

JANUARY–MARCH 2019

ARMY SUSTAINMENT

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Sustainment Mission Command

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Capt. Marco Abrego, the operations officer with the 224th Sustainment Brigade, California Army National Guard, plots a tactical point on a map during a warfighter exercise at Camp Atterbury, Ind., on Oct. 1, 2018. (Photo by Staff Sgt. Matthew Ramelb)

“Mission command requires focus. You cannot have half of your force going one way and the other half going a different direction and expect to be successful.”

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Changes at *Army Sustainment*

Changes to this bulletin will allow it to remain an important professional development tool for the sustainment community while operating with more restricted resources.

Like so many other members of the Army team, the Combined Arms Support Command (CASCOM) and the Army Logistics University are continually being asked to do more with less.

As part of this effort to improve processes with increasingly limited resources, CASCOM assessed the Army's need to continue producing *Army Sustainment*. Several courses of action were considered, including ceasing the bulletin's publication entirely. Ultimately, CASCOM decided that the best way forward is to maintain the publication with a reduced staff.

To continue to deliver important sustainment-focused content with limited resources, we will be making several changes that will directly affect our readers and contributors. We will reduce our publication frequency from bimonthly to quarterly, we will streamline and reduce our digital presence, and we will reduce the number of submissions we accept for publication.

Quarterly Publication

This January–March 2019 issue is the first issue to be published under the new quarterly schedule. *Army Sustainment* had been one of only a few professional bulletins across the Army still being published on a bimonthly basis.

Most Army professional bulletins have been quarterly publications for some time, and their staffs have found that a quarterly frequency still allows them to deliver timely, relevant content to their audiences and provide senior leaders with a direct line of communication to the force.

Streamlined Digital Presence

We will be reducing our digital presence, including our traditional website and social media channels. While the end state is still to be determined, my best guess is that we will have one primary webpage and at least a Facebook presence. Additional products will be determined as we move forward through this transition.

In the short term, there may be some turbulence as we figure out the best way to continue to provide an online experience that properly complements the print publication. We ask for the patience of both our readers and our contributors as we work our way through this transition.

Reduced Submission Acceptance

For years, *Army Sustainment* has served as a medium for a variety of sustainment professional development information. We aim to continue to provide that service.

However, we will soon be operating with half the editorial staff. What this means is that we simply do not have enough editorial manpower for us to review and publish all of the great submissions we get from the field. We will have to publish fewer articles.

We will be more selective of the subject matter we accept. Previously, we published a number of articles online that were not included in the printed publication, and often the aperture for sustainment relevance and topical focus was rather wide.

With reduced capacity, we will have to narrow that aperture considerably. We recommend that our

contributors regularly check our webpage for updated submission guidelines as we work through this transition.

By taking these measures, we hope to be able to continue to provide the Army's sustainment community with a high-quality professional development forum using the resources we have available.

For nearly 50 years *Army Sustainment* and its predecessor, *Army Logistician*, have served as the premiere professional development publication for the logistics and sustainment community. Our goal is to continue to fill that role by providing a forum for key leaders and Soldiers in the field and a resource that serves as a combat multiplier in the sustainment fight.

As we transition to a reduced staff and a new way of doing business, we welcome your input on what you find most useful and helpful about *Army Sustainment* so that we can make sure we place a high priority on the most valuable elements we bring to the table.

Please use the contact information either in our masthead or on our website to share your input. Our readers and contributors make *Army Sustainment* what it is. The editorial staff serves simply as a conduit for their expertise.

Many thanks from the staff here at *Army Sustainment* to our readers and contributors for making this the premiere source of professional development information on Army sustainment.

—Gregory E. Jones
Editor, *Army Sustainment*

Mission Command Requires Sharp Commander's Intent

■ By Gen. Gustave "Gus" Perna

One of the most important skills a leader can learn is the art of executing mission command. Army Doctrine Publication 6-0, Mission Command, defines mission command as "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations." More simply, I define mission command as leadership through commander's intent.

Understand the Difference

To get mission command right, leaders must first understand the difference between mission command and command and control. Commanders who lead through command and control make every decision for their organization. They are reluctant to take risks and let others lead because they fear the possibility of failing. The commander is the single point of success or failure in the organization.

Conversely, mission command relies on the art of leadership. It requires trust and confidence in others to achieve the collective objective. Leaders who use mission command empower others to figure out the ways and means to get to the end state. Within prescribed parameters and guidance, commanders underwrite risk in allowing others to make decisions and execute without micromanagement.

Know the Commander's Intent

Knowing how to give and communicate commander's intent is absolutely critical to mission command. It requires vision, established priorities, and the ability to convey those in order to achieve an output.

Mission command is not accomplished through email; it requires face-to-face interaction through battle rhythm events and regular assessments to ensure intent is understood and met. Commanders are responsible for understanding the environment and tailoring communication to achieve results based on guidance and intent.

I encourage commanders to use their command sergeants major and senior enlisted advisers as scouts to commander's intent. They should be the first to get the commander's intent so they can help to spread it throughout the organization. Because command sergeants major maintain a pulse on the formation, they can assess whether or not intent is understood and if priorities and intent are being executed across the organization.

Leaders should think about the end state and output of everything they do. Every action in command should have commander's intent behind it with an identified task, purpose, critical factors, and vision of the end state. I challenge commanders and leaders at all levels to consider the end state and output first. You cannot give intent without knowing where you want to end up.

While some situations require directive leadership through command and control, leaders should strive to master the art of leadership through mission command. Ultimately, leading through mission command not only sets conditions for a positive work environment but also allows others to grow and develop and drives the organization in a collective direction.

Gen. Gustave "Gus" Perna is the commander of the Army Materiel Command at Redstone Arsenal, Alabama.



The Army's senior logistician describes mission command as leadership through commander's intent.

Set the Strategy and Let the Team Succeed

■ By Lt. Gen. Aundre F. Piggee



Logisticians should seek to build a better culture of mission command and explore how to improve command and support relationships.

To continue to drive improvements in logistics readiness, commanders need the freedom to exercise greater authority based on mutual understanding and shared trust. This is the philosophy of mission command.

I see mission command growing in importance because it encompasses so much of how the Army is trying to reform—establishing smaller headquarters, pushing decisions and authorities down the chain, reducing bureaucratic Army-level requirements, and modernizing with emerging technologies. We are not trying to run every decision through the Pentagon; we want decisions to be made in the field.

With mission command, once commanders know the direction Army leaders want to take, they have room to act on their own. It is no longer an “I say you shall carry this out” kind of atmosphere. It is a much more inclusive “I’ll give you guidance, and we’ll accomplish success together” atmosphere. With this culture, once commanders at every echelon know intent, they can put forth initiatives to capitalize on opportunities or react to changes in the environment.

Mission Command in Practice

I know firsthand how well mission command can work because for the past two years I have used it every time I have written this column and talked to commanders in the field.

I have been a Johnny-one-note, discussing one topic: how to improve our basic skills in dealing with supplies and maintenance. We were so used to forward operating bases with primarily contracted support in Afghanistan and Iraq that we lost the skills to move and maintain our own equipment. I

wanted to put readiness, especially our ability to set a theater, back at the forefront because in future fights we will go as we are.

My communication with commanders was intended to develop a shared understanding and shared trust up and down the chain of command. I wanted them to have a clear vision of the end state we needed, and the Army gave them the resources to make changes.

Today we are doing more home-station training on basic skills. We have increased rotations at the National Training Center, including with our Army Reserve and National Guard units, so that every Soldier can build muscle memory to execute expeditionary sustainment.

Now when I visit units, I see commanders embracing our call to action. Gains that we have made are a testament to their leadership in not only relearning old skills but also adapting today’s technologies to improve fundamentals that make us more effective. These leaders have changed our culture.

A while back, I visited a unit where Soldiers were holding command maintenance events in the motor pool, but the top commanders did not attend. If the top commanders were not in the motor pool, was it really a priority? I do not think so. Where the commanders are, and where they put their attention, is where the emphasis will be.

A Mission Command Culture

I will keep using mission command to stress issues that are important. Moreover, as logisticians, we should be asking how we build a better culture of mission command and what we can do to improve command and support relationships. Here are my recommendations.

Understand the strategic environment. I encourage every commander to be familiar with the National Defense Strategy, which lays out the threats and what we need to do to prepare for multi-domain operations.

The strategic environment is changing rapidly. Russia is restructuring its military to be more competitive. China is developing expeditionary military forces. We still must be prepared to fight tonight in Korea, be ever watchful of Iran, and engage violent extremist organizations across Africa, the Middle East, and Afghanistan.

From a logistics perspective, one of the things that we can no longer do in this strategic environment is depend on mountains of steel. Our supply chain must be agile so that when facts change on a battlefield, courses of action can change too.

We have set a goal for brigade combat teams to sustain themselves for seven days without resupply. Goals involving demand reduction are always good. I remember as a lieutenant we talked about energy reduction, and over the years we have done some things to accomplish that. However, a once-a-week resupply will only happen if we have well-informed commanders who know the strategic environment and encourage organizational agility through not just words but also actions.

Build trust. The first principle of mission command is to create cohesive teams through mutual trust. Trust up and down the chain of command is what makes or breaks mission command. Soldiers know their capabilities and responsibilities. And trust enables appropriate actions without the need for supervision. As you gain trust, junior members of the team take on added responsibility, which builds a bench and helps us to manage and keep good talent.

In building trust, allow Soldiers to make mistakes, so long as they are not unethical, illegal, immoral, or unsafe. From mistakes, Soldiers learn what right looks like. Commanders do not need to hammer Soldiers all the time. Give them responsibilities, let them try to take care of things, and then make



Lt. Gen. Aundre F. Piggee, the Deputy Chief of Staff, G-4, discusses operations, equipment, and sustainment with 11th Air Defense Artillery Brigade Soldiers during a trip to the U.S. Central Command area of operations.

sure you know how it all worked out.

Focus on what is important. Mission command requires focus. You cannot have half of your force going one way and the other half going a different direction and expect to be successful.

The biggest enemy of mission command is a leader who wants to know everything. Information is important, but to what end? It is better to focus on a few items. In an era where information is everywhere, that is not always easy.

You don't have to own it to influence it, but you must build relationships. Every time I talk about going back to the basics, I try to provide clear intent so I can influence what I see as a need, but I do not own the command authority to achieve it.

Commanders do not need to be in the chain of command to influence sustainment decisions. However, they need to build relationships and partnerships if they are going to be players.

When I was commander of the 21st Theater Sustainment Command in Germany, we did not have Army Reserve or National Guard units train with us. Now they do train with the

unit because the strategic environment has changed and the needs have changed. If we are going to be successful in a fight that requires us to rapidly move into a theater, these new relationships that have been built will be key.

Also, you do not need to be in the direct chain of command to help young leaders succeed. It is our responsibility to coach, teach, and train young Soldiers to make sure they are successful.

Following wars, there is a tendency for bureaucracies to grow. This slows decision-making, kills initiatives, and erodes trust. Army leaders want to ensure that does not happen this time. We are not re-fighting yesterday's war; we are modernizing and preparing for our next mission.

To win that mission, we need commanders who understand leadership's intent and are empowered to be agile and adaptive in unified land operations.

Lt. Gen. Aundre F. Piggee is the Army Deputy Chief of Staff, G-4. He oversees policies and procedures used by all Army logisticians throughout the world.

Sustainment Command Relationships for the Next Fight

Success in the next fight depends on sustainers being able to effectively employ new command relationships to sustain the battle.

■ By Maj. Gen. Rodney D. Fogg and Maj. Hugh H. “Hank” Coleman III



Over the past several decades, the focus of Army operations and training, as well as the accompanying command relationships, was on counterinsurgency and the global world threat. However, the threat has evolved, and doctrine in Field Manual (FM) 3-0, Operations, within the context of unified land operations, recognizes that our focus must shift to readiness for large-scale ground combat against a peer threat. This reality has significant implications for sustainment command relationships.

Doctrine and Force Structure

Doctrine and force structure have been based on brigade combat team (BCT)-centric, forward operating base-oriented counterinsurgency operations. The Army created and refined a centralized sustainment mission command doctrine built on a sustainment hierarchy with sustainment brigades, expeditionary sustainment

commands (ESCs), and theater sustainment commands (TSCs) to effectively provide support to BCT-centric operations, particularly in counterinsurgency operations.

The resultant structure of echelons-above-brigade sustainment organizations and centralized mission command removed the fixed capability that the Army previously had in the division support commands and corps support commands. It also moved some support capabilities, such as distribution, water purification, and fuel storage, from the BCT to echelons-above-brigade units to enable commanders at that level to weight support to the force.

Although doctrine always has recognized commanders' flexibility to establish command relationships, it prescribed that the TSC would normally be assigned to the theater army, the ESC would be attached to a TSC, and the sustainment brigade would be attached to the ESC. A command relationship in which sustainment units belonged to maneuver units was viewed as the exception.

Large-Scale Combat Operations

These sustainment command relationships worked in the operations we were conducting during counterinsurgency operations. However, the operational environment described in FM 3-0, with a re-emerging threat from peer competitors, contested domains, and renewed focus on winning the next fight through large-scale combat operations, poses challenges for that command approach.

We will face a chaotic operational environment in the next conflict that includes increased lethality, contested lines of communication, long-range precision fires, mass casualties, dispersed forces, cyber warfare, communications jamming, and other challenges not seen since World War II.

In response, corps and divisions will operate as formations, not just as headquarters. The next large-scale ground combat operation will see multiple divisions and potentially multiple corps maneuvering forces on the battlefield. These new roles and responsibilities demand new command relationships for supporting sustainment organizations.

Corps and division commanders operating as formation commanders will require command and control over sustainment organizations in order to fully integrate sustainment into planning and operations and to rapidly respond to adaptive threats in very complex environments.

