activities*, 5 February 2024.

[16]"What Does an AI Ethicist Do?" *Artisan website*, <https://artisantalent.com/job-descriptions/ai-ethicist/>, accessed on 20 November 2024.

[17]"AI and Faith," unpublished letter to the Office of Science and Technology Policy, Executive Office of the President of the United States, 2023.

[18]Olivia Gambelin, "Brave: What It Means to Be an AI Ethicist," *AI Ethics*, 1 February 2021, <https://doi.org/10.1007/s43681-020-00020-5>, accessed on 20 November 2024.

[19]Summary of the 2018 *Department of Defense Artificial Intelligence Strategy*, p. 17.

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The Application of the U.S. Army RM Process is Broken

By Major Courtney A. Zimmerman

Leaders address risks that could trigger decision points for the commander; however, they seldom specifically address risk to force or risk to mission. Can organizations assess unit risk to force or risk to mission using the U.S. Army risk management (RM) model during the military decision-making process (MDMP)? The answer is currently no. There may be a single point of organizational failure that prevents the implementation of RM in the operation, or there may be a lack of education about the process. Regardless, the RM process is not working effectively. This article discusses the doctrinal processes for RM and describes methods that units could use to incorporate RM into operations.

The RM Process

Before addressing RM at echelon, let's define some key elements and explore how the Army conducts RM. Army Techniques Publication (ATP) 5-19, *Risk Management*,[1] discusses conducting risk assessment and management using the framework depicted in Figure 1.

The first step of the risk assessment/management process is to identify the hazards—conditions that can potentially cause injury, illness, or death of personnel; damage to, or loss of, equipment or property; or mission degradation.[2]

Next, the hazards must be assessed. According to ATP 5-19, risk is "the probability and severity-driven chance of loss, caused by the threat or other hazards" and analysis of the risk yields a risk level.[3] Following the assessment, units consider the mitigating effects of proposed controls and iteratively reassess the risk until they determine the most effective controls. They then continuously reassess these controls to determine the residual level of risk. Commanders implement the selected controls while supervising and assessing the effectiveness of each.

Many might claim that this process applies only to garrison operations—not to combat operations. Although the requirement for a risk assessment/management process is clear, implementation becomes blurred at higher echelons. Such blurring explains why units fail to understand how to conduct the RM process. The RM capability is an invaluable tool for commanders and staffs, as it provides a standardized and systematic method to identify hazards and react to changes within the operational environment.

As the operational environment evolves, RM must be conducted in order to identify risks by operational phase to help analyze risks to the mission. But RM is not a stand-alone process;[4] instead, organizations must integrate RM throughout every warfighting function (WFF).

"During mission analysis, the commander and staff focus on identifying and assessing hazards as they relate to risk to force (increased probability of the degradation of an organization's combat power) and risk to mission (increased probability of failure to achieve a desired end state)."

—ADP 3-37, *Protection*, 10 January 2024.
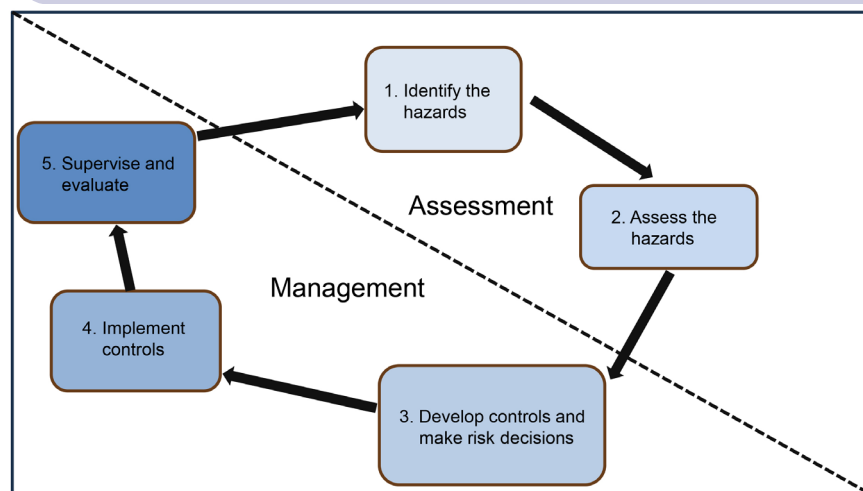
Figure 1. Assessment steps and management steps

"Risk management is the process to identify, assess, and control risks and make decisions that balance risk cost with mission benefits."

—Joint Publication (JP) 3-0, *Joint Campaigns and Operations*, 18 June 2022.

"It is imperative that commanders and units apply the Army RM process throughout planning and execution. Commanders make risk-based decisions, and their entire organization must be comfortable continuously integrating, applying and communicating risk management to ensure appropriate decisions enabling mission success."

—Major General Christopher G. Beck, personal e-mail correspondence

Effective RM during operations depends on its full integration into the MDMP and overall operations process. The MDMP is an iterative planning methodology used to understand the situation and mission, develop a course of action, and produce an operation plan or order.[5]

Risk Matrix

One recommendation for fixing the RM process is to apply a format to codify risk assessment in the MDMP. A methodical technique must be employed in order to recognize the hazard during each step of the MDMP. According to ADP 3-37, *Protection*, "The MDMP helps leaders apply thoroughness, clarity, sound judgment, logic, and professional knowledge to understand situations, develop options to solve problems, and reach decisions."[6] To be effective, commanders must hold discussions with their staffs to ensure that they understand all operational variables and to develop guidance prior to MDMP. The commander's guidance and intent must address risk analysis/RM so that the staff understands the commander's assessment. This understanding will drive success in this challenging but critical assessment.

Potential risks during mission analysis must be considered in the running estimates for all WFFs. However, the simple identification of risks in the operational environment is not the only requirement. Leaders must also explain how each risk affects forces or the mission. From that point forward, that specific WFF is responsible for each step of the RM process.

The development of a course of action builds upon the risks identified during mission analysis. During this phase of planning, the staff develops a more detailed plan. Therefore, the staff must assign each identified risk to a specific operation phase and estimate the probability of occurrence (high, medium, low). Just because an identified risk has a low probability of occurrence does not mean that the risk should go unidentified. The staff also begins to formulate ways to reduce each risk. Will intelligence help *avoid* the risk? Will fires or movement and maneuver *eliminate* it? Will protection help *mitigate* it? Or will some combination of these be required? Alternatively, the staff could determine that the best approach is to *accept* the risk. ADP 3-37 defines each of these terms in the following manner:

- **Avoid**—forego the activity that would produce unacceptable risk.
- **Eliminate**—take action to remove the risk or transfer it to a unit that is better-postured to manage the threat.
- **Mitigate**—implement measures that decrease the probability or consequence of harm.
- **Accept**—make an informed decision to act without further mitigating the risk.[7]

During the course-of-action analysis, the staff should further refine the details of each risk. In this phase of planning, the staff must show how proposed controls will affect risk and where significant risk will be incurred. While developing controls, the staff assigns required supporting tasks to units or assets. Residual risk associated with risk to force and risk to mission will accompany the identified risk.

Figure 2, page 12, contains an example of a risk matrix at the division level.

Risk to Force and Risk to Mission

To complete the commander's risk assessment, the staff should describe risks as risk to force or risk to mission. The staff should link each hazard to the risk matrix shown in Figure 3, page 13. Identifying a hazard as red, amber, or green on Figure 3 is subjective using qualitative analysis in the risk matrix. The risk or hazard requires a refined evaluation from the staff subject matter expert. The commander must understand the controls measured upon the overall affected risk assessment, which does not negate avoided, reduced, or eliminated risks. Risks may occur in any operational phase. The overall assessments of risk to force and risk to mission should be qualitatively categorized as low, medium, high, or extremely high.[8] The commander must be able to recognize vulnerabilities, identify and understand the risks, and plan to respond appropriately to protect the force and mission.

Risks Tied to a Decision Point for the Commander

The RM assessment should impact the commander's decision point. Regardless of the model used by the staff, the staff must inform the commander of risks in time, space, and purpose and assist him/her in making decisions. Commanders may then choose to avoid, eliminate, mitigate, or accept risk. If possible, risk should first be avoided or eliminated. Then, the remaining risk should be mitigated to the extent possible before the commander chooses to accept the risk.

The commander's critical information requirements include information that the commander deems necessary to make an informed decision. There are two subsets of critical information requirements—friendly forces information requirements and priority intelligence requirements. Friendly force information requirements include information that units need to know about themselves, and priority intelligence requirements include information that units need to know about the adversary or operational environment. Essential elements of friendly information—or information that the commander wants to hide from the enemy—are also important. RM should drive friendly force information requirements and associated decision points so that the commander is better informed, mission accomplishment is enhanced, and the force is preserved. Through reverse intelligence preparation of the battlefield and during the MDMP, the staff determines the likely enemy actions, locations, and strength. From there, the staff develops a collection plan, assigning collection in named areas of interest linked to priority intelligence requirements. Units will be assigned to collect specific assets that are further tied to decision points in the RM model. If staffs did not articulate risks based on decision points, friendly force information requirements, priority intelligence requirements, and essential elements of friendly information, then key aspects of risk to force or risk to mission that commanders should consider may not be highlighted.