New Command Relationships

FM 3-0 spells out a new set of doctrinal relationships to deal with those situations. It specifies that if a TSC is not deployed or if leaders want to achieve special effects, an ESC may have a command relationship with a corps headquarters. It also says that although “sustainment brigades normally remain attached to the TSC or ESC,” they may also have a command relationship with the maneuver headquarters, for example, during high-tempo large-scale combat operations.

As we complete the new FM 4-0, Sustainment Operations, we will extend the concept of the command relationships required to effectively support large-scale combat operations. At the corps level, we believe that the ESC should be attached to the corps headquarters in operations and provide general support to forces operating in the corps area and to the divisional sustainment brigades.

The ESC will be task-organized with one or more sustainment brigades, each of which will have an assigned special troops battalion (STB). That STB will have an organic signal company, human resources company, and financial management support unit. The sustainment brigade will also have one or more task-organized combat sustainment support battalion (CSSB) attached. A sustainment brigade attached to a corps ESC may also have a petroleum battalion and a motor transportation battalion to support tactical-level sustainment operations.

The CSSBs attached to sustainment brigades supporting the corps will normally include a composite supply company, support maintenance company, modular ammunition company, field feeding company, palletized load system truck company, and an inland cargo transfer company.

At the division echelon, we are recommending a refinement to doctrine by having the theater army assign a sustainment brigade to a division headquarters. We are also looking at designating such a brigade as a division sustainment brigade (DSB). As directed by the division commander, that brigade would have command and control over all assigned and attached units that provide direct support logistics, personnel services, and financial management to forces operating in the division area of operation.

This brigade would enable fully integrated sustainment support to a division operating as a formation. The DSB could also be assigned general sustainment support to field Army and corps units operating in the division support and consolidation areas. Like

its counterpart at the corps echelon, the DSB would be assigned an STB with an organic signal company, human resources company, and financial management support unit. It would also be assigned one divisional CSSB (that could be renamed as a maneuver support battalion).

At a minimum, that CSSB would include an organic composite supply company, composite truck company, support maintenance company, and field feeding company. As required by the situation, the CSSB could also be task-organized with additional light/medium or heavy transportation companies, cargo transfer companies, petroleum transportation companies, modular ammunition companies, movement control teams, and water support companies.

Within the Medical Community

We are also exploring new relationships between medical units in the theater and other sustainment organizations. Currently the Army has a centralized medical mission command hierarchy with medical units commanded by a medical command (deployment support). This command structure may not be effective for fully and quickly integrating medical support with other sustainment during large-scale ground combat.

We are investigating a set of command relationships between medical and sustainment organizations to better synchronize support. This includes attaching a medical command (deployment support) to a TSC, a medical brigade to a combat support hospital, a hospital center to an ESC, and a multifunctional medical battalion to a sustainment brigade. Combat support hospitals are being changed to Army field hospitals, but the roll out has been slow. They are almost synonymous at this point with both being in the inventory until a complete changeover. We are also looking at assigning a medical company with medical logistics to a CSSB.

Command relationships for medical detachments would remain at the discretion of the medical com-

mand (deployment support), which would also continue to command medical units that do not have designated command relationships with sustainment headquarters. These command relationships are still being assessed and would require the addition of medical operations, medical planning, and medical logistics staff sections to existing sustainment headquarters.

With the publication of FM 3-0 and the follow-on release of FM 4-0, sustainers are undergoing a dramatic shift in the command relationships of sustainment forces at echelons above the BCT. That shift is a reflection of the new threat and operational environment. The previous relationships did not give warfighters the ability to fully integrate sustainment and rapidly weight the battle in complex large-scale combat operations.

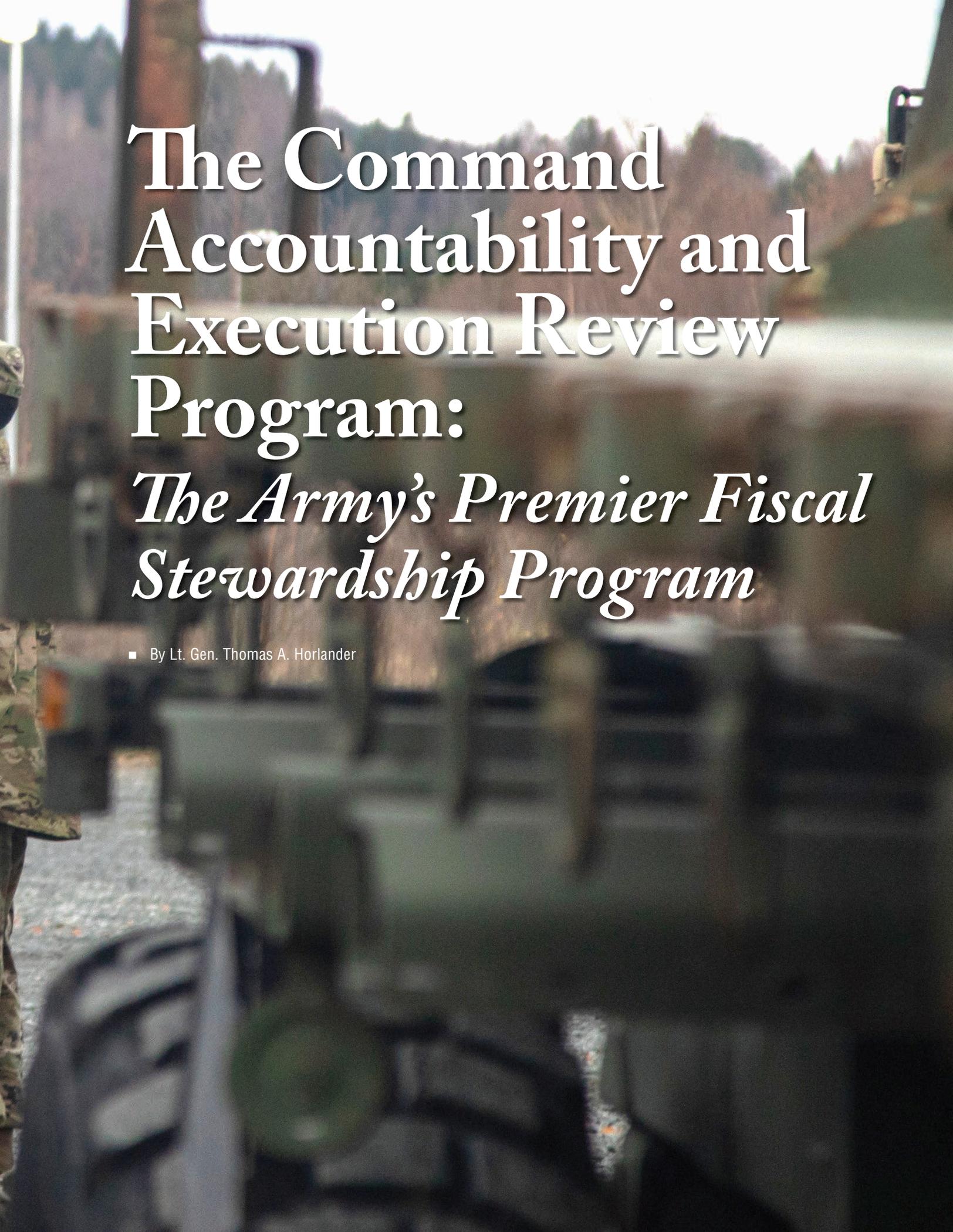
There are a number of challenges we are working our way through as we implement these changes, but success in the next fight depends on sustainers being able to effectively employ new command relationships to sustain the battle.

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Maj. Hugh H. "Hank" Coleman III is a doctrine developer in Combined Arms Support Command's G-3/5/7. He has a bachelor's degree in business administration from Presbyterian College, a master's degree in transportation and logistics from North Dakota State University, and a master's degree in finance from the University of Maryland University College. He is a graduate of the Combined Logistics Captains Career Course and the Command and General Staff College.



Soldiers assigned to the 51st Composite Truck Company, 18th Combat Sustainment Support Battalion, 16th Sustainment Brigade, fix a broken mirror during Exercise Trident Juncture 18 at Levanger, Norway, on Oct. 31, 2018. (Photo by Pfc. Matthew J. Marcellus)



The Command Accountability and Execution Review Program:

The Army's Premier Fiscal Stewardship Program

■ By Lt. Gen. Thomas A. Horlander

The Army's new fiscal stewardship program drives the Army to be the best possible steward of the taxpayers' dollars.

Stewardship is everyone's responsibility. From the foxhole to the commanding general's office, from the supply room to the motor pool, from the depot to the port, from the justification book to the budget rollout on Capitol Hill, every single individual has a role to play in ensuring we are, as Secretary of Defense James Mattis said, "peerless stewards of the taxpayers' dollars," and that we optimize those dollars' value, eliminating waste at every turn.

This cannot happen unless there is a well-architected, structured, disciplined, and resourced stewardship program that holds leaders responsible and accountable at every level across the national security spectrum.

Fiscal Stewardship

Stretching every dollar to capture its full value in order to have increased readiness and lethality across the force is essential to America's ability to safeguard its vital national security interests around the globe today and in the future. One might not recognize or appreciate this vital need to optimize the purchasing power of every dollar we spend on the defense of our nation.

Our nation's history is replete with peaks and valleys in defense funding top lines and warfighting capabilities and readiness levels that would ebb and flow based upon resourcing levels. You have heard it said, "You go to war with what you've got." Let's make sure what we've got is the absolute best we can provide in order to give America's warfighter such an overwhelming advantage over any potential adversary that it would strike fear in the hearts of our enemies and it would be unconscionable for any competitor to challenge the United States on the field of battle.

Therein lies the commitment we must all behold and the responsibility that should set the azimuth for every resourcing decision we make at every level. This is the inherent responsibility of every leader, Soldier, and civilian who serves to protect and safeguard the security interests

of the United States of America.

This is not an article about why we need more defense funding or a lamentation about the process and frustrations we all experience as we wade through the complexities of the federal budget process or the Department of Defense (DOD) planning, programming, and budgeting system. This article is about the Army's "premier" fiscal stewardship program, the Command Accountability and Execution Review (CAER) Program, and what we can do to help ourselves instead of putting our hand out every time we confront a resourcing challenge.

The true test of good stewards is not whether they spend every dollar that Congress appropriates to them but how well they spend it in support of the National Defense Strategy and leadership priorities. One way to measure this is through a thorough examination of deobligation trends during the expired state of an appropriation.

This can be very telling, humbling, and eye-opening. More so, it can provide leaders with a view of where they need to focus their energy and time. In the Army, we have invested a lot of both—seeking to see ourselves through this fiscal lens. It is now paying big, meaningful dividends as it has informed the development and implementation of the Army's CAER program.

Addressing Problems

Shortly after being sworn into office as the 23rd Secretary of the Army, Dr. Mark Esper directed the establishment of an Army-wide fiscal stewardship program to address the Army's historic deobligation trends and improve the optimization of its purchasing power. The basic architecture of the program is rather simple; we developed and implemented a 3 × 3 × 3 approach addressing three major problem areas at three different echelons in three different venues.

Three major problem areas. Deobligations in the Army's supply chain, service contracts, and transportation of equipment and personnel account

for more than 90 percent of the Army's deobligation in its operations and maintenance appropriations.

Three different echelons. Everybody plays a role. It is easy to jump to the conclusion that it is the activity of the field Army that causes many of the deobligations, but they are actually caused at multiple echelons. Hence, the CAER program relies on reviews and focused energy at three different echelons: command, Headquarters, Department of the Army (HQDA), and enterprise.

Three leadership venues. On a monthly basis, the Army leadership conducts a by-command review chaired by Under Secretary of the Army Ryan D. McCarthy and Vice Chief of Staff of the Army Gen. James C. McConville.

Also on a monthly basis, the Army Materiel Command commander, Gen. Gustave "Gus" Perna, chairs an enterprise-level review panel with the participation of key senior leaders from the U.S. Transportation Command, the Defense Logistics Agency, the Defense Contract Audit Agency, the Defense Contract Management Agency, the Defense Finance and Accounting Service, the Navy and Air Force G-8s, the Office of the Secretary of Defense, the Under Secretary of Defense for Acquisition and Sustainment, the Under Secretary of Defense (Comptroller), the HQDA G-4, the HQDA comptroller, and others.

The third venue is a quarterly executive-level session chaired by the Secretary of the Army and the Chief of Staff of the Army with the participation of Army four-star leaders. During this session, the Army's senior leaders provide strategic-level guidance and direction for the program.

This 3 × 3 × 3 framework alone makes the point that the success of the entire CAER program hinges on one element: active leadership participation. Without the Army's most senior leaders sitting at the head of the table and championing the program, the Army could never make the progress and achieve the intend-

ed results of the program.

Vital to optimizing the value of CAER are other elements, such as a mature, big data analytics capability, an automation program that leverages a variety of systems to collect current and relevant data, a partnership between the Army's sustainment and financial management communities, HQDA financial and sustainment leaders revising policies and procedures, field commands leveraging

"It is now contingent on us to gain full value from every taxpayer dollar spent on defense. As such, every decision we make must focus on lethality and affordability."

**—Secretary of Defense James Mattis,
March 26, 2018**

their tactical- and operational-level expertise to inform the program, and DOD senior leaders coming to the table to help improve enterprise processes. But nothing will replace active leadership participation as the single most important element of the program.

Implementing CAER

In the Training and Doctrine Command, the motto is "Victory Starts Here." This applies across the Army and certainly in the area of fiscal stewardship.

As a part of CAER, the Army has revisited and revised its stewardship training in its key leadership courses. In fiscal year 2019, fiscal stewardship for leaders will be taught in field-grade and general officer education in the Command and General Staff College, the Contracting Pre-Command Course, the Senior Service College, and the Army Strategic Education Program.

In its inaugural year of existence, CAER is making great inroads in helping the Army to channel its stewardship activities in the areas

with the greatest payoff. The Army commands have embraced the program and have transported it to their subordinate tactical and operational commands, leveraging the program's key performance indicators to measure fiscal stewardship at every echelon.

At the strategic level, DOD organizations and the Army's sister services have not just been active participants in enterprise-level reviews, but have

also started to make changes to their business policies and procedures and their own stewardship programs by borrowing best practices from CAER.

To be "peerless stewards of the taxpayers' dollars" takes a dedicated leadership effort at every echelon of national security. America's Army has set a course using its CAER program to do exactly that. Not only will this enable the Army to be the best possible stewards of the taxpayers' dollars, but it will ensure that we are able to produce every ounce of readiness and lethality that a dollar can buy, ultimately resulting in an armed force of warfighters that dominates any battlefield and is able to protect every vital national security interest of the United States of America.

Lt. Gen. Thomas A. Horlander is the military deputy to the Assistant Secretary of the Army for Financial Management and Comptroller. He has served in numerous positions and at every level across the financial management and comptroller profession.



Maj. Gen. Stephen Shapiro, the commanding general of the 21st Theater Sustainment Command, visits the 1st Armored Brigade Combat Team, 1st Cavalry Division, to discuss operational and logistics functions in Zagan, Poland, on Sept. 26, 2018. (Photo by Sgt. Lisa Vines)



Mission Command of Sustainment Operations

■ By Maj. Gen. Steven A. Shapiro and Maj. Oliver Davis

The Army Vision released on June 6, 2018, states that near-peer threats “will increasingly challenge the United States and our allies in Europe, the Middle East, and the Indo-Pacific region.” Conceivably, future conflict may consist of large-scale operations across multiple continents similar to what the world experienced during the two world wars.

Our resource- and sustainment-dependent forces will rely on rapid resupply to the forward line of troops to execute all phases of the operation. With a large number of sustainment organizations in theater and a responsibility to sustain forces from the ports in the rear to troops on the forward line, how does a theater sustainment command (TSC) conduct mission command of sustainment operations?

Mission Command

What is mission command of sustainment units, and how does it differ from mission command of sustainment operations? Joint and Army doctrine is clear regarding how to exercise command and control and mission command. Doctrine delineates clear command and support relationships that leave little confusion about who a subordinate unit answers to.

However, sustainment headquarters are often expected to own sustainment, often with no clear command relationship with units in their areas of operations. Adding to confusion, doctrine is not clear on how to execute mission command of sustainment operations.

Army doctrine defines mission command in Army Doctrine Pub-

lication 6-0, Mission Command, as “the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander’s intent to empower agile and adaptive leaders in the conduct of unified land operations.”

Similarly, a sustainment headquarters executes mission command of sustainment units with authority over units within its own task organization.

Whether the unit is assigned, attached, under operational control (OPCON), or under tactical control, the line and block chart leaves little confusion about which headquarters a sustainment organization answers to. Defining mission command of sustainment operations—not just of sustainment units—is more difficult

The 21st TSC exercises both mission command of sustainment units and mission command of sustainment operations to build capacity and interoperability in the European theater.

since there is no doctrinal definition for it.

In a theater area of operations, mission command of sustainment operations is the senior sustainment commander's authority to direct all sustainment based on the sustainment priorities established by the combatant commander. The TSC is required to bridge the gap between tactical sustainers and the strategic enterprise. The TSC brings all capabilities to bear through centralized planning, synchronization, and decentralized execution, and the TSC commander is empowered to make decisions on behalf of the combatant commander.

Field Manual 4-95, Logistics Operations, provides a glimpse into the difference between mission command of sustainment units and mission command of sustainment operations by defining logistics mission command. However, the definition of logistics mission command specifies only the collaboration between logistics organizations through planning and synchronization and does not address the authority of a sustainment headquarters without clear command relationships.

Without a clear definition of mission command of sustainment operations, a TSC commander must implement control measures to exercise mission command of sustainment operations in both the joint security area and joint operations area.

Joint Operations

Mission command of sustainment operations may look different across the multiple phases of a joint operation. Figure 1 shows how much military effort is applied to each activity during the different phases of a joint operation. The number and types of sustainment forces during the shaping phase will look much different than they will look during the dominate phase.

However, before we take a look at the transition of mission command across the phases, we need to look

at exactly what unique authorities a sustainment headquarters has in order to conduct mission command of sustainment operations.

Logistics doctrine does not specify mission command of sustainment units as the preferred method of mission command, but there are enough examples in doctrine to understand why planners see this as the paradigm when they design organizational charts. The Army's doctrine on logistics operations depicts sustainment brigades as under the OPCON of the TSC during theater-level operations.

During joint operations, the combatant commander is the directive authority for logistics (DAFL) and cannot delegate this authority, even to the senior sustainer on ground. Reserving this authority at the combatant commander level ensures unity of effort for all sustainment units. Regardless of what organization or service a sustainment unit belongs to, every unit is subject to the DAFL's authority and the priorities the commander establishes.

However, the combatant commander can assign the senior logistics headquarters of a subordinate service component as the joint command for logistics. The TSC or expeditionary sustainment command (ESC) is often designated to fill this role with the authority to plan, synchronize, and execute sustainment in theater according to the combatant commander's priorities.

Even with this authority, it is not feasible that all sustainment units in theater fall within the TSC's task organization beyond the shaping phase, which is why the TSC employs measures to ensure sustainment is executed according to the combatant commander's sustainment priorities.

The 21st TSC in Europe

Phase 0 of any operation is much like the current state in the European theater. During this phase, the theater priorities are to deter future adversaries, practice security cooperation, assure partners and allies, and

build stability. Sustainment forces build capacity and interoperability through multinational training events, while leaders and planners work with multi-agency and civilian partners to ensure the infrastructure exists to support operations for future conflicts. The TSC or ESC exercises mission command of sustainment units during this phase, as the quantity and types of sustainment forces in theater do not exceed the headquarters' span of control.

Currently, during Phase 0, the 21st TSC conducts mission command of the only U.S. sustainment brigade in Europe. With its assigned theater opening units, the 21st TSC shapes the theater for future conflict while participating in multinational exercises to assure U.S. partners, strengthen multinational capacity and interoperability, and deter future adversaries.

However, even with mission command of sustainment units, many sustainment forces are not clearly within the TSC's or ESC's organizational chart. We call these units "associated units," which in Europe include units from the Defense Logistics Agency, the Military Surface Deployment and Distribution Command, the Army Sustainment Command, and the Army Contracting Command.

These units collaborate with the TSC staff in designing the concept of support for steady-state and contingency operations, which they execute once approved by the TSC commander. Even though these units are associated, they help shape the theater by participating in the 21st TSC's battle rhythm and planning teams. Hence, the TSC executes mission command of sustainment operations.

Mission Command During Phases

As shown in figure 1, Phases I through III (deter, seize initiative, and dominate) see an increase of military effort. During Phases I and II, sustainment headquarters start to shift focus to opening contingencies

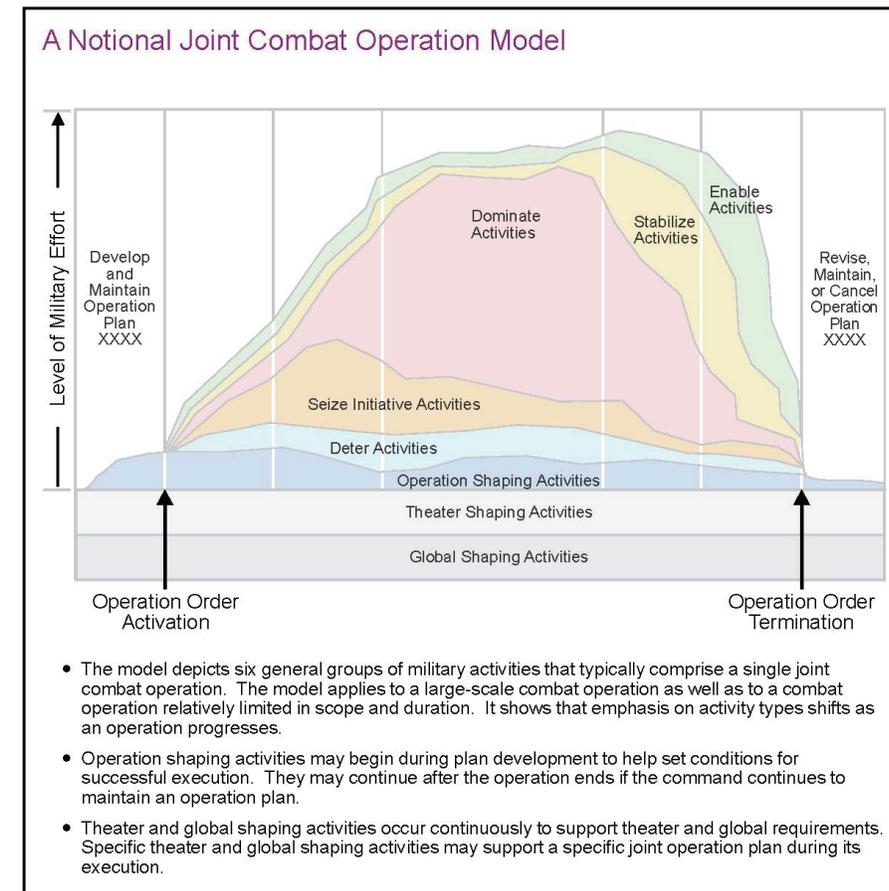


Figure 1. This chart from Joint Publication 3-0, Operations, shows the different phases of a notional joint combat operation and how much military effort is weighted for each activity.

cy bases and rapidly receiving and moving forces forward. Activities that require the use of maneuver forces significantly increase, which in turn increases the requirement for echelons-above-brigade (EAB) sustainment forces, especially forces for theater distribution and theater sustainment.

As the operation transitions to Phase III, the TSC headquarters is responsible for sustaining forces from the port to the most forward boundary. The TSC will retain some mission command of sustainment units, such as theater-opening units and sustainment forces operating in the joint security area.

However, with multiple ESCs, EAB forces, and long lines of communication, Phase I is where TSCs and ESCs should transition to mission command of sustainment operations.

A practical reason for the transition to mission command of sustainment operations during Phase I is span of control, as headquarters generally do not have the capability to provide mission command for more than six subordinate units.

Using the 21st TSC as an example, during steady-state operations, the TSC's span of control includes a sustainment brigade (for theater opening), a military police brigade, a medical brigade, a special troops battalion, and various company-sized direct reporting units. Theater-level operations would add multiple ESCs and EAB units to the theater's sustainment architecture.

The 21st TSC also would maintain coordinating relationships with other brigade-level theater logistics providers from the Defense Logistics Agency, the Military Surface

Deployment and Distribution Command, and the Army Sustainment Command.

Mission command of sustainment units would easily exceed the TSC's span of control, but through mission command of sustainment operations, the TSC can employ control measures to execute the combatant commander's sustainment priorities. This also enables maneuver commanders to maintain a sense of ownership of sustainment within their battlespaces.

Commanders are responsible for setting their priorities of sustainment, and they require a sustainment headquarters that answers directly to the commander. As the theater transitions to Phase I operations, the TSC can continue to influence sustainment by managing theater-level assets, but ESCs and sustainment brigades need to be fully integrated into their supported organizations.

As the senior sustainment headquarters belonging to the organization, ESCs and sustainment brigades need to be able to speak with authority delegated from their supported maneuver commanders. During a multiple corps fight, ESCs need to be confident that they belong to their supported maneuver units and act in the interest of their maneuver units first, since the TSC will not always have the awareness of the fight happening on ground.

Control Measures

The task organization drives how sustainers plan and execute sustainment. Rather than understanding "who works for whom," sustainers are more concerned with "who supports whom," or the supporting and supported relationship. Looking across the formations, sustainers are concerned about ways to mitigate shortfalls, often through resourcing. Sometimes those resources are in the sustainment organization's own units, and it is critical for sustainment units to clearly understand who they are supporting with what resources.

In executing mission command of sustainment operations, sustainment

planners at the TSC and combatant command levels identify the supporting and supported relationships for the theater.

The foundation of mission command of sustainment operations is unity of effort. As previously stated, it is important for all sustainers in a theater to remember they work for the same DAFL authority. The TSC does not need to own formations to influence support.

Planners at all levels, across the sustainment enterprise, collaborate to ensure a unified theater concept of support. They freely share information because they realize that their information drives tactical-level sustainment and ensures the TSC executes theater-level sustainment according to the combatant commander's priorities.

The concept of collaboration is emphasized further in Field Manual 4-95, which states, "A collaborative environment is one in which participants share data, information, knowledge, perceptions, and ideas. Collaboration provides planners with a view of the whole plan while working on various portions of a plan, which facilitates identifying and resolving conflicts early."

Unity of effort is the first control measure the TSC leverages during mission command of sustainment operations. The TSC uses the battle rhythm to ensure unity of effort, enable the staff to resolve issues at the staff-officer level, execute sustainment in accordance with the priorities of sustainment, and inform the commander.

The TSC is empowered by the combatant commander to develop and enforce the sustainment battle rhythm. The combatant command headquarters orders participants and reporting requirements, which range from sustainers at the corps and division levels to the sustainment enterprise agencies.

Within the battle rhythm and through coordination with the joint force headquarters, the TSC or ESC can ensure integration among

the multiple stakeholders through boards, bureaus, centers, cells, and working groups (B2C2WG), which usually fall under the oversight of a single staff principal to ensure synchronization and information sharing.

The TSC can serve as the B2C2WG and operational planning team proponent for many sustainment requirements and use these events to integrate the staff and multiple logistics organizations and agencies into the planning process. The battle rhythm is another tool that the TSC uses to exercise mission command of sustainment operations. Although associated units may still not have a defined command relationship with the TSC or ESC during Phases I through III, the TSC or ESC exercises mission command of sustainment operations over associated units through the battle rhythm.

Not only do associated units participate in the battle rhythm, they provide (or exchange) liaison officers with the TSC and are integral in developing the theater concept of support. While the TSC may not have mission command of sustainment units over the associated units, it has mission command of their operations, because the associated units follow the TSC's concept of support.