Figure 2. Example of a division-level risk matrix

WFF	Operational Phase	Hazard	Impact	Probability	Avoid	Eliminate	Mitigate	Supporting Task Required	Asset Assigned	Risk to Mission	Risk to Force
		DIV Defensive Operations			Method						
Sustainment (G4)		Bypassing enemies poses a risk to sustainment units travelling along predictable routes	Tempo, Operational Reach	M			X	Convoy and route Security	MPs	L	M
M2 (AVN)		FARP vulnerability	Operational reach is reduced	L	X	X		Dedicated protection force	MPs	M	L
Fires	★	DIVARTY cannot range to FSCL	Cannot engage HPTL	M	X		X	Coordinate with CORPS HPTL priority and PAAs established to shape operations	ABCT Fires BN	H	H
Fires	★	Enemy IDF mass on 3/4 and 1-3 ABCT defensive positions	Culmination	M	X	X	X	Request joint fires to increase speed and maximize fire power	DIVARTY	H	H
G39		Bothnian propaganda will be aggressive, including false claims against 4ID, and possible exploitation/amplification of any actual CIVCAS/atrocities/detainee abuse	Delay in OPTEMPO	M			X	Disrupt and degrade strategic to operational C4I systems	PSYOPS	M	L
Protection (MP)		FRATRICIDE	Degradation of 4ID combat power	L			X	Establish Contact Points, IR, and LNOs	MPs	M	L

L	Negligible effects on OPTEMPO	
M	May require DIV to execute a branch plan or commit additional resources	
H	May prevent DIV from completing DO	

Avoid	M2/Intelligence	Eliminate	M2/Fires/nonlethal	Mitigate	Protection/PPL

Legend:
4ID—4th Infantry Division
ABCT—armored brigade combat team
AVN—aviation
BN—battalion
C4I—command, control, communications, computers, and intelligence
CIVCAS—civilian casualties
DIV—division
DIVARTY—division artillery
DO—decisive operations
FARP—forward area refueling point
FSCL—fire support coordination line
G4—general staff level office for logistics

G39—information warfare staff section
HPTL—high-payoff target list
IDF—indirect fire
IR—infrared
LNO—liaison officer
M2—movement and maneuver
MP—military police
OPTEMPO—operational tempo
PAA—position area for artillery
PPL—priority protection list
PSYOPS—psychological operations
WFF—warfighting function

Ownership of RM

Throughout the operations process, commanders and staffs use RM to identify, prevent, and mitigate risks associated with the WFF and the effects of threats and hazards with the potential to cause friendly and civilian casualties, damage or destroy equipment, or otherwise impact mission effectiveness. RM is not the responsibility of just one person; everyone plays a part. Commanders must acknowledge this and empower executive officers and chiefs of staff to protect the force and enable mission success.

The executive officer or chief of staff must first assign the responsibility of managing the risk matrix to a WFF. According to ADP 3-37, the protection cell RM responsibilities include—

- Identify and assess hazards and propose controls for each course of action during planning and preparation for operations.
- Understand, visualize, and identify protection priorities.
- Develop goals, objectives, and priorities for the command force protection policy.
- Develop protection measures of performance and measures of effectiveness related to RM.
- Integrate and synchronize protection tasks and systems to increase the probability of mission success.
- Monitor the conduct of operations during execution, looking for variances from the protection plan or scheme of protection, and advise the commander when protection activities are not being conducted.
- Incorporate mitigation measures to reduce operational risk to the mission.
- Assess unit RM and force protection performance during operations and provide recommended changes for force protection guidance and controls.
- Capture lessons learned from RM.[9]

RM is also integrated with the planning and execution of operations. In some organizations, an Army civilian safety officer integrates RM into operations. That safety officer must provide technical expertise to the commander and staff. Finally, it is imperative that the assigned staff officer present an updated risk matrix to the executive officer or chief of staff.

Conclusion

While WFFs own the risks or hazards, it is imperative that a leader within the organization own RM. The identification

| DIV Defensive Operations | | | | | Method | | | | | | |
WFF	Operational Phase	Hazard	Impact	Probability	Avoid	Eliminate	Mitigate	Supporting Task required	Asset Assigned	Risk to Mission	Risk to Force
Protection (MP)	2a	**Execute hostile gap (river) crossing**	Operational reach/ basing reduced	M		X	X	Integrated pre planned fires, ISR, FW/RW cover	MPs	H	M
C2	2a ★	**Destruction of key C2 nodes (EW and cyber)**	Server communications	H	X		X	OPSEC strictly enforced; robust team to thwart AH/SAPA hackers; release phony plans	G6	H	L
Protection (MP)	2a	Destruction of bridges and dams	Operational reach/ basing reduced	M		X	X	Secure critical infrastructure (bridges) by MP static positions	MPs	M	L

L — Negligible effects on operational tempo	**M** — May require DIV to execute a branch plan or commit additional resources	**H** — May prevent DIV from completing DO		

Avoid	M2/Intelligence	Eliminate	M2/Fires/nonlethal	Mitigate	Protection/PPL

Steps:
1) Each WFF identifies risk (hazard) and impact during MDMP (MA).
2) During MDMP, (COA DEV), risks are identified by operational phase with the probability.
3) WFF formulate how the hazard will be reduced or avoided, eliminated, or mitigated—or any combination of the three.
4) During the MDMP, conduct COA analysis in phases and issue supporting tasks associated with hazards and risks to mission and/or force.

Risk matrix:
- Provides constant refinement.
- Helps CDR see risk in time, space, and purpose.
- Provides XO the science to the art of adjudication.
- Identifies risk in terms of risk to mission and risk to force.

Key risks to brief CDR during BUB/CUB:
- ★ = Risk with a DP linked to it.
- DPs are also associated to NAIs answering PIRs.
- Risk that the unit cannot directly influence.
- Risk that can cause culmination.
- Risk with political consequences.

Legend:
AH— Atropian Hostiles
BUB—battle update brief
C2—command and control
CDR—commander
COA—course of action
CUB—commander's update brief
DEV—developement
DIV—division
DO—decisive operations
DP—decision points
EW—electronic warfare
FW—fixed wing
G6—general staff level office for signal and communication
ISR—intelligence, surveillance, and reconnaissance
M2—movement and maneuver
MA—mission analysis
MDMP—military decision-making process
MP—military police
NAI—named area of interest
OPSEC—operations security
PIR—priority intelligence requirements
PPL—priority protection list
RW—rotary wing
SAPA—South Atropian People's Army
WFF—warfighting function
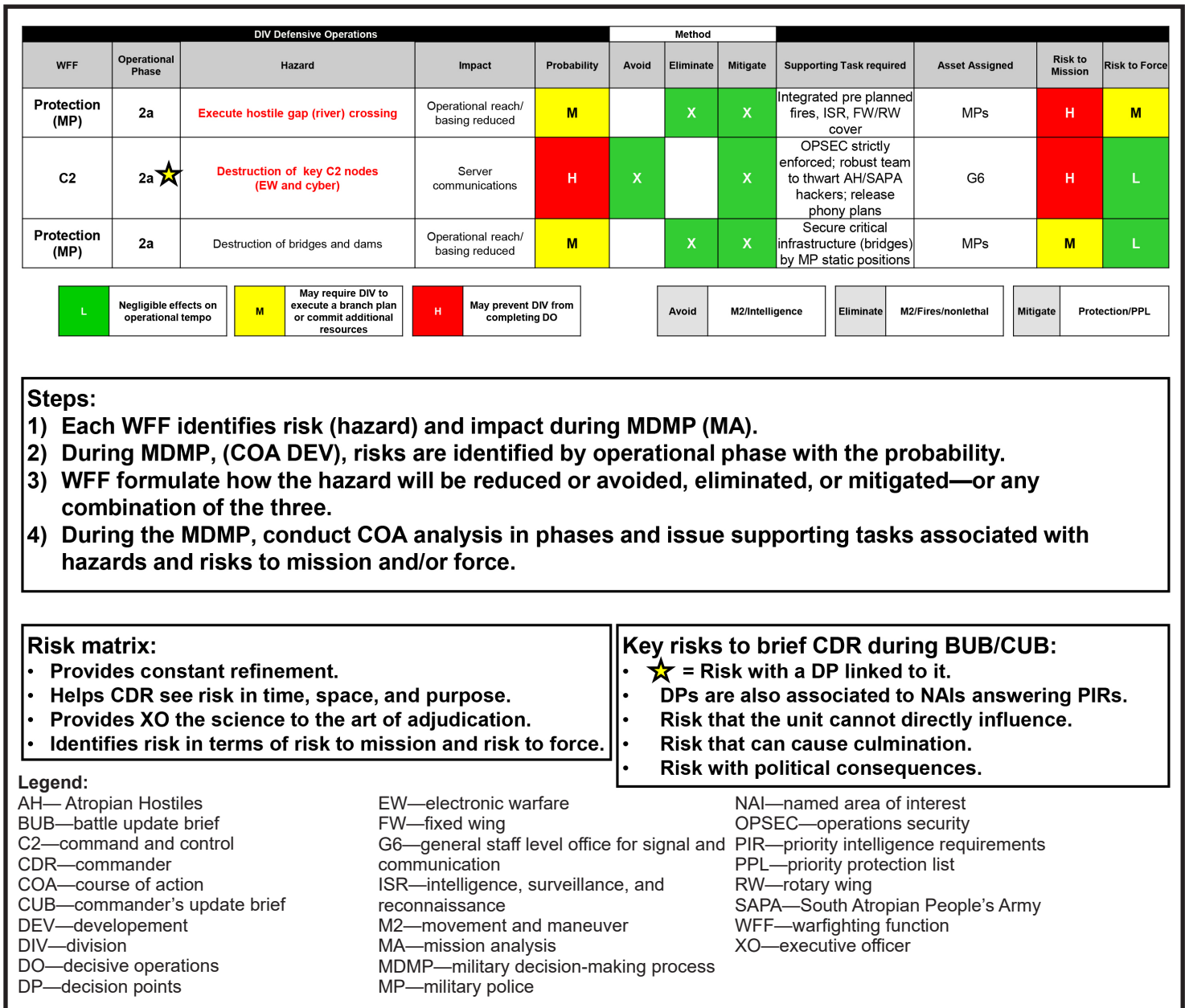XO—executive officer