The Sustainment COP

The TSC maintains the theater's sustainment common operational picture (COP), ensuring both commanders and staffs at all levels can visualize the sustainment health of all organizations across the theater. Since the TSC is responsible for executing the combatant commander's priorities of sustainment by directing the movement of assets, the TSC staff needs a complete view of sustainment across theater.

As the theater's materiel manager, the TSC uses information gathered through the COP and sustainment information systems to control the distribution of sustainment. This COP is developed through disciplined logistics status (LOGSTAT)

reporting within the battle rhythm. Through orders, the combatant command directs LOGSTAT submission requirements, including frequency, while the TSC collects the LOGSTATs to maintain the sustainment COP. Although corps ESCs are under the OPCON of their supported units, the theater LOGSTAT report and B2C2WG enable the TSC staff to prioritize which theater stocks to move forward to which units.

How the 21st TSC Does It

The 21st TSC exercises mission command of sustainment units and mission command of sustainment operations every day. In today's Phase 0 environment, the 21st TSC shapes the theater for future conflict with assigned and associated sustainment forces. The 21st TSC helps build the future alliance by participating in multinational training exercises that help build capacity and interoperability.

The 21st TSC conducts collaborative planning with strategic military and civilian agencies to ensure the speed of assembly of deterrent forces from ports to intermediate staging bases to forward training and tactical assembly areas. At key sustainment nodes, whether ports, railheads, or intermediate staging bases, assigned and associated sustainment forces in theater help develop and follow the theater's concept of support with the 21st TSC.

All units understand the supported and supporting relationships at sustainment nodes, and the 21st TSC establishes fusion cells that facilitate the speed of reporting and work through conflict at those critical nodes. With its theater-opening forces, the 21st TSC ensures the theater is capable of rapid entry throughout European seaports and airfields.

In preparation for Phase 1 operations, the 21st TSC trains as it would fight during a future joint operation in the European theater. Through training exercises, the TSC conducts mission command of sustainment operations within the joint opera-

tions area while maintaining mission command of sustainment units during theater opening.

Through exercise design, the 21st TSC routinely trains with active and reserve component ESCs. These ESCs exercise mission command of sustainment units of subordinate active and reserve units and answer directly to a multinational corps headquarters. During these exercis-

Logistics doctrine does not specify mission command of sustainment units as the preferred method of mission command, but there are enough examples in doctrine to understand why planners see this as the paradigm when they design organizational charts.

es, the 21st TSC conducts mission command of sustainment operations not only through the battle rhythm and materiel management, but also while exchanging personnel within the headquarters.

During Saber Strike 2018, the reserve ESC provided a liaison to the 21st TSC, while the TSC provided a fusion cell co-located with the ESC. This fusion cell not only facilitated reporting, but also provided subject matter expertise in sustainment operations unique to the European theater.

In today's high operating tempo in Europe, the 21st TSC executes mission command of sustainment operations with a task organization that is constantly changing and sometimes depends on what mission is occurring.

At any given time, the 21st TSC can provide direct support to multiple exercises across the continent, manage logistics support areas for an aviation brigade deploying into integration sites in the Baltics and Balkans, while exercising tactical control of an armored brigade combat team

moving from its training area to the Port of Bremerhaven, Germany. These activities alone require the maximum effort of the TSC staff.

During a large-scale conflict in Europe, the TSC cannot conduct the reception, staging, onward movement, and integration of every brigade combat team while simultaneously exercising OPCON of

every ESC in theater.

The TSC depends on ESCs directly responsible to their corps commanders to completely own sustainment in their battle spaces. The purpose is not to absolve the TSC of responsibility for subordinate sustainment organizations but rather to make sustainment organizations more responsive and reactive to support their commander's requirements.

However, through authority delegated from the combatant commander, unity of effort, the battle rhythm, materiel management, and theater LOGSTAT reporting, the TSC can effectively conduct mission command of sustainment operations.

Maj. Gen. Steven A. Shapiro is the commanding general of the 21st TSC at Panzer Kaserne, Germany.

Maj. Oliver Davis is the 21st TSC G-3 Future Operations Branch chief. He holds a bachelor's degree in criminal justice from the University of West Florida and a master's degree from Central Michigan University.

It Takes a Team

■ By Command Sgt. Maj. Michael A. Grinston



Command Sgt. Maj. Michael A. Grinston, the Forces Command's senior enlisted leader, speaks to Basic Leader Course students on May 23, 2018, at Fort Campbell, Ky. (Photo by Sgt. Steven Lopez)



Forward support companies need to use mission command, master the fundamentals, and conduct appropriate leader development in order to successfully sustain operations.

From 2001 until today, the Army has gone through extensive changes in sustainment operations on everything from doctrine to tactics. There is no denying that forward support companies (FSCs) are relied on to provide full-spectrum logistics support to their assigned maneuver battalions to sustain unified land operations.

A shared understanding between the supported operational unit and the supporting unit must exist to create unity of effort. When supporting and supported elements collaborate, sustainment synchronization is easy to facilitate.

For operational units to be successful, they depend on the support provided by brigade support battalions (BSBs) through their FSCs. The support the operational units receive permits them to concentrate on their missions with minimal distractions.

Overall mission accomplishment remains achievable by emphasizing constant communication and teamwork. A few critical elements of sustainment are mission command, mastering the fundamentals, and leader development.

The Art of Mission Command

According to Army Doctrine Reference Publication 3-0, Operations, mission command, as a warfighting function, “assists the commander in balancing the art of command with the science of control, while emphasizing the human aspects of mission command.” A warfighting function is a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that the commander uses to accomplish missions.

Command of FSCs and BSBs often test the art of command. According to Field Manual 3-96, Brigade Combat Team, the BSB commander assigns and commands FSCs. There are clear lines of command, but the picture becomes blurry when you start looking at the daily duties and operations of FSCs.

The FSCs conduct daily opera-

tions, perform administrative functions, and do most of their critical sustainment tasks with the maneuver units they support. For example, when maneuver battalions have command maintenance formations, the FSCs are a part of the formations.

The BSB must understand that an FSC’s priority for meetings and engagements is its maneuver battalion. A common understanding between the BSB and the maneuver battalion alleviates any misconception of loyalty between the FSC and the BSB.

The commanders’ ability to practice the art of command versus relying on organizational structure promotes a healthy and successful climate. We are all on the same team, and it takes a team to fight on today’s ambiguous and ever changing battlefield.

A vignette from a mission readiness exercise conducted at the Joint Readiness Training Center at Fort Polk, Louisiana, highlights a key principle often overlooked while practicing the art of mission command. During a rotation, a brigade continually received reports of one maneuver company running out of meals ready-to-eat (MREs).

The BSB command sergeant major (CSM) stated that the FSC had just resupplied the unit with five days of rations less than 24 hours before, and he could not understand why the unit kept reporting that they did not have food. The brigade CSM went to investigate the situation to determine the problem. It was an issue of shared understanding.

Two days before, a rocket had hit the unit’s containerized kitchen and destroyed it, leaving the unit with no option other than MREs for breakfast, lunch, and dinner. The FSC had delivered one MRE per Soldier per day instead of three on the assumption that the feeding plan remained two hot meals and one MRE for lunch. The BSB CSM, the maneuver battalion CSM, and the FSC first sergeant missed a principle of mission command—create a shared understanding.

Mastering the Fundamentals

Mastering the fundamentals of sustainment is truly a team effort. According to Field Manual 3-96, the sustainment synchronization matrix and the logistics status (LOG-STAT) report initiate and maintain synchronization between operations and sustainment functions.

Many units have not mastered the art of the LOGSTAT report and often report green (100 percent) on a commodity and then an hour later report black (less than 50 percent) on the same commodity. This hasty green to black situation prevents sustainers from anticipating the necessary classes of supplies and creates delay and frustration within sustainment operations.

The quick fluctuation of reports indicates the need for and importance of logistics synchronization. A properly executed logistics synchronization meeting will provide accurate data, assist the unit with analyzing its logistics requirements, and enable the anticipation of future requests.

After 15 years of counterinsurgency sustainment support, we have lost the skills to conduct logistics resupply operations. Relying solely on the unit's abilities to move freely and conduct resupply internally results in supply point distribution, picking up supplies directly from the brigade support area (BSA). Because the BSB conducts so few logistics release points (LRPs), the distribution company's transportation platoon is underused.

Getting back to the basics and conducting LRPs enables communication, creates a clear common operational picture, and enables sustainers to conduct physical "hands-and-eyes-on" inspections to see what units actually have on hand. The leader engagement conducted during the LRPs also facilitates anticipation; leader dialogue promotes foresight within sustainment operations.

Mastering the location of the command team is also critical. The



Soldiers from the 61st Quartermaster Battalion explain the unit's forward arming and refueling point operations to Command Sgt. Maj. Michael Grinston, the command sergeant major of the Forces Command, on Aug. 15, 2018, at Fort Hood, Texas. (Photo by Sgt. 1st Class Michael Cox)

FSC command team must ensure it has the right leader in the right spot at the right time. A battle can be won by placing the right personnel and equipment at the right place in time.

Selecting the proper Soldier or leader will provide maximum operational reach and optimal logistics support by effectively organizing sustainment operations across all echelons. An analysis of talent management will help the FSC to decide who and what to place at the field trains command post, combat trains command post, and BSA, and in turn, enhance the unit's overall effectiveness.

Leader Development

In addition to implementing proper logistics synchronization, sustainers must focus on leader development. First, the maneuver battalions and BSB CSM need to agree on which leader development forum

the FSC command team will attend. One course of action is to separate the commander and the first sergeant and send them to two separate forums. The outcome is beneficial for all parties involved.

The FSC command team needs to be a part of two formations and know how to sustain its own unit and its supported battalion. Effective FSC command teams are able to visualize and interpret the unit's training calendar in order to propose courses of action that allow maneuver commanders to train more efficiently. By separating the command team, leader development will happen with both battalions, providing a better understanding of operating procedures.

Developing the FSCs' first sergeants is paramount to synchronizing maneuver battalion and BSB leader development across echelons. Maneuver battalions expect their

FSC first sergeants to be masters of their craft—true professionals who remain extremely confident and competent in all aspects of the unit’s transportation, supply, maintenance, and food service support.

For maneuver units to be successful and able to execute their combat missions, FSCs must be multifunctional and led by experienced, knowledgeable noncommissioned officers. When fellow first sergeants need advice or have questions regarding logistics support, they can turn to the FSC first sergeant.

Mentorship is vital to the professional development of FSC first sergeants. For FSCs to be successful, lines of communication between the BSB and its FSCs must be open and easily accessible. Since

FSCs are assets on loan to maneuver battalions, communication must be clear and continual among the maneuver battalion, the BSB, and the FSCs.

The ability of FSC command teams to seek mentorship and guidance from their respective maneuver battalion and BSB support channel will promote and stimulate professional development. Creating professional development opportunities through monthly or quarterly leader professional development meetings and terrain walks for all senior enlisted sustainers serves as a great opportunity to enhance the development of senior leaders.

FSC Observations

There is no finer place to strength-

en leader development than at a combat training center. Combat training centers place leaders and systems in stressful situations, pushing each leader to maximum capacity. An ambiguous operational environment tests the physical and mental agility of all Soldiers as they battle an unrelenting enemy force in unfamiliar territory.

Below are a few recommendations from the Joint Readiness Training Center’s observer, coach, trainers that will enhance the overall effectiveness FSCs.

- Attend and participate in brigade and battalion combined arms and sustainment rehearsals. Ensure the sustainment plan is synchronized with the tactical plan.



Command Sgt. Maj. Michael A. Grinston, the command sergeant major of the Forces Command, speaks to Soldiers of E Company, 2nd Battalion, 506th Infantry Regiment, at Ft. Campbell, Ky., on May 22, 2018.

- Monitor and assess the brigade and battalion logistics common operational picture. Ensure sustainment areas (such as the BSA, unit maintenance collection point, field trains command post, combat trains command post, and forward logistics element) are known, accurate, and synchronized.
- Monitor and assess the brigade, battalion, and company LOG-STATs to ensure they are known, accurate, and synchronized.
- Monitor and assess the flow of brigade, battalion, and company equipment and maintenance inspection worksheets. Understand the impacts and trends as they relate to generating combat power.
- Forecast unit sustainment needs based on tactical tasks. For example, units performing movement to contact require fuel and ammunition, while units performing defense require construction and barrier materials.
- Monitor and assess lines of communication. Assess associated risks to Soldier and mission distance, routes, terrain, and security.
- The BSB CSM should monitor and assess the brigade and battalion medical common operational picture to ensure medical assets, role I and role II locations, and the ambulance exchange point are known, accurate, and shared.

“Amateurs talk about tactics, but

professionals study logistics.” This has been a saying around the military for a long time.

Of course, you can debate the relevance of this statement, but you cannot deny the fact that an element that cannot sustain itself will not have the operational reach necessary to fight against a near-peer adversary.

As leaders, we have to understand logistics mission command, master the fundamentals of logistics, and provide appropriate leader development in our FSCs. Freedom’s Guardian, Always Ready!

Command Sgt. Maj. Michael A. Grinston is the senior enlisted leader of the Forces Command.





Readiness in an Era of Complexity: *An Interview With Retired Gen. Carter Ham*

■ By Arpi Dilanian and Matthew Howard



Retired Gen. Carter Ham, chairman of the National Commission on the Future of the Army, asks a question about reserve component training on July 14, 2015, at Fort Meade, Md. (Photo by Sgt. 1st Class Jacob Boyer)

A retired general with
40 years of military
experience gives his
insights on mission
command.

Few know mission command better than retired Gen. Carter F. Ham. In the time between his enlistment as an infantryman in 1973 and his retirement as a geographic combatant commander in 2013, Ham experienced the Army from a variety of perspectives, including as the commander of U.S. Army Europe and as the director for operations for the Joint Chiefs of Staff.

As the current president and chief executive officer of the Association of the U.S. Army, Ham continues to make a difference on behalf of the men and women who serve. Here are his insights on mission command as the Army looks to the future.

After having a career that spanned four decades, what does mission command mean to you?

When I think of mission command, it is getting the right process by which leaders make decisions to employ their forces from the strategic to tactical levels. It is freedom to act within intent and established parameters, and it's achieving the right blend of initiative and control.

I've thought about this a lot as the Army sometimes has a tendency to rebrand old ideas with new names. The term "mission command" started gaining momentum over "command and control" in the late 2000s, particularly when Gen. Martin Dempsey was at Training and Doctrine Command. A lot of talk within the profession suggested this really wasn't anything new but, rather, what the Army had always done in terms of mission-type orders and building trust.

My sense was that it wasn't quite the same. The cohort of senior Army officers at the time, myself included, grew up mostly in the Cold War era with very clearly defined boundaries, rear areas, adjacent units, and the like. When that era changed and the Army found itself in highly irregular warfare, leaders recognized command and control wasn't adequate for the new environment.

The command piece was okay, but the control piece was overly regulated given the circumstances in which the Army was anticipated to operate. It was time for a change, and I think mission command was exactly the right focus. With varying degrees at varying levels, and certainly as circumstances change, we must enable leaders to operate with empowered, disciplined initiative and higher degrees of flexibility.

What were some of the biggest challenges you faced as commander of U.S. Africa Command?

Most Americans think of Africa as a single place; it's not. It is huge; at the very least, Africa is 54 countries with vast geographic differences, linguistic challenges, and economic, cultural, and ethnic diversity. It's an exceedingly complex area of operations.

When Secretary of Defense Robert Gates told me he intended to recommend the president nominate me for [commanding general of] the Africa Command, I had two feelings simultaneously. First was pure exhilaration: "Holy smokes, you're going to be a combatant commander! You get your picture hung on the entryway of the Pentagon!"

But instantaneously, the second feeling hit: "You don't know anything about Africa." At the time, it was not a part of the world any of us in the military thought much about.

I was going from a very Europe-centric career—frankly a very comfortable setting for me because I had relationships with many of the senior leaders—to exceeding discomfort in Africa. It was intellectually stimulating, but I just didn't have that foundational understanding of the area of operations as I did in Europe.

For me, this was mission command in practice at the upper operational and strategic levels. Despite the dispersed nature of U.S. forces, the requirement to work with host-nation forces, and the diversity of missions—ranging from very



Retired Gen. Carter F. Ham, president and CEO of the Association of the U.S. Army, helps cut the Army's birthday cake on June 14, 2017, during the Stripes and Stars Festival at Independence Hall in Philadelphia. Ham is joined by James A. Donahue, president of the William Penn Chapter of the Association of the U.S. Army, Army recruit Brian White, Pvt. Alex Horanczy, a Pearl Harbor survivor, and Maj. Gen. Troy D. Kok, commander of the 99th Regional Support Command. (Photo by Staff Sgt. Shawn Morris)

precise targeted activities and hostage rescue to maritime security, humanitarian assistance, and veterinary teams helping with herds of animals—there was still an expectation from the Secretary of Defense, the chairman of the Joint Chiefs of Staff, and the other service chiefs. They were empowering me to make decisions in this vast and complex area of responsibility.

You can't do that with a highly structured, highly controlling style of leadership. I had to catch myself sometimes, and my senior enlisted leaders would often remind me, "General, they don't need you to tell them how many times to turn the screwdriver; they need your intent."

If you can describe your intent, subordinate leaders will accomplish the mission.

How does mission command need to evolve to maximize readiness for the future operational environment?

There is recognition that the Army has to refocus after 15-plus years of irregular warfare and counterinsurgency operations. Gen. [Mark] Milley has it right; we have to get back to preparing for combat operations across all domains against a very capable, state-based adversary. It's a much more complex environment in which to operate.

The first half of my career was highly structured and very clearly focused on a state-based adversary, the Soviet Union. It was a very dangerous, but also very predictable, period. We knew their doctrine and organizational structure; they knew ours. We knew their equipment and capabilities; they knew ours. Our war plans were incredibly detailed: we knew exactly where we were going to fight and exactly where almost every Soldier was going to go in the defense of Western Europe. Control was dominant.

That is not the environment in which the Army will operate in the

future. We have to develop leaders who can thrive in the ambiguity that is certain to exist in future combat. Leaders must know how to exercise mission command and make proper decisions without linkages to their higher and adjacent units, or when communications are degraded. That, I think, is the great challenge the Army faces today.

Can you discuss the importance of mission command for sustainment formations?

I'm not a logistician, but I learned the importance of sustainers early. When I was a division operations officer, I had some great mentoring from my division commander. The simple message was, "The brigades, they're going to win the fight; you don't need to spend time mapping things out for them. Your job is to set the conditions for those brigades to operate, and the biggest piece of that is sustainment."



Army Chief of Staff Gen. Mark A. Milley, Under Secretary of the Army Ryan D. McCarthy, Secretary of Defense Jim Mattis, Christi Ham, and retired Gen. Carter F. Ham, bow their heads during the invocation of the opening ceremony at the 2017 annual meeting of the Association of the U.S. Army in Washington, D.C., on Oct. 9, 2017. (Photo by Sgt. Hector Rene Membreno-Canales)

In the Cold War, sustainment was a complex operation; it's tenfold more complex today. There are no longer safe rear areas, secure supply routes, or the ability to move "iron mountains" of supplies to the point of need at a moment's notice.

In my era, sustainment was mostly a math problem: how do you move stuff from point A to point B? Today's sustainment challenge is much more of an art than it is a science. How will sustainers make sure that dispersed, often separated, units have what they need to fight and win on the future battlefield?

The science is certainly still there; you still have to make sure fuel, water, chow, and ammunition are at the right place at the right time. But now, more than ever, sustainers have to be inside the heads of maneuver commanders, understanding what they want to achieve. That's where it becomes more of an art, and I think that's where mission command en-

ters into the realm for sustainment leaders.

How important is training?

I'm old enough to have been in the Army before there were combat training centers, and it's night and day. I was an opposing force guy at the National Training Center in the mid-to late-1980s, and you could see the Army get better. Repetition matters. Complexity matters. The difficulty created in the training base matters.

We want Army leaders to be more challenged in their training than they will be in combat. That's tough to achieve these days, particularly given multi-domain operations. How do you create that cyber, electronic warfare, or geographic complexity leaders will have to deal with? The more we invest in the rigors of our training, the better off we will be. That certainly applies to the sustainment force.

There are tremendous opportuni-

ties in the Synthetic Training Environment that allow for repetition and increased difficulty without great expense. At some point you still have to put Army units in the dirt to train, but it's the most expensive way to do so. There's so much you can do prior to that point so that units enter that phase at a much higher level. For all of our forces, the Synthetic Training Environment will yield a stronger Army that is able to train at levels we can't imagine today.

Where does integration with our allies and coalition partners fit into mission command?

In our guiding documents, including the National Military Strategy and Army vision, we've established a recognition that the Army will always operate with allies and partners. The scale will vary from time to time, but we're always going to do so in some form. As fast as the Army is

changing, we have to be careful we don't leave our allies and partners out of our modernization efforts.

We also have to become increasingly comfortable with the idea of U.S. maneuver forces being sustained by forces of another country and vice versa. This became almost normal for us when our force presence in Iraq and Afghanistan was very high. Now that force levels are significantly lower, junior leaders have less opportunity to interact with our allies and partners. We have to find a way to replicate those kinds of activities in the training base.

Again, I think it is more art than science. Part of the art is making sure each of the partners has responsibility for support, for sustaining, and for direction in a coalition-type operation. That doesn't happen by accident. Through the exercise of mission command, we want to create leaders who are comfortable in multinational environments.

How are we doing as an Army when it comes to Soldier resilience?

When I came home from Iraq, I think like many Soldiers, I felt incomplete. I felt I had left Soldiers behind; I came home and those I had served with were still there. I came to the Pentagon, the five-sided puzzle palace, and my work just didn't feel very fulfilling. I had this tremendous longing to go back.

As a one-star general at the time, I don't pretend I was on patrol facing hard combat every day like a squad leader or platoon sergeant. That's an extraordinary kind of stress I frankly didn't see on a daily basis. I think for leaders the effect is a little different; it's a different kind of stress. Particularly for commanders, when you lose Soldiers in combat—Soldiers who are wounded or killed executing orders you issued—that stays with you.

When I came home, it was my wife who said, "Hey listen, you've changed." That was important. It was recognition that a normal person can't be exposed to combat and be un-

changed. A lot of Soldiers go through combat and deal with it very effectively. They're resilient, they deal with it openly and confront it, and they continue to move forward. But there's a spectrum, and on the other end are Soldiers who have post-traumatic stress or, in more severe cases, traumatic brain injury. I was one of those who needed a little bit of help; mine came from an Army chaplain.

I'll confess I was outed publicly. It wasn't me coming forward; it was someone else talking about it. But as a general officer, my sense was [that] many other Soldiers were having the same challenges readjusting to a nondeployed environment. If coming forward publicly would encourage one other Soldier to get help and to say, "I'm having a tough time," to his or her spouse, a chaplain, a social worker, a commander, a first sergeant, to somebody—then my speaking out was worthwhile.

I think the Army is once again leading the nation in matters like this. The senior leadership—the Secretary, Chief of Staff, and Sergeant Major of the Army—are coming forward and saying, "Hey, it is strength to step forward and say I need a little bit of help."

That's what the Army needs. We need Soldiers who can take a blow, whether physical or psychological, recover, and be stronger in continuing their mission.

There's still a lot of work to be done; we shouldn't kid ourselves that the stigma is gone. We have to keep it as a frontline Army effort and continue to say, "This can make you stronger; and when you're stronger, our Army is stronger." But I'm really proud of our efforts thus far.

You're one of only a few to rise from private to four-star general. What advice do you have for Soldiers today?

First, recognize I didn't go from private to four-star overnight; there were just a few intervening steps along the way. When I was enlisted, I rose to the exalted position of being

our battalion command sergeant major's driver. He was, to me, the model of the noncommissioned officer: mission-focused, hard on Soldiers, and always fair. He made me a better Soldier. And after all these years, it comes back to one question, "Why do you serve?"

We get so busy sometimes that we forget this. We talk a lot about what we do; we talk less about what we're for. Whenever I have the opportunity to talk to young leaders, both enlisted and officers, I ask them to think about the oath they took. It is the bond that ties us together, the shared commitment each one of us made to serve the nation.

In my mind, it's what makes the Army such a unique organization. I have lots of experience as a joint officer, and I truly value the other services. We have the best Marine Corps, the best Navy, and the best Air Force. But of all the services, I think the Army is uniquely of the people. We're the biggest and most diverse. I think it's worthwhile to sit back and say, "What is this Army for, and why is it that more than one million women and men have raised their right hand and said I'm willing to do this?"

Every now and then, take time to think about it. Don't get consumed by it, but take pause and remember why you chose to serve this nation. I found when I did, it caused me to reflect as a professional Soldier and "re-green" myself. For any Army leader—enlisted, officer, or civilian—it's a worthy endeavor to remember why.

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An Enduring Equipment Set for CENTCOM

U.S. Army Central will trade its theater-provided equipment for an enduring equipment set in order to save equipment transport costs, reduce equipment transit time, and provide an authorization document for dedicated funding.

■ By Lt. Col. Michael Mai and Chief Warrant Officer 4 Melanie M. Harris

Chief of Staff of the Army Gen. Mark A. Milley has consistently stressed three priorities since he assumed the Army's top position in 2015: personnel readiness, training readiness, and equipment readiness.

As the executive agent for ground forces in the U.S. Central Command (CENTCOM) area of responsibility (AOR), U.S. Army Central (ARCENT) has undertaken several initiatives designed to meet these three priorities while balancing the urgent requirements of the CENTCOM commander. Equipment readiness for meeting today's contingency requirements is one area that ARCENT has identified as a priority in the near term.

Enduring Equipment Sets

"By, With, and Through," the operational approach designed by ARCENT commanding general Lt. Gen. Michael X. Garrett and presented at the 2017 Association of the U.S. Army Annual Meeting, discusses how employing partner maneuver forces with the support of U.S. enabling forces requires an approach to sustainment that is not supported by current modified table of organization and equipment structures.

Adherence to this approach finds U.S. forces task-organized and deployed in small, non-doctrinal packages across joint operations areas (JOAs) to austere locations among nonorganic formations, often with-

out habitual and doctrinal sources of support.

In today's complex geostrategic environment in which contingency operations compete for resources to prepare for today's rivalry between near-peer competitors, this is how business is conducted. The existing set of theater-provided equipment (TPE) has played a pivotal role in this approach, but the current model fails to adequately maximize warfighting capability from a readiness, cost, or accountability approach. The solution to mollify this shortfall is to establish a modernized enduring equipment set (E2S).

Generally, an E2S, like those that exist in Korea and Europe, is TPE that fits a defined unit and command structure, varying only slightly from one rotation to the next. It includes an authorization document that provides dedicated funding for maintenance and modernization.

ARCENT currently has only TPE (with no authorization document), which has the benefits of maintaining theater-unique equipment (armored heavy equipment transporters [HETs] for instance), and supporting equipment structures that the "By, With, and Through" approach requires. Units rotating to the CENTCOM AOR are equipped for the way they are doctrinally structured to fight, rather than for the way they actually fight, which is often as small groups distributed across the battlefield.

An E2S will correct this approach and save equipment transportation costs, reduce time in transit for units, and provide an authorization document for dedicated funding. The ARCENT E2S will keep a portion of the existing TPE, making it the long-lasting solution necessary for operations in the CENTCOM AOR.