Figure 3. Assessment Steps and Management Steps

of risks in time, space, and purpose will help the commander describe an operation and direct how to conduct it. The tools and knowledge necessary to inform the commander of risks and the actions required to mitigate them are in place. But our ability to apply RM in the U.S. Army is broken. By understanding the doctrinal RM process and incorporating RM into operations, unit leaders can fix this capability gap and change the culture within their organizations. Figure 3 can serve as a tool to assist with this process. 👓

Endnotes:

[1] ATP 5-19, *Risk Management*, 9 November 2021.

[2] JP 3-33, *Joint Force Headquarters*, 9 June 2022.

[3] ATP 5-19, *Risk Management*, 9 November 2021.

[4] Ibid.

[5] Army Doctrine Publication (ADP) 5-0, T*he Operations Process*, 31 July 2019.

[6] ADP 3-37, *Protection*, 10 January 2024.

[7] Ibid.

[8] Ibid.

[9] Ibid.

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USACBRNS Force Modernization Process and Integration

By Mr. Jeffery D. Phillips, Mr. Joseph E. Call, and Mr. Larry M. Quade

The U.S. Army modernization process enables the delivery of quality solutions to Soldiers to ensure future mission success. It builds on a common strategic foundation and an assessment of near- and far-term challenges. Army modernization is the progressive transformation of the critical elements (which the Army defines, constructs, and operates through doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy [DOTMLPF-P]) from the present to the future. Modernization occurs when progressive transformation ventures are successfully implemented across DOTMLPF-P components and holistically enhance the Army ability to accomplish its mission. It encompasses a continuous transformation strategy (see Figure 1) that heavily relies on the use of human-machine integration by using the tenets of Transformation Contact 2.0 in contact (near-term), deliberate transformation (mid-term), and concept-driven development (far-term).

Continuous transformation informs and sets conditions to deliver the total force in the forthcoming Army Warfighting Concept.[1] In a rapidly evolving and complex operational environment, commanders are empowered to exercise disciplined initiative with existing resources to experiment with concepts, organizational designs, and materiel solutions that feed into enduring Army solutions. The Army utilizes the regionally aligned readiness and modernization model to synchronize modernization, training, and mission requirements across Army commands to coordinate warfighting efforts.

Continuous transformation provides a framework for "thinking in time" across three concurrently-executed time horizons. Continuous transformation is an overarching concept for how the Army perpetually injects organizational, materiel, doctrinal, and other changes based on experience gained from exercises, experiments, observations, wargames, and emerging technology demonstrations.

The first time horizon—Transformation in Contact 2.0—captures near-term (within 18 to 24 months) efforts to rapidly prototype organizational changes and integrate emerging technology. Transformation in Contact 2.0 is a perpetual and continuous effort that provides the opportunity to learn, fail, refine requirements, and develop faster solutions to stay ahead of adversaries.

Transformation in Contact 2.0 is the near-term efforts to prototype organizational designs and operationally test new technology to shape future program objective memorandums and total Army analysis decisions. This time horizon encourages commanders to demonstrate adaptability, flexibility, initiative, and innovation to keep pace with rapid changes in the operational environment. Transformation in Contact 2.0 broadly equates to the force employment phase of

the continuum of strategic direction described in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3100.01e, *Joint Strategic Planning System*,[2] and Joint Doctrine Note (JDN) 2-19, *Strategy*.[3]

Deliberate transformation is the mid-term efforts to plan organizational changes and materiel procurement for the Army through the program objective memorandum and total Army analysis processes. This time horizon is characterized by larger procurement programs and the implementation of validated organizational changes to prioritized units in the total Army. This 2-to-7-year timeframe aligns with the force development phase of the continuum of strategic direction, where the Army builds and refines its formations.

The final time horizon is concept-driven development, which examines the period between 2030 and 2040 to identify the potential new concepts, formations, talent, doctrine, technology, or other DOTMLPF-P changes required to successfully compete in the future. Concept-driven capabilities are the long-term efforts executed to identify capabilities and technologies that may be required during the 2030 to 2040 timeframe. Concepts are driven by science and technology investments, wargames, and experiments. These elements broadly equate to the force design phase of the strategic direction continuum.

The Army continuously transforms to validate new capabilities and accelerate development and force design efforts to achieve a more lethal, strategically mobile, and combat-ready force, now and in the future. This ongoing and iterative process includes the disciplined reallocation of resources, and it grows and evolves the total Army into a multidomain-capable force. Commanders are empowered to take disciplined initiative and assume prudent risk to innovate the manner in which the mission is executed. As previously mentioned, DOTMLF-P is crucial for receiving input and successfully implementing required changes within the force modernization process.