A TPE Refresher

Any Soldier who has completed a tour in the CENTCOM AOR over the past 17 years of war has likely used a mix of organic unit equipment and TPE, which is a set of rolling and non-rolling stock accounted for by the Army Materiel Command (AMC). TPE consists of everything from mine-resistant ambush-protected vehicles (MRAPs) and Humvees to medical equipment, computer peripherals, gym equipment, and radios. Originally introduced as a way to minimize equipment disruptions between units rotating into and out of Iraq and Afghanistan, TPE sets have grown to include more than 155,000 pieces as recently as 2017.

ARCENT and AMC have varying responsibilities for TPE. AMC accounts for the equipment and issues it to units that have a validated need. Units that rotate to theater validate the ongoing requirement based on current operations, and ARCENT distributes the equipment to the point of need and provides funding to maintain equipment while it is with the unit.



Mine-resistant ambush-protected vehicles are staged for issue at an Army Prepositioned Stocks-5 remote lot on June 27, 2018, at Camp Arifjan, Kuwait. The vehicles are part of APS-5's armored brigade combat team equipment set. (Photo by Justin Graff)

This marriage of convenience between two large commands has performed satisfactorily but is starting to stretch the limits of the frequently cited project management axiom that states, “Fast, good, or cheap: pick two.”

Considering this axiom as a basis to measure effectiveness, the presence of TPE has certainly enabled speed of operations, met warfighter requirements, and saved the Army hundreds of millions of dollars in shipping costs over time. Still, any equipment that has sustained near nonstop use for years on end, and which has not been modernized or reset, will experience significant degradation over time.

Thus, the cost of maintaining TPE has continued to climb while readiness rates have suffered.

The Problem With TPE

The current model for TPE is simply not sustainable. When Army leaders made the original decision to classify TPE as non-enduring more than a dozen years ago, it was based on the eventual removal of forces in the region. Clearly, this has not come to fruition, and the TPE model has evolved from a stopgap to an enduring set of equipment that is a fundamental calculation in any rotating unit's equipping plan.

For ARCENT, the distribution of materiel to some of the most

difficult to reach and dangerous locations is the norm. Uncertainty in air, ground, and sea lines of communication demands an effective equipment posture that is constantly ready to support expeditionary forces.

Many TPE items are sourced through operational needs statements and from Army pre-positioned stocks (APS), although APS has not nearly fulfilled the requirements alone. APS-5, located in the CENT-COM AOR, is a unit set specifically configured for contingency war plans not tied to the existing fight. Committing too much APS-5 equipment degrades the Army's ability to deter potential adversaries.

TPE equipment not only fulfills warfighter requirements but also is used by sister services, coalition forces, and contractors as the joint and multinational force battles terrorist and insurgent elements across the AOR.

Maj. Gen. Flem B. “Donnie” Walker Jr., dual-hatted as the ARCENT deputy commanding general for sustainment and the 1st Theater Sustainment Command (TSC) commanding general, recognized that TPE in its current form is unable to adequately fill capability gaps for units on the ground and prioritized an effort to develop a comprehensive plan to build, authorize, and fund an E2S out of TPE to fill this void in the CENTCOM AOR.

“After several years of constant use supporting contingency operations, theater provided equipment readiness has degraded to the point that missions are impacted,” Walker said. “Establishing an E2S allows us to improve our holistic management of equipment that remains in theater, improve its readiness and save money over the long term.”

Equipment Utilization

Equipment utilization varies greatly across the TPE set. Although every item is signed out nearly all of the time, some items are in use constantly and others depend on the mission at hand and the commander’s priorities. Ascertaining this information has proven difficult, even with the introduction and fielding of the Global Combat Support System–Army (GCSS–Army).

Although GCSS–Army allows users to quickly aggregate and analyze large amounts of supply and maintenance data, there is a caveat: the ability to achieve this level of insight for unit sets depends on the authorization status of the fleet. TPE, even though it is managed through GCSS–Army, is not “authorized” on a table of distribution and allowances (TDA) and frequently shifts between different hand-receipt holders.

For instance, determining orders

and maintenance statuses over time for items such as MRAPs that are part of a TPE set requires looking at each vehicle individually. Determining these statuses for high-dollar rolling stock and other low density pieces is achievable, but time-consuming. For 155,000 items across the TPE, it is nearly impossible.

While exploring a transition to E2S, and without the ability to look holistically across all fleets, ARCENT had to find other ways of assessing utilization. Anecdotally, ARCENT logisticians had a pretty good idea of what items were used the most and provided the most value to the end users, but they needed to further validate these assumptions through a data call. In the early stages of the project, the ARCENT G-4, the 1st TSC, and the 401st Army Field Support Brigade did just that.

This data call to units on the ground helped assess the value and state of readiness of all items in use. The 1st TSC and the 401st Army Field Support Brigade also looked at hand-receipt data to determine the categories of equipment most employed by rotating forces. From this data, ARCENT could prioritize the items necessary to induct into an E2S.

Readiness

Because of this inability to look at maintenance costs and utilization across the fleet, TPE has suffered from a lack of life-cycle management and modernization. For example, during fiscal year 2017, HET readiness averaged well below 70 percent. Materials handling equipment suffered similarly dismal readiness rates.

A lack of ready engineering equipment has delayed construction projects and route clearance operations. The only way for ARCENT to mitigate the impacts of these critical vehicles being deadlined is to contract out to local vendors at significant cost.

Readiness rates for redeploying units can also be affected if TPE is not available on the front and back

ends of rotations. Because transportation often takes 30 to 60 days, any organic unit equipment sent by ship cuts operations short in theater and also delays training at home station.

A recent after action review from the rotational armored brigade combat team supporting Operation Spartan Shield noted that having existing TPE equipment, such as machine guns, optics, and mounts, is critical to preventing these issues. Under the Sustainable Readiness Model and Objective T, units do not have the time after redeployment to wait for critical unit equipment to achieve Army readiness goals.

Logistics support vehicles are especially important components of the existing TPE. In the CENTCOM AOR, theater distribution is constant, and units do not have time to wait for organic materials handling equipment to load and unload materiel or for trucks to transport supplies across the battlefield.

Substituting contract vehicles is usually an option; however, secure, contracted capabilities may or may not be available depending on the location and threat level. An E2S scoped to the demand across the battlefield is the only way to ensure uninterrupted logistics support for the warfighter.

Maintenance Costs

Due to the distributed nature of sustainment operations and the lack of visibility in GCSS–Army, it has been difficult for the 1st TSC to determine the cost to maintain the entire TPE set. Depending on where the equipment is located and how it came into theater, the responsibility to maintain the equipment may lie with ARCENT, AMC, or one of the program executive offices.

As the 1st TSC investigated the maintenance costs of the high-use, critical rolling stock, it became evident that the cost to maintain these items was far above the norm. Again, using HETs as an example, the average cost to maintain one HET in theater during fiscal year 2017 was

\$140,000, while maintaining each HET based in the continental United States cost less than \$25,000 on average.

Many other classes of rolling stock showed similarly excessive maintenance costs, ranging anywhere from 200 to 700 percent of the average cost to maintain a similar item in the continental United States.

Transportation

Transportation lead times and costs are another area in which an E2S will benefit the Army. A rotational armored brigade combat team can cost over \$100 million to deploy and redeploy into Kuwait. Even moving APS-5 equipment from Qatar into Kuwait can cost millions of dollars.

Conversely, it is much less expensive to pack and export parts in containers to the point of need. Maintaining the E2S in theater and shipping items back only for major resets every few years is likely to save hundreds of millions of dollars based on current rates.

The Next Steps for E2S

After analyzing all of the costs, benefits, utilization, and criticality of the 155,000 TPE items, ARCENT and the 1st TSC looked across the set to determine which items were truly enduring in nature and needed a reset or modernization plan and which items were part of the Army's Master Divestiture List or were non-documentable, such as commercial-off-the-shelf items.

A large portion of TPE turned out to be automated data processing equipment like computers and monitors. Commercial-off-the-shelf items such as these are procured through the Computer Hardware Enterprise Software and Solutions website through guidance issued by the Army Chief Information Officer/G-6. These items were not considered for E2S.

Recognizing that there are equipment shortages across the Army, ARCENT also worked with AMC to help determine how and where TPE could be used to fill shortages across all three components, specif-

ically within focused readiness units. AMC identified more than 13,000 pieces that met that criteria, but some of these items, like AN/TPQ-53 counterfire target acquisition radar systems, were too critical to transfer. After a thorough analysis, the 1st TSC and ARCENT agreed to release more than 9,500 pieces for redistribution across the Army to improve equipment readiness.

In the end, ARCENT and the 1st TSC identified more than 41,900 pieces of the original 155,000 for induction into the E2S. These pieces are located across the AOR: 49 percent in Afghanistan, 32 percent in Kuwait, and 19 percent in Iraq.

The set consists of critical force protection and surveillance assets, tactical vehicle platforms (MRAPs, towed and self-propelled howitzers, M88 recovery vehicles), logistics support and distribution vehicles (HETs, rough-terrain container handlers, forklifts, and tractor trucks), engineering and construction vehicles, and medical equipment.

Funding this reset and modernization effort is a multiyear process. ARCENT's \$7 billion budget is more than 95 percent funded from the Overseas Contingency Operations fund, and TPE maintenance comprises hundreds of millions of dollars.

Overseas Contingency Operations funding is validated and approved through a slightly different process than base funding at the Headquarters, Department of the Army, and the Office of the Secretary of Defense. It historically has invited less scrutiny from Congress than base-funded programs. However, both Congress and the Office of Management and Budget continue to demand more information to justify the increasing costs of contingency operations.

Funding flows from authorizations; without an equipment TDA, it is nearly impossible to determine TPE costs. With an E2S, the Army will improve planning and oversight for this critical equipment and be able to justify the expense to the legislators writing the checks.

As Gen. Milley has stated on several occasions, "Equipment readiness is a critical component of overall unit readiness." Nowhere is that more true than in the CENTCOM AOR, where ARCENT continues to support four named operations. Although ARCENT and 1st TSC have already completed months on the project to assess TPE and identify items critical for future success, there is still a lot of work to do.

The request for authorization has been approved by the Army Deputy Chief of Staff, G-3/5/7. The Army Deputy Chief of Staff, G-8, Program Analysis and Evaluation office allocated reset and modernization funding in the Program Objective Memorandum 20-24 programming cycle. These dual lines of effort complement each other and are integral to delivering a modernized, sustainable equipment set that meets warfighter requirements in the near term and into the future.

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Integrating the Sustainment Brigade Command Function in a Combat Training Center Rotation

■ By Maj. Joseph D. Henderson and Capt. Jessica L. George



Sun Tzu once said, “The line between disorder and order lies in logistics.” Nothing better illustrates this than the depletion of a crucial commodity. Armies can press only so far without secondary and tertiary combat configured loads, and even those pools are subject to drought without higher echelon support from sustainment brigades and their combat sustainment support battalions (CSSBs).

The Joint Readiness Training Center (JRTC) at Fort Polk, Louisiana, is one of the Army combat training centers where brigade combat teams (BCTs) have the opportunity to train in a tough, complex, and realistic environment. Historically, a CSSB deploys to JRTC to enable critical sustainment sup-

port for the rotational training unit (RTU). But in October of 2017, the 189th CSSB deployed to JRTC as a member of the RTU.

Lessons learned in 2017 led to the 82nd Airborne Division Sustainment Brigade (ADSB) staff serving as a higher command element for the 189th CSSB and managing echelons-above-brigade sustainment operations during JRTC Rotation 18-06 in March 2018.

Although this construct remains in its infancy, the initial feedback from the 189th CSSB and JRTC observer, coach, trainers (OCTs) from the JRTC Operations Group is positive. Areas remain for future sustainment brigade involvement, and the operational design requires further refinement to enhance the

training experience for the CSSB and build proficiency for the sustainment brigade staff.

Serving as a Higher Command

Establishing the sustainment brigade as a higher command echelon allowed for a more robust rotational design, which equated to a more realistic and complex training environment that fully stressed the systems of the RTU CSSB.

Establishing a sustainment brigade tactical operations center exercised mission command systems through day-to-day operations without committing additional resources to the already taxed JRTC joint operations center. The results were a tactically focused CSSB that fully executed echelons-above-



Paratroopers from the 2nd Brigade Combat Team, 82nd Airborne Division, stationed at Fort Bragg, N.C., prepare to load onto a C-130 Hercules aircraft during a Joint Readiness Training Center exercise, April 7, 2018, at the Alexandria International Airport, La. (Photo by Tech. Sgt. Liliana Moreno)

brigade sustainment operations for its supported BCT.

A key task the 82nd ADSB codified late in its rotation was incorporating the sustainment brigade into the rotational planning process through Leader Training Program and D-90 planning conference attendance. The brigade also determined that developing a defined framework for the sustainment brigade that clearly articulates the roles and responsibilities for sustainment elements at echelon is essential for the overall success of the sustainment brigade and the supporting CSSB.

Roles and Responsibilities

During JRTC Rotation 18-06, learning and defining the roles and responsibilities throughout the JRTC sustainment community consumed valuable time and created unnecessary distractions for the CSSB.

One example is how the 82nd ADSB allocated personnel from the brigade staff in support of garrison operations and external support by providing personnel in support of the JRTC sustainment operations center (SOC). These positions were organic to the sustainment brigade support operations (SPO) section, and the loss of these personnel stretched the 82nd ADSB's operations and caused friction through duplicated effort until the sustainment brigade arranged for the SOC to act as a notional expeditionary sustainment command (ESC) and fulfill essential external support requirements.

Selected SOC personnel worked closely with contractors to schedule required commodity resupply to the RTU CSSB. In future JRTC rotations, the SOC will function as an ESC, allowing sustainment brigades to train on established training objectives and mission essential tasks.

Enabling Training

Using the 82nd ADSB Special Troops Battalion (STB) as an intermediate staging base mayor cell per-

mitted the 189th CSSB to deploy into the contested joint operations area for the first time. That created an environment in which the CSSB focused solely on its tactical sustainment mission.

By later establishing the notional 120th CSSB, which consisted of STB personnel and JRTC contractors, the sustainment brigade was able to relieve the 189th CSSB of all administrative roles. This ensured the 189th CSSB remained postured to support the RTU by giving it the opportunity to exercise logistics release point resupply.

The 120th CSSB assisted significantly as a force multiplier by pushing critical commodities into the box while the 189th CSSB was engaged in defensive operations. The battlefield geometry caused multiple displacements of forward logistics elements and logistics support areas, which created prolonged periods of intermittent communication between the sustainment brigade and the CSSB.

Multi-Domain Battle Challenges

On the ground, the Multi-Domain Battle environment stretched the 189th CSSB's ability to conduct expeditionary sustainment. In this setting, the CSSB faced the challenges of balancing force protection and sustainment while encountering numerous level II threats from platoon-sized or greater dismounted enemy forces.

The maneuver enhancement brigade assigned in the training scenario was notional, and the enemy's interdiction of sustainment forces was constant, undermining the effects a fully postured maneuver enhancement brigade can offer. The RTU had not task-organized organic protection assets to include the CSSB as a vulnerable asset or shaping efforts to ensure CSSB survivability.

In the future, presenting the CSSB's protection capabilities and requirements to the BCT's SOC and the JRTC SOC and ESC will improve critical lines of communi-

cation. That will also empower the CSSB to establish its own lines of communication with the BCT's brigade support battalion through direct liaison authority.

Incorporating a sustainment brigade into the JRTC rotational design is a positive, effective combat multiplier that must be replicated in future rotations. The 82nd ADSB's rotation to JRTC has increased self-awareness and shown the staff where it is strong and where it can improve to better prepare its staff and paratroopers to meet Global Response Force requirements.

These lessons learned will shape and refine the brigade's operating procedures, and building upon the intensity of training at JRTC, the 82nd ADSB "Providers" will seek innovative ways hone their craft to ensure they are always in step with their division and ready to fight tonight.

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All 82nd ADSB staff sections contributed to this article.

Mission Command and the Sustainment Warrant Officer

Recent organizational changes have increased the need for sustainment warrant officers to understand and execute mission command.

■ By Chief Warrant Officer 3 Zachary J. Keough

Mission command is defined as “the conduct of military operations through decentralized execution based upon mission-type orders.” These orders reflect the commander’s (centralized) intent but do not prescribe a method or manner in which subordinate leaders must execute operations.

The staff executes a decentralized planning process without the commander. This approach suggests that staff members at every echelon have the ability to apply creative, innovative, and inspirational solutions to challenges. Critical thinking is also paramount in devising strategies to counter evolving enemy tactics.

Educational Disparity

Understanding the tenets of mission command is vital for leader professional development; however, mission command is seemingly overlooked in warrant officer professional military education (PME). The current curriculum in the sustainment warrant officer PME does not reinforce the mission command agenda, especially within the Warrant Officer Basic and Advanced Courses.

The general perception among sustainment warrant officers is that mission command is exclusive to branch-qualified commissioned officers and practiced at the operational and strategic levels. Many sustainment warrant officers cannot differentiate between mission command and the former *modus operandi* of command and control, and thus

they perceive mission command as superfluous.

Branch-qualified commissioned officers receive an extensive block of instruction in mission command while attending Intermediate Level Education. But, the depth of instruction that sustainment warrant officers receive pales in comparison, thus the technical experts have a vague understanding of the development of orders to support mission command.

Origins of Mission Command

In the late 2000s, then Chairman of the Joint Chiefs of Staff, Gen. Martin Dempsey, developed the idea of incorporating a philosophy that seemingly diverged from Army culture. Dempsey developed this philosophy, deriving several tenets from the analogy used in *The Starfish and the Spider*, co-authored by Ori Brafman and Rod Beckstrom. In their book, the authors discuss the parity in characteristics between a starfish (a flat organization) and a spider (a hierarchical organization).

The qualities used to characterize the starfish include autonomy, trust, allegiance, decentralization, resilience, adaptability, and flexibility. Conversely, the spider represents a centralized organization that is rigid with clearly defined roles and responsibilities. A centralized (top-down, hierarchical) organization provides structure and prescribes strict limitations with respect to delegating authority.

Given the ever-evolving state of enemy tactics and techniques to at-

tain survivability, if not dominance, Dempsey developed the mission command philosophy for the ability to change course and respond quickly to meet new challenges. This philosophy reflects a culture that is prevalent throughout technical centers around the world, including the U.S. technology mecca of Silicon Valley.

Changes Bring Requirements

Recently, the Army restructured the theater sustainment command (TSC) so that senior warrant officers replaced field-grade officers in the distribution management center (DMC). Until that happened, field-grade officers filled the authorizations for most of the branch leadership positions in the DMCs.

The expeditionary sustainment commands and division sustainment brigades followed suit by replacing junior officers with senior and junior sustainment warrant officers in the commodity sections under the auspices of the support operations officer.

As a result of these organizational changes, sustainment warrant officers must now understand the sustainment critical path. Understanding the critical path is vital to creating or engaging in a network of stakeholders by facilitating or participating in a board or working group as part of an established battle rhythm.

Executing mission command entails integrating with other staff members and warfighting function



Students and leaders consult a supply support activity model during the final briefing of the 920B Supply Systems Technician Warrant Officer Basic Course on Nov. 15, 2018, at the Army Logistics University located at Fort Lee, Va. (Photo by Julianne Cochran)

entities. With mission command, commanders expect that sustainment warrant officers will exercise initiative either instinctively or through conscious reasoning in the absence of orders.

If mission command was intended to mitigate bureaucracy to expedite processes, the streamlining of the sustainment commands and sustainment brigades seemingly reflects this approach.

Fostering Creativity

How should sustainment warrant officers use the characteristics of a flat organization to provide commanders with additional leverage? Flat organizations promote creative thinking and foster an environment conducive to expressing innovative ideas to improve the organization. Because of the culture and nature of the flat

organization, team members exhibit a sense of enterprise and inspiration through the exchange of ideas, trust, and a shared understanding of value in each other.

As Army doctrine evolves—driven by the perceived threat of enemy states—sustainment warrant officers must understand that the tactics, techniques, and procedures put into practice for counterinsurgency will not prevail in large-scale combat operations. Sustainment warrant officers tend to extrapolate knowledge from their experiences and avoid departure from familiar doctrine.

Ironically, commanders rely on sustainment warrant officers to develop fresh ideas and formulate strategies to meet new challenges. Sustainment warrant officers should perceive themselves as the representatives for creativity and the catalysts

for change; they should possess the audacity to disrupt normal procedures to create efficiencies without compromising effectiveness.

Understanding Strategic Partners

Why is mission command important to sustainment warrant officers? Army Techniques Publication 4-0.1, Army Theater Distribution, states that logisticians in sustainment commands and sustainment brigades “should understand the capabilities of strategic partners, so they can integrate strategic provider’s capabilities into the operational and tactical environments.”

A common issue among sustainment warrant officers, especially those in the sustainment command’s DMC, is the lack of synchronization with strategic partners. Many of the sustainment warrant officers

are either oblivious to the existence of strategic partner liaisons or do not know the full scope of assistance and services rendered by these agencies.

At the operational level, sustainment warrant officers often do not understand the functions and roles of the Army service component command and the TSC (the sustainment higher command) in large-scale combat operations.

At the tactical level, sustainment warrant officers assigned to division sustainment brigades often do not understand the command and support relationships between the division headquarters and the sustainment commands.

This lack of awareness presents challenges for sustainment warrant officers in sustainment brigades because they assumed inherent roles and responsibilities held previously

by branch-qualified commissioned officers.

Further complicating matters is the disparity in the jargon and vernacular used at each echelon. Sustainment warrant officers must adapt quickly to the terminology employed. In addition to learning the language, they must be able to translate sustainability ratings (data) into practical terms (understanding) to enable the commander to make decisions. This requires situational understanding of the operational environment.

Because sustainment warrant officers have assumed positions held previously by officers, the Army expects the technical experts to understand and execute mission command. For most sustainment warrant officers, mission command remains an enigmatic piece of Army doctrine

primarily because little quality instruction exists at each level of the warrant officer PME.

In addition to honing their specialty craft, sustainment warrant officers should also be afforded the opportunity to learn and apply mission command with other stakeholders in the joint operations plan as part of their basic and advanced courses.

Department of the Army Pamphlet 600-3, Commissioned Officer Professional Development and Career Management, states, “As warrant officers gain more experience and training, their focus and expertise shifts from their primary MOS [military occupational specialty] to integrating other systems within their branch to theater, Army, Joint, and national-level operations.”

Mission command is an essential component of Army doctrine that permits subordinates to cross-communicate, coordinate, and implement activities that support the commander’s intent. However, sustainment warrant officers continue to learn in silos without realizing they have an inherent responsibility to parallel plan by integrating with other warfighting functions, strategic partners, and geographic and nongeographic organizations. The warrant officer PME must change to better prepare our technical experts for assignments within sustainment commands and sustainment brigades.



Chief Warrant Officer 3 Quince Lewis, from the Supply Excellence Awards Team, asks about the flow of materiel at the supply support activity during a visit to the 920B Supply Systems Technician Warrant Officer Basic Course on Nov. 15, 2018, at the Army Logistics University located at Fort Lee, Va. (Photo by Julianne Cochran)

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Troop Leading Procedures for the Forward Support Company Commander

A forward support company commander must train Soldiers on standardized troop leading procedures to ensure mission success.

■ By Capt. Russell J. Baker

Capt. Wingit sips on his morning coffee at the battalion's field trains command post (FTCP). The battalion has just finished issuing a hastily prepared change-of-mission fragmentary order (FRAGORD), and Capt. Wingit, as the forward support company (FSC) commander, is staring down at his scribbled notes, wondering what to do next. He begins to jot down his ideas into an Army-issued green notebook, glancing back and forth between his notes and the preprinted five-paragraph operation order (OPORD) template located in the reference pages in the back.

When his first sergeant enters the tent, Capt. Wingit informs him of the new mission and orders him to let the distribution platoon know that it will have to kick out a logistics package (LOGPAC) to a new logistics release point sometime today. The first sergeant quietly nods and heads out the door. "Well, that takes care of the warning order," Capt. Wingit thinks to himself.

After about an hour, Capt. Wingit pulls in his platoon leaders and reads them his notes from the battalion's OPOD briefing. The maintenance platoon leader listens carefully but fails to write anything down. The distribution platoon leader quickly jots down the commander's comments but doesn't notice that the graphics hanging on the map haven't been updated to reflect the new mission. The headquarters section doesn't have a representative in attendance. "Any questions?" asks Capt. Wingit. Silence.

Later that day, after waiting at the wrong logistics release point for over an hour, the LOGPAC is destroyed by an enemy special purpose forces team that recently entered the area of operations. The FSC headquarters section, monitoring radios that had not been updated with the new communications security fill, sits listening to radio silence as the FTCP's entry control point attempts to report enemy movement to the front.

Meanwhile, as Capt. Wingit visits the battalion's maintenance collection point, a parts clerk from the maintenance platoon politely reminds him that a high-priority part is still waiting to be pushed out on the next LOGPAC. "They left over three hours ago!" a frustrated Capt. Wingit replies. The battalion's attack stalls due to the missed resupply. Capt. Wingit quietly asks himself, "What went wrong?"

Although this story is completely fictional, it is similar to events that happen during nearly every rotation at the Joint Multinational Readiness Center (JMRC). Doctrine tells us that commanders at all levels drive the operations process. But a poorly planned operation is doomed from the start.

FSC commanders routinely fail to realize the importance of the Army's planning methodology for company and smaller units. By failing to train their companies in basic troop leading procedures (TLPs), FSC commanders are stunting the growth of their subordinate leaders, introduc-

ing unnecessary stress and confusion, and risking mission failure for the entire maneuver task force.

This article aims to describe methods that FSC commanders can use to ensure their formations are ready to execute TLPs upon receipt of mission.

Poor TLP Execution

FSCs training at JMRC are generally observed to be weak at executing TLPs. Most FSCs do not even attempt to conduct formalized TLPs. Those FSCs that do simply go through the motions without a firm understanding of why they

are doing so or what the outcome should be.

As an example, a company-level after action review (AAR) during a recent JMRC rotation revealed that an FSC failed to make good use of its time. The battalion was unable to issue a warning order (WARNORD) because of the time constraints of the upcoming mission.

However, once the FSC commander received the battalion OPOD at 0447 hours, he used nearly his entire allotted planning time (until 0710 hours) merely to issue a WARNORD to the platoons. One platoon leader began issuing

her WARNORD immediately upon receipt of mission but was interrupted when the opposing forces aimed an indirect-fire attack at the FTCP at 0726 hours.

After the FSC regained control of the situation, no further TLPs were conducted at the company, platoon, squad, or section levels for the duration of the time available. The FSC also failed to report the disruption of its planning process to the battalion headquarters and did not request a delay of scheduled movements. This resulted in the convoy missing its specified departure time.

Of note, no one in the convoy had received even a rudimentary mission briefing before crossing the line of departure. The convoy leader did not conduct any rehearsals. He did not even attempt to talk through the convoy's actions on contact.

The vehicle commanders conveyed that few Soldiers understood their task and purpose. Only one proactive vehicle commander had an updated map and could describe the general time line of the operation. Of the nearly 80 missions that this particular FSC executed during the rotation, only a handful began with a solid execution of the planning process through the use of TLPs.

The purpose behind TLPs is relatively straightforward. Army Doctrine Publication 5-0, *The Operations Process*, tells us that TLPs are an Army planning methodology used to help leaders at the company and below levels begin the operations process. Efficiently executed, TLPs can help commanders quickly develop a plan so that subordinates can properly prepare for and accomplish their missions.