DOTMLPF-P is an acronym that represents the domains that equipment programs and nonmaterial solutions must integrate to enable military utility for the Army and the Department of Defense. The DOTMLPF-P is defined in the Joint Capabilities Integration Development System (JCIDS) process as the framework that determines which changes and/or acquisition efforts could fill a need from an operational perspective to address a capability gap. In essence, the DOTMLPF-P process is the necessary requirements that properly determine the acceptability, suitability, and feasibility of proposed force design changes; the integration of new capabilities; the evaluation of current processes; and participation in capability-based assessments.
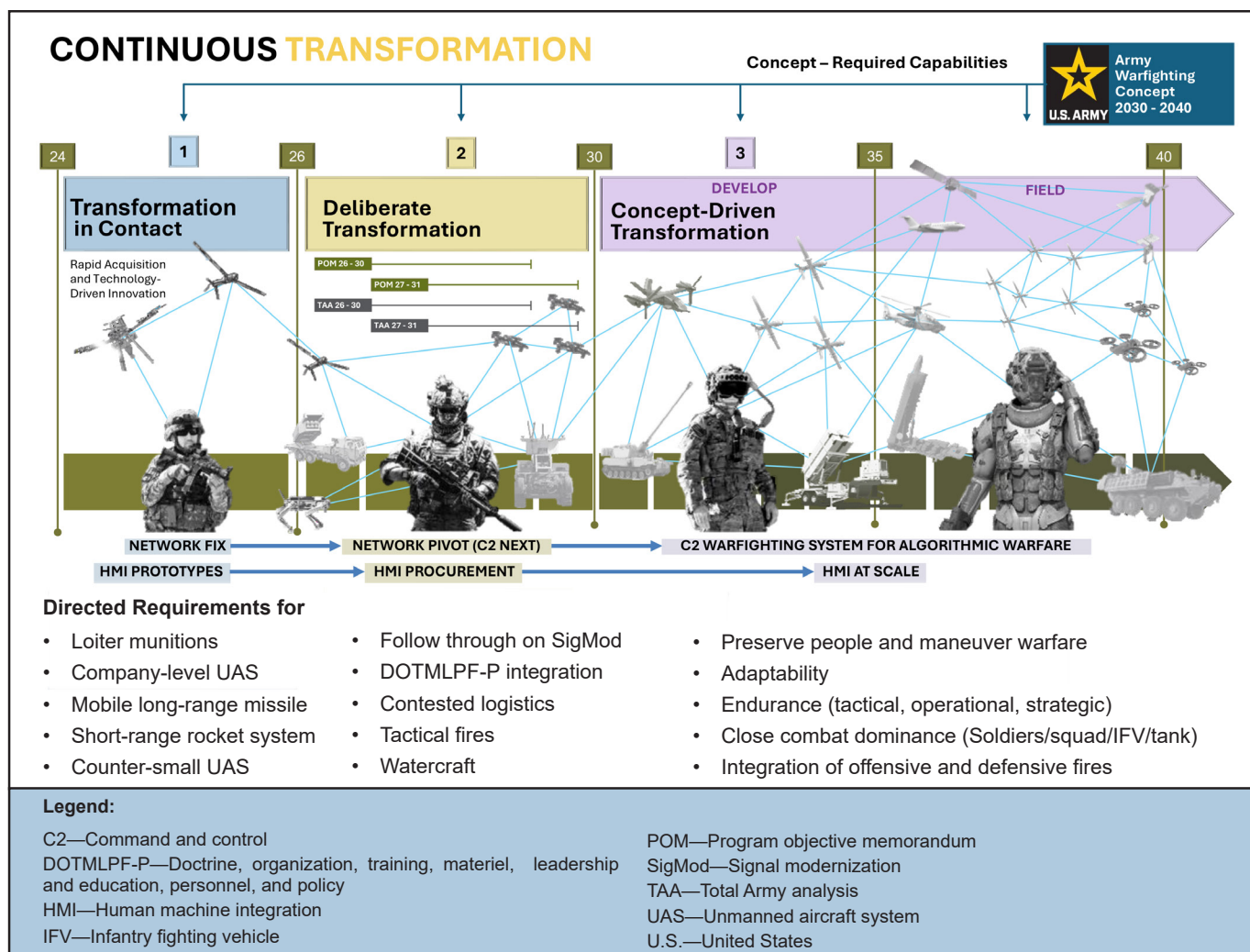
Figure 1. Continuous transformation strategy

The following are DOTMLPF-P domains:

- **Doctrine.** Identify the changes needed in designated joint or Service doctrine to describe how the recommended capability should be captured in doctrine. The doctrine consideration consists of fundamental principles that guide the employment of U.S. military forces in coordinated action toward a common objective.

- **Organization.** Identify current organizational structures that allow the capability to be used to its fullest potential. Outline the recommended or required organizational structure changes that could enable the implementation, greater efficiency, or performance of the capability.

- **Training.** Ensure that training is properly addressed from the beginning of the capability development process. Outline recommended and required training that could enable effective implementation and performance of the capability. Training that is unplanned, inadequately funded, or belatedly integrated can be a significant life-cycle cost driver or contribute to a lack of readiness when the system is fielded.

- **Materiel.** This domain has two meanings, depending on the use of an uppercase or lowercase m.
  - Capital "M": Identify concerns during the development of a materiel capability.
  - Lowercase "m": Identify increased quantities, modifications, improvements, or alternate applications of existing materiel or the purchase of commercial off-the-shelf, government off-the-shelf, or nondevelopmental items.

- **Leadership and Education.** Identify the required professional leadership development that is the product of a learning continuum that comprises training, experience, education, and self-improvement. Identify if current leadership and education allow the capability to be used to its fullest potential.

- **Personnel.** Ensure that qualified personnel exist to implement proposed solutions for capability gaps. (This is not the same as the organizational domain.) The number or quantity of people is a function of the organization section. Personnel should include the qualities, types, or skills needed to work the proposed solution.

- **Facilities.** Identify real property requirements consisting of one or more buildings, structures, ranges, utility systems, associated roads or other pavements, and underlying land areas. Identify if current facilities allow the capability to be used to its fullest potential.

- **Policy.** Identify Department of Defense, interagency, or international policy issues that may impact effective implementation of the solution.

The domains may fall under different organizations across all Army Centers of Excellence. For maneuver support, the U.S. Army Training and Doctrine Command (TRADOC) proponent governs training, leader development, and personnel; the Centers of Excellence govern doctrine, organizations and facilities; and the Army Futures Command governs materiel. Each proponent is required to integrate the domains, ensuring a capability that originated from a gap that was shepherded through the JCIDS process to provide military utility to the end user.

The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) uses the Capability Integration and Initiatives Division (CIID) to synchronize DOTMLPF-P across the domain leads and other stakeholders (such as science and technology; the Joint Requirements Office; the Joint Program Executive Office for Chemical, Biological, Radiological, and Nuclear Defense [JPEO-CBRND] material developers; Headquarters, Department of the Army G-8 Force Development; Headquarters, Department of the Army G-3-5-7; and the Army Futures Command). This synchronization allows DOTMLPF-P to be integrated into planned meetings for program reviews of joint and Army initiatives and into the coordination of other unscheduled events that require a consolidated response, such as coronavirus disease 2019 (COVID-19) or Transformation in Contact 2.0 support.

The chemical, biological, radiological, and nuclear (CBRN) program reviews occur weekly and follow a standard agenda that includes an equipment capability description, a planned concept for employment, a basis of issue guidance, and a DOTMLPF-P chart that lists each domain. Each domain is coded by a green, amber, or red dot for a quick status view.

- **Green.** Signifies that there are no issues and things are on track according to the established timeline.
- **Amber.** Signifies that issues being worked may affect development/delivery.
- **Red.** Signifies that existing issues will affect development/delivery and require senior leader input for program continuation.

Each domain area on the DOTMLPF-P chart provides space to list current working items for the program review. Additionally, space is given to display the program timeline, milestones, and decision points. Current CIID focus is on the future capabilities that might be required during the next several years.

In the future, new CBRN capabilities will be fielded to the warfighter. This includes the Nuclear, Biological, Chemical Reconnaissance Vehicle (NBCRV) Sensor Suite Upgrade. This Stryker variant will be the first Army armored vehicle that incorporates unmanned aircraft systems with an added CBRN reconnaissance and surveillance capability. For biological surveillance, operations remain vulnerable to potential disruptions by adversaries who could exploit weaknesses. The logistical and medical ramifications would have dire consequences and increase the burden of achieving strategic goals. To help mitigate this threat, the Army plans to replace its legacy biological detection capability with the Joint Biological Tactical Detection System (JBTDS). JBTDS improves and increases the capacity of the biological detection capability. With the JBTDS, biological defense platoons can provide near-real-time, tactical-level detection of an aerosol biological warfare agent, which enhances situational awareness for commanders.

Several modernization efforts support the Army of the future. These efforts include the Uniform Integrated Protection Ensemble (UIPE), Automated Obscuration System, and Automated Decontamination System. The UIPE is a two-piece, lightweight, chemically protective combat uniform made of air-permeable material that has an aerosol liner treated with liquid repellent. The UIPE is a lighter-weight protection ensemble that safeguards the Soldier in contaminated environments while significantly reducing the wearer's burden. The Automated Obscuration System and the Automated Decontamination System are robotic-enabled platforms that provide visual screening and a streamlined decontamination process. These capabilities are currently undergoing prototype testing. They are designed to increase capability and capacity and reduce manpower, time, and resources while removing the Soldier from the hazard.

The USACBRNS CIID synchronizes these efforts and maintains a brief for each capability worked through joint, Army, and proponent-specific capabilities. The DOTMLPF-P chart is the key to this process. The team conducts in-person meetings, ensuring the presence of local domain leads and their deputies; additional stakeholder organization members can attend via Microsoft Teams.© Attendance from a combination of other stakeholders (including Army staff, program executive office employees, and the science and technology community) varies based on whether the program is new or established. During these meetings, domain representatives consider each identified implication, with the intent to solve or mitigate it well before a system or process fields/starts. After the domain briefs, the schedule and milestone chart are assessed with the intent to synchronize the program objective memorandum with the initial operational capability and the full operational capability.

To support theater opening operations during a transition to conflict, a force design update was executed to transform five hazard response companies into heavy reconnaissance and decontamination companies. These new companies provide early-entry operations the CBRN defense capabilities need to support joint reception staging onward movement and integration and to maintain the flow of friendly forces. The finalized force design update uses the DOTMLPF-P process to attain final Army approval to integrate the new structure into CBRN formations. The USACBRNS CIID is now working on integrating the Transformation in Contact 2.0 efforts into future CBRN formation changes.

Transformation in Contact 2.0 focuses on a new initiative that tests new capability and/or new equipment sets and tactics to adapt to real-world situations involving current and future threats. The main goal is to create more adaptable units that can quickly respond to these threats—not necessarily reducing formation structure, but instead incorporating new technology and processes that are streamlined

to quickly adapt to new threats. The CBRN proponent uses these thought processes to generate new ideas and solution sets to prepare the Chemical Corps to adapt in stride with the Army Transformation in Contact 2.0 processes. The four lines of effort focus on developing a CBRN human-machine integration company using unmanned systems for streamlined unit operations. These efforts include—

- Experimenting with unmanned systems for more intensive functions (such as decontamination).
- Exploring ways to use technology for obscuration.
- Developing autonomous capabilities for units.
- Leveraging new technologies for enhanced operational flexibility.

The CBRN proponent is currently working on a proof-of-concept experiment with all stakeholders. The experiment should be complete by September 2025.

Army force modernization is a strategic approach to continuously improve military capabilities by introducing new technologies, tactics, and organizational structures to maintain combat effectiveness against evolving threats. Force modernization could involve upgrading existing equipment, developing new weapon systems and CBRN sensors, or adapting doctrine to better leverage these advancements across all aspects of military operations and DOTMLPF-P domains. It includes three methods—Transformation in Contact 2.0, deliberate transformation, and concept-driven development—to prepare for near-term, mid-term, and far-term (as far out to 2040) operations. Modernization has a holistic approach that encompasses multiple areas across the DOTMLPF-P and adapts to emerging threats by applying new technologies across centers and through the Army Futures Command. To maintain a modern and effective Army, a constant and adaptable approach is crucial, reflecting both evolving military concepts and senior leader strategies. 👓

Endnotes:

[1]The Army Warfighting Concept is under development by the Army Futures Command.

[2]CJCSI 3100.01e, *Joint Strategic Planning System*, 29 January 2024.

[3]JDN 2-19, *Strategy*, 10 December 2019.

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The McConnell SBS: Benefiting the Army and Strengthening the Profession

By Chief Warrant Officer Four Victoria R. Ramage-Garcia

In 2014, General Raymond T. Odierno recognized a need for enhanced critical and strategic thinking and founded the McConnell Center, University of Louisville, Kentucky, Strategic Broadening Seminar (SBS). This program proactively develops specific aspects that holistically enable distributed leadership execution. U.S. Army leaders at all echelons should recognize that the SBS is an invaluable venue that broadens the critical and strategic thinking of high performers to help enable them to fight and win future wars. Contemporary foreign conflicts suggest that future large-scale combat operations and multidomain operations will prioritize dispersion to minimize battlefield visibility.[1] This trend toward dispersed operations necessitates a renewed emphasis on developing leadership and critical thinking skills, augmenting agile and adaptive leaders and advisors capable of effective distributed leadership.[2] Senior leaders can actively shape the profession and reinforce the stewardship priorities of the Chief of Staff of the Army (CSA) General Randy A. George by sponsoring high-performing subordinates for attendance at the McConnell Center SBS.[3]

The McConnell Center SBS emphasizes developing discourse skills, a concept often unfamiliar to those in lower echelons of the military, where future leaders and advisors are cultivated. As Brigadier General Kareem P. "Monty" Montague recently articulated in his article, "The Army's Discourse Problem," the lack of constructive dialogue negatively impacts leadership.[4] The SBS directly addresses this problem by fostering an environment where sensitive topics (cultural differences, religion, ethics, and the "greater good") are openly explored. This deliberate exposure dismantles hierarchical barriers, encourages diverse perspectives, and builds confidence in the participant's ability to engage in professional discourse. Given that discourse directly impacts the cognitive domain of communication, these developed skills are essential for planning future large-scale combat operations and multidomain operations.

The McConnell Center SBS immerses participants in critical, philosophical discussions on 21st-century leadership.[5] This exposure is crucial for warrant officers, who often have fewer opportunities for similar development compared to their officer-grade and enlisted counterparts. Through readings spanning Plato, Machiavelli, and modern works such as *Achilles in Vietnam*, participants explore the enduring relevance of ethics, values, and character during conflict. For example, *Achilles in Vietnam* highlights the potential for moral and ethical breakdowns in modern warfare and their profound impact on individuals and nations.[6] This exploration of philosophical underpinnings cultivates a deeper understanding of leadership and empowers participants to guide subordinates and advise senior leaders with greater insight and ethical awareness. Consequently, senior leaders should reinforce the stewardship priorities of the CSA by ensuring that these critical developmental opportunities reach those who will shape the Army.

The McConnell Center SBS features expert lectures on China and Russia that are delivered by PhD-holding individuals who have a deep, personal knowledge of those nations. These lectures are regularly updated to reflect current geopolitical realities and offer political and military perspectives. The intimate connections between the presenters and their subject matter sets these presentations apart from standard theater briefings. For instance, Dr. Eugene Rumer, born in the Soviet Union and now director of the Russia and Eurasia Program at the Carnegie Endowment for International Peace, provides invaluable insights into the importance of understanding the history and culture of an adversary. Rumer conveys his message with a genuine passion that transcends typical intelligence briefings.[7] Similarly, Dr. Shiping Hua's lectures on China (inspired by his experience as an academic who disagreed with the People's Republic of China ideology) offer unique and critical perspectives.[8] Exposure to subject matter experts significantly strengthens the CBRN profession by providing participants a nuanced, firsthand understanding of critical geopolitical adversaries.

The final crucial element of the McConnell Center SBS is the direct engagement with McConnell Scholars and U.S. and foreign government leaders. The interactions with McConnell Scholars, many of whom are poised to influence future policy and legislation (including McConnell Scholar alumni Kentucky Secretary of State Michael G. Adams, U.S. Senate candidate Daniel Cameron, and CNN political commentator Scott Jennings) provide invaluable insights into the political landscape.[9, 10] Furthermore, the program facilitates meetings with U.S. senators on Capitol Hill, Washington,

D.C. The discussions that stem from these meetings address critical issues such as nuclear deterrence and the geopolitical implications of the Nuclear Non-Proliferation Treaty compliance, providing a firsthand understanding of evolving perspectives of senior leaders. Similarly, direct interaction with foreign diplomats such as Ambassador Kevin Rudd of Australia offers unique opportunities to discuss pressing geopolitical challenges; for example, China's regional influence and Australia's strategic procurement of nuclear-powered submarines.[11] These personal engagements foster direct dialogue with influential figures and significantly strengthen the profession by providing participants a deeper understanding of policy and strategic decision making. Therefore, these opportunities should be actively supported by senior leaders, who should ensure that high-performing subordinates and future advisors benefit from this unique and enriching developmental experience.

In closing, it's understandable to question the need for senior leaders to allocate organizational funds (outside of Headquarters Department of the Army [HQDA] funding) to developmental programs such as the McConnell Center SBS. While several developmental opportunities exist within the Department of Defense (DoD), the McConnell Center SBS stands out as one of only nine that are directly funded by HQDA and shaped by CSA guidance. This distinction underscores its alignment with the priorities of the CSA, acutely strengthening the profession. By investing in this program, senior leaders directly support the vision of the CSA and cultivate the critical thinking, ethical awareness, and geopolitical understanding essential for future advisors and leaders. This deliberate investment in the professional development of high-performing individuals is precisely why the McConnell Center SBS provides invaluable benefits to the Army.

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EVERY PEACH STONE COUNTS

By Ms. Christy Lindberg

In September 1918, "Save Our Soldiers From German Gas By Saving Peach Stones!"[1] was the immediate response to General John J. Pershing's plea for more gas masks. Pershing was commander of the American Expeditionary Force during World War I, and newspapers across the country quickly spread the word for this wartime need. Many companies soon sponsored the collection of all kinds of fibrous materials: "Save American lives by saving Peach Stones, Apricot, Cherry, Plum, Prune and Olive Pits, Date Seeds, Walnuts, Hickory Nuts, Butternuts and also the shells of these nuts!"[2] In a classified advertisement, Frank R. Jelleff, Inc. offered," Dry the stones and bring them to us. We will deliver them to the government for you."[3]

The Red Cross, schools, churches, and other civic organizations and groups reacted with great patriotic fervor. The Boys Scouts of America "pledged themselves to 100 percent patriotism in winning the war."[4] One little boy even wrote a letter to the "Aunt Anna's Little Letters" newspaper column that said:

Historical advertisement for peach pit collection

Historic photo of a peach stone collection barrel

"I have a brother in France, and I am saving all the peach stones I can to help make gas masks. I hope all the cousins [readers of the column] will save all they can. I get my playmates and we go around the streets picking the seeds up. I have gathered and had given me over 800."[5]

Considering that it took about 200 peach stones or approximately 7 pounds of nut shells to produce enough of the porous carbon necessary to outfit one gas respirator to save one American Soldier, this effort required unwavering support. It was estimated that more than 500,000 tons of fruit stones, nut shells, and seeds would be required each month to make enough charcoal to produce an adequate number of gas masks. Coconut shells yielded the most porous carbon; however, shortages of ships available to import the coconut shells often forced the hand of American ingenuity. Candy makers declared their intention to explore all possible uses for coconuts so that more shells would become available. The U.S. Food Administration contributed to the effort by ensuring that makers of coconut products had plenty of sugar, and consumers were encouraged to have that second slice of coconut pie.

Historical advertisement for peach pit collection

In a letter to city and county school superintendents in the state of Illinois, Alfred J. Benson, chairman for the state of Illinois war saving societies, wrote:

"Poison gas was one of the first fruits of *kultur*. It stings, blinds and kills. Charcoal, or carbon, made from fruit pits and nut shells, is used to neutralize it. The government needs carbon. It asks the boys and girls to save pits from these fruits: peaches, apricots, plums, cherries, prunes, and the shells of hickory nuts, walnuts, and butternuts."[6]

The Gas Defender, a newsletter distributed by the Gas Defense Division of the Chemical Warfare Service, detailed the process of turning fruit and nuts into lifesaving carbon:

"All the peach pits, shells and stones that are now being collected in New York and throughout the rest of the country are converging on the several carbon plants of the Chemical Warfare Service . . . about 8 tons a day are being yielded from the various hotels, department stores, restaurants and schoolhouses.

As the shipments arrive at the wharf of the plant the various kinds of pits and shells and other carbon producing substances are conveyed to hoppers, from which they are fed into a grinding machine which breaks them into more or less uniform sizes. Thus far the following materials have been used: Cocoanut shells, apricot pits, peach pits, cohune nuts . . . and cherry pits.

After being sized through the foregoing process, the material is conveyed to retorts, where it is carbonized and all the volatile gases driven off . . . From here the carbon . . . is carried on cars to the treaters. The mass is still hot from the distilling process and it is therefore necessary to reduce

its temperature to prevent the mass from . . . burning like charcoal.

The treaters are immediately adjacent. Above them are grinders and screens, where the material is further reduced in size before entrance . . . The carbon enters at the top and comes out the bottom, where it is caught in 225-pound drums . . . This is the finished product."[7]

At the Astoria Light, Heat, and Power Company in New York City, New York, 1,500 personnel, including 600 officers and enlisted men of the Chemical Warfare Service, worked around the clock to convert fruit pits and nut shells into carbon for the gas masks used by deployed Service members and their British allies.

Americans united in patriotism and dedication to the cause. In just a few short months, several states posted notices that read, "Need No More Fruit Pits; To Use Those On Hand Here As Fuel."[8] The materials were then transferred to the Red Cross. In addition, private companies sold their supplies of tropical nut shells and peach pits, advertising them as a great fuel source. Even small children participated in the effort. Ms. Elizabeth Farson, Principal, Hamilton School, Chicago, Illinois, summarized the benefit of teaching lessons from the Peach Pit Campaign:

"The newer teaching may easily connect the collecting, scrubbing, and drying of these [peach pits] not only with arithmetic and language lessons but also with the larger lesson of social significance – What can I do to win the war? How many [S]oldiers' lives can I have the privilege of helping to save? If our room, our school, our city, [and] our Nation all work in unison in such projects, how much have all the power to do?"[9]

Ms. Farson's writing is just one example of how Americans rose to the challenge and responded to the introduction of chemical warfare with ingenuity and gusto. Through the Peach Pit Campaign, U.S. citizens rallied together in a unique and widespread common effort to save American Soldiers. ❦

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The Kim Regime:
Sanctions, Diplomacy, and Nuclear Survival

By Major Mithun P. Sheth

Despite being subjected to one of the most compre-hensive sanction regimes in history, the Democratic People's Republic of Korea (DPRK) has continued to develop its nuclear arsenal, posing a persistent challenge to global security and nonproliferation efforts. Through a combination of cyber operations, illicit trade networks, the procurement of dual-use technologies, and diplomatic ma-neuvering, North Korea has successfully circumvented re-strictions to acquire critical materials and technologies. This article examines the strategies, technologies, and networks that enable the DPRK to sustain and expand its nuclear ca-pabilities, highlighting the broader implications for regional stability and the effectiveness of international counterprolif-eration measures.

After China's first nuclear test in 1964, Kim Il Sung, founder and First Supreme Leader of North Korea, tried to purchase nuclear technology from Beijing and Moscow, both of whom refused due to their fear of Kim's intent to build nuclear weapons.[1] Kim assured the Chinese and Russian powers that the nuclear intentions of the DPRK were peace-ful. Diplomatic maneuvering soon established relationships with the Union of Soviet Socialist Republics (USSR) to pro-vide technical support, training, and nuclear fuel, and North Korean scientists were trained in nuclear physics in the USSR. By 1965, the USSR provided the DPRK a 2-mega-watt light-water research reactor at the Yongbyon Nucle-ar Scientific Research Center. The North Koreans quickly reverse-engineered this technology, using Soviet education to repurpose the reactor for military applications. The Kim regime repeatedly insisted to its world allies that its actions were for peaceful purposes.

In 1977, the DPRK signed a trilateral safeguard agree-ment with the International Atomic Energy Agency (IAEA), bringing its Soviet-supplied IRT-2000 reactor under inter-national safeguard. The DRPK also signed the Nuclear Non-Proliferation Treaty in 1985.[2] These political actions seemed to suggest cooperation, but they were largely a superficial gesture used to gain and maintain Soviet support and nu-clear fuel. While the DPRK allowed limited inspections of the reactor, it concealed its plutonium reprocessing efforts. For almost 7 years, the Kim regime delayed fulfilling the treaty's requirement to allow IAEA inspections. During this time, it clandestinely pursued nuclear weapon development.

North Korea also used the suspension of the Nuclear Non-Proliferation Treaty as a bargaining tool for light water reactors (LWRs) and oil while continuing uranium

and missile development. By the early 1990s, the United States became aware of construction activities near Yong-byon, leading to suspicions that the DPRK was develop-ing nuclear weapons. After coalition forces threatened air strikes, North Korea (as a stalling tactic) agreed to IAEA inspections. However, the DPRK repeatedly blocked inspec-tors from accessing two facilities at Yongbyon, where it was suspected of producing plutonium. The DPRK also provided false declarations regarding the accountability of nuclear material. When discrepancies were uncovered, the IAEA de-manded access to the restricted facilities. In 1993, the situ-ation worsened when North Korea announced its planned withdrawal from the Nuclear Non-Proliferation Treaty. Just 1 month later, after the United States considered nuclear strikes, the DPRK suspended its withdrawal and signaled its willingness to discuss IAEA safeguards and inspections in exchange for modern LWR technology. This laid the foun-dation for the 1994 Agreed Framework between the DPRK and the United States, which required the DPRK to freeze the construction of its weapons-based nuclear reactor in ex-change for two proliferation-resistant LWRs and 500,000 metric tons of fuel oil annually until the two reactors were completed.[3] In 2002, evidence emerged that the Kim regime had violated the1994 Agreed Framework by acquiring cen-trifuge components, enrichment materials, and short-range ballistic missile technology. Satellite imagery also revealed ongoing activities (such as the expansion of missile test sites and uranium enrichment facilities) at Yongbyon and other locations.[4] North Korean diplomats then walked away from the negotiation table and removed all IAEA personnel from North Korea.

In 2008, the Six-Party Talks brought North Korea back to the bargaining table. They agreed to disable the Yong-byon reactor in exchange for fuel aid, economic incentives, and political concessions (such as their removal from the U.S. State Sponsors of Terrorism list).[5] The Kim Regime partially disabled Yongbyon, but they refused to provide a full acco unting of their nuclear program. While receiving aid, the DPRK continued the development of a uranium en-richment program. By the end of the Six-Party Talks, North Korea had significantly advanced their nuclear and missile programs. By 2009, the DPRK had walked away from the talks, resumed nuclear development, and conducted addi-tional nuclear tests—all while keeping the agricultural sup-port aid packages, food aid, and tons of fuel oil to address their chronic energy shortages. Remaining off the State Sponsors of Terrorism list, the DPRK improved its image

internationally and opened the door to limited financial transactions. However, in 2017, President Donald J. Trump put North Korea back on the list, effectively promising to punish third-party countries that financially dealt with North Korea.

The DPRK also uses cyber operations to forge shipping manifests, alter tracking systems, and create fake companies. Agents often use front companies and intermediaries to acquire materials such as aluminum tubes, high-strength steel, and centrifuge components under the guise of civilian use. In 2013, a shipment of graphite cylinders used in missile nose cones was intercepted in South Korea. The cylinders were *en route* to the DPRK, falsely labeled as industrial equipment.[6] Additionally, the regime sources technologies with civilian and military applications through front companies and regional intermediaries. In 2017, investigations revealed that North Korean leaders used Glocom, a front company based in Malaysia, to sell military communications equipment internationally. The proceeds were funneled back to support DPRK weapon programs.[7]

The current DPRK has leveraged cyber operations as a critical tool to circumvent international sanctions, steal resources, and procure the technologies necessary to sustain and expand its nuclear program. In 2018, the DPRK Reconnaissance General Bureau (the DPRK intelligence agency) forced the transfer of $10 million from Banco de Chile to accounts in Hong Kong.[8] The proceeds have reportedly funded as much as 40 percent of the cost of the weapons of mass destruction program of North Korea.[9]

North Korea has become resilient to sanctions by relying on sophisticated smuggling operations, including ship-to-ship transfers of oil and other sanctioned goods. The *Wise Honest*, a DPRK ship seized by the United States in 2018, was involved in illicit coal exports and equipment imports for its nuclear program.[10] In 2019, the United Nations reported that DPRK vessels engaged in illegal ship-to-ship transfers of refined petroleum products, often in the East China Sea. These transfers involved turning off automatic identification system trackers to avoid being monitored.[11] DPRK ships have been caught transporting banned coal to countries such as China and receiving refined petroleum products at sea in violation of United Nations sanctions.

North Korean cyber units, particularly the Lazarus Group, have conducted large-scale cryptocurrency heists, stealing billions of dollars from exchanges, wallets, and mining operations. In 2022, the Lazarus Group's crypto heists enabled the DPRK to steal $615 million from Ronin Network, $100 million from Horizon, and $100 million from crypto portfolios in the form of Atomic Wallet, Bitcoin, Ethereum, Binance Smart Chain, and Polygon.[12] Pyongyang leaders continued cyberattacks and, by 2023, had netted the regime around $3 billion over 6 years. The DPRK has also targeted brick and mortar financial institutions. The Lazarus Group funneled $81 million in fraudulent Society for Worldwide Interbank Financial Telecommunications transactions through the Bank of Bangladesh.[13] These funds

bypass traditional banking systems and provide the regime a significant financial lifeline.

While not openly supportive, certain states provide tacit support or overlook violations, enabling North Korea to bypass sanctions. Chinese companies and brokers have been heavily implicated in aiding the smuggling efforts of the DPRK, often providing logistical support, financial services, and access to restricted materials. In 2018, the U.S. Treasury sanctioned Dalian Sun Moon Star International Logistics Trading Co., a Chinese firm that helped North Korea facilitate illicit fuel shipments and evade sanctions.[14] The DPRK also partnered with Russian actors to acquire materials and technologies. Between 2022 and 2025, North Korea traded arms and ammunition with—and supplied workers and troops to—Russia in exchange for satellite technology and fuel. Russia helped the DPRK develop a military reconnaissance satellite, and Kim Jong Un, Third Supreme Leader of North Korea, supported Russia's invasion of Ukraine, providing millions of shells, rockets, labor workers, and troops. U.S. President Joseph R. Biden attempted to resume negotiations, but Pyongyang leaders showed little interest as they continued missile testing and formally ended efforts to reunify with South Korea.

The DPRK nuclear program has been marked by a pursuit of nuclear weapons despite widespread sanctions and diplomatic agreements. Through clandestine nuclear development, diplomatic maneuvering, cyber operations, and illicit trade networks, Pyongyang has consistently bypassed sanctions and pursued its nuclear ambitions. The regime has repeatedly used international agreements as tools to gain economic aid and diplomatic concessions while continuing to secretly expand its nuclear capabilities. Despite periods of diplomatic engagement, DPRK nuclear and missile programs have advanced, and its reliance on smuggling networks and support from allies such as China and Russia further complicate efforts to curb proliferation. The response of the global community must evolve to address a multifaceted approach to the DPRK, emphasizing both sanctions and strategies to disrupt illicit financial and trade networks while leveraging information warfare and diplomatic pressure on its remaining supporters. 👓

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A Tool for Me, A Tool for Thee

The chemical, biological, radiological, and nuclear (CBRN) knowledge, information, and tools (KIT)—

- Facilitates leader development.
- Provides easy access to knowledge, information, and tools.
- Educates leaders and Soldiers on how to integrate and synchronize CBRN capabilities into protection.
- Enables lethality in multidomain operations by communicating in terms of risk to support commander decisions.

In an ever-evolving operational environment, the U.S. Army Chemical Corps recognizes the need for professional dialogue to share lessons observed as the Chemical Corps role in multidomain operations is refined. Under the direction of the Commandant, U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS), Fort Leonard Wood, Missouri, a platform—the CBRN KIT— was developed in 2022 to share knowledge, information, and tools. The CBRN KIT was intended to complement the three domains of leader development through peer involvement.

In September 2024, the Officer Training Department, USACBRNS, in conjunction with the Department of Instruction, USACBRNS, identified that the value of the CBRN KIT was inhibited by its current user interface. Through the Captain's Career Course student feedback, CBRN KIT administrators developed an updated user interface to generate products that were more accessible and logically arrayed.

The success of the CBRN KIT is dependent on engagement from the CBRN community. The platform must provide knowledge, information, and tools that facilitate CBRN programs, training, and incorporation in multidomain operations to encourage engagement from its intended end users—CBRN leaders and Soldiers. We need **YOU** to share products for CBRN community use. If you have a smartbook, standard operating procedure, training plan, or leader professional development product from which others could benefit, please contribute to the CBRN KIT. The CBRN KIT administrators will vet submissions, make required refinements, and post within the appropriate category.

Help strengthen the Chemical Corps by supporting the CBRN KIT. Check out the products that are currently available, comment on the products you find useful, and provide feedback for improvements.

https://cyberllc.army.mil/web/cbrn-kit/

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Are We Managing, Mismanaging, or Hoarding Talent?
An Experience-Based Perspective

By Sergeant Major Gedney P. Riley

The Army uses the term "talent management" to describe the assignment processes at the enterprise level. Similarly, senior leaders use the term when slotting individual Soldiers and noncommissioned officers (NCOs) into line-numbered positions based on their skills at the organizational level. Army talent management (ATM) is the comprehensive approach by the Service to manage the careers of Army personnel by focusing on the development, utilization, and retention of talent within the organization. ATM is a people-centric strategy that aims to maximize the potential of each Soldier, officer, and civilian professional by aligning their knowledge, skills, and behaviors (KSB) with the needs of the Army.[1] While ATM sounds logical in theory, it is flawed in execution and application. Challenges with personnel management at the enterprise level and below plague the ATM process. This article examines several ATM challenges from an active-duty enlisted perspective.

Talent

Leaders often use the word "talent" in diverse ways when discussing people, but what exactly is talent? According to the *U.S. Army Talent Management Strategy: Force 2025 and Beyond*, talent ". . . is the intersection of three dimensions: knowledge, skills, and behaviors (KSB) that creates an optimal level of individual performance, provided individuals are employed within their talent set."[2] What does that mean? The Army Office of Economic and Manpower Analysis (OEMA) created the standard Army definition of talent, which states that it is the ". . . unique intersection of skills, knowledge, and behaviors in every person [that] . . . better suit them to some development and employment opportunities than others."[3] The OEMA definition leads one to believe that effective talent management should easily occur at echelon; however, that is not the case, and the current enlisted assignment market only increases talent management challenges.

The Enlisted Market Construct and Talent Management Paradox

ATM is fraught with obstacles, and the existing systems and processes often hinder rather than help. The enlisted assignment market presents many challenges, including the mismatch between Soldier skills and unit requirements and the limited opportunities for Soldiers to pursue their career goals. These challenges can lead to frustration, disillusionment, and decreased job satisfaction among Soldiers, undermining the ability of the organization to retain and develop its most talented personnel.

Under the current concept, the enlisted assignment market is a one-way market that allows NCOs to view available job openings and make preferences for those openings from 1-to-n.[4] The market aligns participants based on the individual's year-month availability to move, grade plate, and military occupational specialty. It does not account for additional skills or language identifiers (even though the market displays them); therefore, excluding certain specific locations/specialties, the system can place NCOs on assignment without the requisite skills or language.

Another unintended consequence of the market is the ability for NCOs to make assignment decisions that can be detrimental to their career. Assignment managers and talent management NCOs can only recommend which assignments the individual should avoid; however, individual preference outweighs professional development considerations. The enlisted marketplace is simply talent distribution rather than talent management.

Despite Human Resources Command (HRC) aligning individuals against job openings at the brigade level, the reality is that the orders of the HRC send them to the gaining installation and nothing lower. Once the individual arrives at the gaining installation, installation strength management can assign inbound personnel as necessary. This often leads to talent and skills mismanagement.

Talent and Skills Mismanagement

Upon arrival at the gaining installation, strength management and senior leaders locally manage individual talent. This is where talent mismanagement frequently enters the process. Installations often haphazardly assign NCO talent to open positions without examining individual skills, goals, or professional development. This approach often

leaves specialized skill gaps unaddressed as strength managers allocate individuals with talent and the appropriate KSBs to other areas. This type of mismanagement occurs regularly at numerous installations. Instead of assigning NCOs with additional skill identifiers (ASIs), such as L6–Chemical, Biological, Radiological, and Nuclear (CBRN) Reconnaissance for brigade combat teams or L3–Advanced Chemical, Biological, Radiological, Nuclear, and Explosives (CBRNE) Enabler to the units with the need, strength managers often assign these specialized NCOs to organizations with no valid L6/L3 requirement. The U.S. Army Chemical, Biological, Radiological, and Nuclear School (USACBRNS) leadership witnesses mismanagement as they travel to different camps, posts, and stations, where they often receive complaints about the lack of ASI-qualified personnel and its negative impact on proficiency and readiness. When asked to provide ASI strengths at those same installations, HRC frequently discovers that the Soldiers with those ASIs are allocated to units conducting CBRN gas chamber training, serving as rifle cadre, filling CBRN NCO staff roles, occupying immaterial positions, or functioning as borrowed military manpower. The appropriate personnel are present at the installation, but they are assigned to the wrong positions.

Although ASI management is widespread across the force, the most severe form of talent mismanagement lies with rating officials who render inaccurate or overinflated evaluations. Raters and senior raters must ensure that NCOs receive evaluations based on their actual performance, rather than on perceived merit or favoritism simply because they are considered "good individuals." Raters and senior raters must accurately and objectively document when NCOs underperform or if they have reached their maximum potential. Failing to do so dilutes the quality of the NCO pool. It allows poor-performing NCOs to continue along the path of mediocrity or, even worse, receive a promotion over someone much more deserving. Conversely, raters and senior raters who have NCOs with superior talent must appropriately rate that talent and then allow those talented NCOs to move on when the time comes.

Organizational Talent Hoarding

Commanders and command sergeants major at echelon aim to build their teams with gifted Soldiers, NCOs, warrant officers, officers, and civilians. Organizational leaders want to enable success "down and in," and a way to do that is by stacking the proverbial talent deck in favor of their organization. However, this practice often conflicts with an individual's career progression and development. In other words, the organization benefits while the individual bears the cost. Leaders frequently retain personnel based on demonstrated performance without regard to career progression or leader development. Senior leaders regularly make statements such as, "I can't afford to let Staff Sergeant X leave because they are my only land and ammo NCO," or "this NCO is critical to the battalion operations section and excels at their job," to justify retaining personnel instead of allowing them to move on to more career-enhancing positions, even after devoting significant time to the organization. This perspective is flawed for several reasons.

First, relying on a single individual for the success or failure of an organization highlights a significant issue in leader development. If one person is so vital to the organization that they can never afford to get sick or take leave and must be on call 24 hours a day, something is wrong. However, in most instances, the reality is that most leaders are simply more comfortable with a known entity than with someone new whose work ethic, commitment, and values are unknown. Instead of taking a chance on a new individual and developing them where necessary, leaders often revert to the easy choice—hoarding the talent. Stagnating a person simply because they are exceptionally good at their job is not an appropriate or effective way to cultivate talent.

Second, talent hoarding is counterproductive to the principles of talent management. To truly develop talent, organizations must provide opportunities for growth, training, and education to help individuals achieve their career goals. Department of the Army (DA) Pamphlet (PAM) 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide*, outlines the positions and assignments that each career management field deems as critical or beneficial to leader development. During performance and professional growth counseling, raters and senior raters review DA PAM 600-25 with the rated NCO to determine which jobs and development opportunities the NCO needs for career advancement.[5] Many times, these growth opportunities exist outside of their current organization. These same raters and senior raters hoard NCO talent and do not provide individuals a chance to capitalize on leader development opportunities in different units. These mixed messages lead to confusion and weakened individual development.

Prioritizing the organization over the individual is reasonable if there is a need. However, there are many instances in which senior leaders refuse to allow NCOs to transfer units, even if their current unit is overstrength at grade and specialty. Currently, some divisions in the operational Army face shortages in certain brigades while being overstrength in others. Cross-leveling personnel at grade within installations could resolve manning concerns. Organizational leaders must consider the personal and professional implications of manning decisions on individual personnel while simultaneously prioritizing the overall needs and objectives of the organization, striking a delicate balance between individual interests and organizational requirements. In his article, "Operationalizing Talent Management," Charles L. Montgomery states that effective talent management at the organizational level is a blend of art and science.[6] Organizational goals can easily overshadow the needs of individual team members. To genuinely foster talent, leaders should prioritize individual growth when the situation allows. This is not simply good practice—DA PAM 600-25 specifically directs leaders and Army HRC talent managers to thoughtfully balance individual interests with the broader requirements of the Army.

Improvement Plan

How do we get better at managing talent Army wide? It starts with engaged senior leadership. While there is little that leaders can do to impact the enlisted market and its associated challenges, engaged leadership can impact the way in which NCOs make their market preferences, possibly preventing negative career decisions. Taking the time to review market assignments with subordinate leaders and discussing the career implications of each can go a long way toward helping to improve talent management from an assignment perspective. While the market might still assign the NCO to a less favorable position, it at least allows the individual NCO to make more informed choices in an attempt to better manage their own talent.

Senior leaders can also address the personnel imbalances across units and ASI mismanagement on their installation. Leaders who manage low-density personnel, such as the division CBRN sergeant major in the case of career management field 74, should work with the Chemical Branch at HRC to identify all of the 74Ds on the installation and their current unit of assignment. Once identified, strength managers can reassign overstrength Soldiers to understrength units via intradivision transfers or through coordination with HRC for movements between different commands. Understanding the entire population of the career management field on a camp/post/station will assist in correcting ASI mismanagement.

Most importantly, senior leaders must ensure that raters and senior raters are properly educated on the correct way to render appropriate ratings on evaluations and the effects inflated ratings have on the entire enlisted cohort. A robust leader professional development program aimed at the evaluation process is an exceptional way to address the NCO evaluation report problem without creating undue influence on rating chains. The USACBRNS leadership and proponent offices conduct targeted leader professional development for professional military education students (the Basic Officer Leader Course and the Captain's Career Course for officers, and the Advanced Leader and Senior Leader Course for NCOs). Emphasis is placed on mastering evaluation writing and understanding its consequential impacts. Continued evaluation emphasis through leader professional development once professional military education students return to the operational domain will reinforce the importance of evaluations and lead to a much-needed shift in the rating culture.

Conclusion

Currently, talent management within the Army has significant room for improvement. Challenges such as inefficiencies in the assignment system, inconsistent skill utilization across installations and units, and the tendency to hoard high-performing individuals hinder the ability of the Army to effectively develop and utilize human capital. However, senior leaders play a critical role in achieving a solution. A thorough understanding of Soldier strengths and a deliberate effort to match those strengths with the right opportunities are essential to maximize potential. Specifically, effectively managing NCO talent requires dedicated leader engagement and a detailed, individual assessment of capabilities. It is not just about unit readiness; it is also about investing in the careers of Soldiers, strengthening the Army, and serving the Nation. Effective talent management is a responsibility shared by all leaders, and the future strength of the force depends on a collective commitment to improve it. 👓

Endnotes:

[1]*The U.S. Army Talent Management Strategy: Force 2025 and Beyond*, DA, 20 September 2016, <https://talent.army.mil/wp-content/uploads/2019/11/Army-Talent-Management-Strategy-Force-2025-and-Beyond.pdf>, accessed on 1 April 2025.

[2]*U.S. Army Talent Management Strategy: Force 2025 and Beyond*, DA, 20 September 2016, p. 4, <https://talent.army.mil/wp-content/uploads/2019/11/Army-Talent-Management-Strategy-Force-2025-and-Beyond.pdf>, accessed on 1 April 2025.

[3]Kent M. MacGregor and Charles L. Montgomery, "Talent Management: Right Officer, Right Place, Right Time," *U.S. Army*, 5 January 2017, <https://www.army.mil/article/179947/talent_management_right_officer_right_place_right_time>, accessed on 4 April 2025.

[4]Sean Kimmons, "Army Moves Forward with Enlisted Talent Management," *U.S. Army*, 26 February 2021, <https://www.army.mil/article/243731>, accessed on 2 April 2025.

[5]DA PAM 600-25, *U.S. Army Noncommissioned Officer Professional Development Guide*, 11 September 2023.

[6]Charles L. Montgomery, "Operationalizing Talent Management," *U.S. Army*, 31 August 2022, <https://www.army.mil/article/259624>, accessed on 3 April 2025.

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