The application of military planning doctrine will not guarantee mission success, but it will at least move a unit in the right direction. Further, with a solid understanding of this most basic planning methodology, leaders will more easily understand the “why” behind their higher headquarters’ planning methodology, the military

decisionmaking process. This understanding serves as a solid foundation for subordinates’ service at higher levels of responsibility.

By failing to execute TLPs, FSC commanders are risking a lot more than simply mission accomplishment. In a recent end-of-rotation AAR at JMRC, three junior non-commissioned officers (NCOs) stated that when FSCs fail to conduct proper TLPs, subordinates become confused about why missions are ordered at the last minute. Soldiers are not given enough time to prepare their equipment for the mission.

When NCOs are unable to answer their Soldiers’ most basic questions about a mission, morale begins to decline and Soldiers learn to distrust their leaders. This adds more stress to an already challenging environment. Only the most irresponsible leaders would willingly allow this to happen to their formations.

Leader Development Failures

The reason most FSCs struggle with the company planning process is failure within all three domains of leader development. First, logistics leaders simply have not been exposed to the same intense, small-unit-focused schools and exercises as their combat arms peers. Sustainment courses in the institutional domain focus more on staff work and number-crunching instead of training techniques at the company level and below.

Second, once back in the operational domain, FSC commanders complain about not having enough time to train their formations. Logisticians often run support missions by focusing on the administrative tasks and failing to treat them as real-world tactical convoys. This is because of the pressure to support the battalion’s primary training priorities (such as the mortar training and evaluation program, platoon live fires, and company combined arms live fires). FSC OPORDs are discounted in favor of the battalion’s logistics synchronization matrix (if there is one).

Third, because these problems are so ingrained within the tactical side of the Logistics Corps, FSC commanders struggle to find positive examples upon which to model their company orders process, which stunts self-development. One recurring example is the FSC commander who fails to delegate tasks that could easily be done by other personnel within the company.

The best FSC commanders observed at JMRC are those who are able to discern which tasks they can delegate and which they cannot. The first thing to understand is that a commander (or any leader for that matter) should focus on accomplishing those things that only he can accomplish.

Every minute an FSC commander spends making copies of his graphics for his subordinates, building a terrain model kit, or looking up the weather forecast to include in paragraph one is one less minute that he could spend planning the actual concept of operation and synchronizing actions between the brigade support battalion and the supported maneuver battalion.

Building Orders Groups

One method of delegating planning tasks is through the use of orders planning groups, or “orders groups.” Depending on how the battalion trains are arrayed, an FSC commander could organize an orders group consisting of some combination of the following personnel: the FSC first sergeant, executive officer, headquarters platoon sergeant, field feeding team NCO-in-charge, distribution platoon leader or platoon sergeant, maintenance platoon leader or field maintenance team chiefs, S-1 and S-4 personnel, radio telephone operators within the command post, and company supply sergeants.

The FSC commander would immediately assemble this group upon the receipt of mission and issue a WARNORD. This WARNORD should consist of key information to allow subordinates to begin their

own planning and preparation. The WARNORD kicks off a series of actions similar to a battle drill to enable the rapid production of the company OPORD. While the subordinate units issue their WARNORDs, the FSC first sergeant would begin determining logistics considerations for the upcoming mission.

The FSC executive officer would create an initial planning time line, balancing key company events against anticipated higher headquarters, operational, and enemy activities. The FSC commander could then lead the orders group through a detailed mission analysis based on mission variables.

This analysis helps to determine how the FSC fits into the brigade's mission. Good mission analysis, even at the company and platoon levels, makes it easy to determine the right course of action.

Once subordinates finish issuing their WARNORDs, they would re-gather at the FSC commander's position to review the analysis. They would then collectively begin to generate a plan that could both meet the commander's intent and accomplish the mission.

Once the commander decides on the plan, the orders group would begin working on predesignated task lists to produce the company order. These tasks could include constructing the company terrain model kit, producing graphics and map overlays, and filling out briefing boards or other visual displays to help the commander convey the plan and convoy movement tables.

The orders group technique allows the commander to focus his time and effort on understanding the company's role in the overall fight. With this understanding, the commander is now free to lead his organization through the development of a course of action that supports the intent of the battalion commander. He has now delegated tasks that would otherwise consume a great amount of time.

Orders groups also allow as many

subordinates as possible to be included in the planning process. The company's senior NCOs are empowered and able to share their wealth of experience when developing the plan. Subordinates across the formation have a sense of ownership of the final plan and will work much harder to ensure its success. Finally, subordinate units have a deeper understanding of the commander's intent and are able to begin parallel planning much sooner.

Setting Standards

Once the company understands who is responsible for what actions, it needs to know what the company's standards are. Otherwise, the commander will simply have delegated a long list of tasks without the subordinates understanding exactly how to execute them.

The best way to ensure a common standard in the planning process is to create and use standard operating procedures (SOP). It does not have to be a regurgitation of the battalion's planning SOP; it should be an easy-to-read description of the company planning process presented as a chapter in the company's tactical SOP (TACSOP).

Commanders should use common templates for everything they expect subordinates to complete in order to ensure the company can rapidly produce its order. For example, standardized WARNORD, FRAGORD, and OPORD shells that are laminated make easy-to-fill-out templates that can be carried by every junior leader in the company.

The headquarters section can maintain the company terrain model kit and train Soldiers on how to build it to the published standard. The graphics that are expected to be present on everyone's maps should be described in the SOP. Sample planning timelines and key events that must happen within that time line should also be included. Standardized rehearsal scripts for common missions will keep everyone on track when the unit begins rehearsing the plan.

Training TLPs

Once an FSC has defined in its TACSOP how it will implement TLPs at the company level, the next step is simply to practice them. Ideally, FSCs should practice TLPs in conditions as similar to combat as possible. The best opportunity would be at a company-level field training exercise, where the training environment can be tailored for the unit's specific mission or operational environment.

Even if a dedicated company-level training event is not possible, a typical FSC will be busy conducting multiple support missions in any given week. FSCs should treat all of their routine support missions as opportunities to improve their full operations process. Even mundane logistics tasks present training opportunities for the creative FSC commander.

Commanders could assign a leader to conduct TLPs for the next week's command maintenance Monday. The distribution platoon leader could enforce TLPs before every ammunition draw, delivery, or turn-in. The food service section could plan how it will support the next battalion training event with hot chow. The headquarters section could produce an order for the company's next physical fitness test.

The type of mission does not really matter; chances are the junior leaders are already doing some type of mission planning process regardless of the task they have been assigned to complete.

The point here is to enforce the now standardized company planning process and templates and to ensure every leader is completely comfortable with them. Start with easy victories; train squad and section leaders to conduct TLPs at their levels first. Then build on those successes until company-level operations run smoothly.

Focused Training

Units wanting to improve their orders production ability dramat-



Soldiers from G Forward Support Company, 1st Battalion, 63rd Armor Regiment, conduct a company-level rehearsal before a combined arms live-fire exercise during Combined Resolve X in Grafenwoehr, Germany, on April 15, 2018. (Photo by Capt. Russell J. Baker)

ically should adopt a more focused training glide path. A great place to start is the company's reception and integration program for new arrivals. This program, codified in a company-level SOP, will help train new arrivals to understand company standards.

Specific to the company planning process, every incoming Soldier should be taught the basic five-paragraph OPORD and be issued a laminated OPORD template for use in future training exercises. Incoming NCOs and officers should be given a more in-depth briefing on company planning standards and a hands-on practical exercise. Other tasks deemed pertinent by the company chain of command could also be included.

Every training exercise should be thoroughly planned, and company leaders at every level should become accustomed to issuing OPORD briefings and conducting rehearsals. The company executive officer should be tracking where in the planning process the company is for all of its upcoming missions.

During company training events, the commander should practice the

orders process by issuing change-of-mission FRAGORDs to the platoons and evaluating how they conduct planning at their level. The commander should use AARs after every mission to see what parts of the planning process the company needs to improve. This feedback will help the unit revise the TACSOP as needed.

At a minimum, commanders should use the training and evaluation outlines called Prepare an OPORD at the Company, Platoon, or Squad Level (071-326-5626) and Conduct Troop Leading Procedures (71-CO-5100) in order to ensure subordinate units are conducting mission planning to standard. Commanders should regularly conduct TLPs at the company level with the company orders group.

If an FSC commander feels confident in his unit's ability to rapidly produce mission orders, it is highly recommended that he request an external evaluation by either the battalion operations officer or brigade support battalion executive officer. This will keep him honest about his actual level of training readiness and ensure that his planning process will

easily nest with that of both the supported maneuver battalion and the brigade support battalion.

TLPs are a vital part of the operations process for FSCs. Properly executed, TLPs not only assist the FSC commander when planning for a mission but also empower his subordinates. Armed with knowledge about the upcoming mission, NCOs are able to initiate movement and prepare Soldiers and equipment. OPORD briefings give Soldiers a deeper understanding of the plan and increase their confidence.

The teamwork that is necessary to produce an OPORD creates a sense of ownership in the plan and helps subordinates visualize the upcoming mission. But TLPs, like every other collective task, need to be standardized and trained on in order to ensure mission success.

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Put Expeditionary Water Treatment Capabilities Ahead of Advancements

New technology may be promising, but sustainers should focus on enabling expeditionary operations using the Army's current water treatment capabilities.

■ By Master Sgt. Stephen J. Love

In an article published in the September–October 2018 issue of *Army Sustainment*, Maj. Jamie Schwandt touts graphene as the key to the Army's ability to tap into the world's saltwater resources. While Maj. Schwandt is correct that the desalination of water using reverse osmosis (RO) is very energy intensive and expensive, the current RO capability affords the Army unmatched reach and endurance.

By sharing ideas, we, as a force, can evolve and maintain our advantage. But it is imperative to remember that it takes time to develop new technology and often even longer to replace existing systems. For now, the Army should explore a renewed effort on water treatment and emphasize being expeditionary using its current capabilities.

Reliable Reverse Osmosis

The Army has relied on RO since the 1980s. RO provides an average salt rejection rate of 99.4 percent, and it is widely accepted as the best available option to produce high-quality potable water from brackish water and seawater. RO currently allows Army water treatment specialists to purify seawater up to 60,000 milligrams per liter for human consumption.

In his 2011 master's degree thesis, "The U.S. Military's Reliance on Bottled Water During Military Operations," then Lt. Col. James S. Moore expertly outlines many issues that prevent the Army from maximizing its organic water capa-

bilities. He explains that commanders, planners, and Soldiers choose bottled water simply for taste and convenience. Desalinating water with either graphene or existing reverse osmosis water purification units (ROWPUs) will have little effect on the military's demand for bottled water.

When asked about graphene, a senior technical expert from the Tank Automotive Research, Development and Engineering Center (TARDEC) stated, "Most of what we have seen is modeling, theory, or an experiment with a tiny layer of graphene that has shown some water flow and salt rejection but not equivalent to current RO performance."

The facts are that the U.S. military has the ability to desalinate water, and this capability must be protected, exercised, and maintained ahead of future modernizations.

A World Water Crisis

An affordable and efficient means to desalinate water is vital to help shape a more stable world, especially as a world water crisis becomes more imminent. About 71 percent of Earth's surface is covered by water. Unfortunately, only 2.5 percent of that is fresh water, and only 1.2 percent is easily accessible surface water.

Water is considered a renewable resource because of the water cycle. Water never sits still thanks to evaporation, condensation, precipitation, infiltration, and runoff. Like

any other renewable resource, the challenge is keeping the supply in line with demand.

Every aspect of our lives is affected by water, and everything we consume is made of or produced using water. In January 2015, the World Economic Forum announced that the water crisis is the number one global risk based on impact to society (as a measure of devastation).

As world governments push for conservation and responsible use, should the U.S. military be any different? Army planners should understand the importance of transitioning from packaged water operations to bulk water operations when moving through operational phases.

Capabilities and Modernization

A vital aspect of the operational framework is resources. Water is the only commodity that can be organically sourced, produced, stored, and distributed by U.S. service members completely inside a theater.

Additionally, the Army is the executive agent for all land-based water resources. This responsibility is reevaluated every three years for need and effectiveness.

The fulfillment of this responsibility does not lie solely on the Assistant Secretary of Defense for Logistics and Materiel Readiness nor on the Joint Water Resources Management Action Group. This responsibility falls on commanders, planners, and organizational leaders with water assets at every level.

Maintenance

Several factors affect the readiness of our current capabilities and the funding for future modernization. The first is maintenance. Motor pool Mondays are not as effective when it comes to water assets. Honestly assessing and reporting on the readiness of water purification equipment requires what water purification specialists call “wet testing.”

Water equipment has sensors, differentials, and other components that need water to be actively moving through the system to function. This requires a water source. Many units conduct static preventive maintenance checks and services on water equipment, thus reporting inaccurate maintenance statuses. Sometimes these inaccurate statuses are not exposed until a unit needs to deploy in support of a contingency or disaster relief.

In the late 1990s and early 2000s, I was a part of two units that had excellent water maintenance programs, and both were exceptional at water treatment. To be exceptional at water treatment, commanders with water assets have to respect it as not only a capability but also a combat enabler.

A key aspect of maintaining water equipment is establishing an easily accessible water source in garrison. Both of my units did this in different but equally effective ways.

One unit used 3,000-gallon “onion skin” storage bags in its motor pool, and the other had an old warehouse containing a 20,000-gallon bag for raw water. The water was sourced from fire hydrants. (Check with the garrison fire department; most departments have fittings with a check valve, which prevents backflow. The fire department will let you sign for one with a little coordination.) Establishing a water source gave both units an opportunity to test and train on equipment and report accurate maintenance statuses.

One of these units took it a step further and established a rotation

by squad. Every Monday a different squad would roll out and practice setting up for normal operations and long-term shutdown. The following day was spent recovering equipment, researching parts, and completing Department of the Army Form 5988-E, Equipment Maintenance and Inspection Worksheets. This practice trained water treatment specialists to be masters of their craft.

This is in contrast to what happens with water assets in some units today. Water equipment sets stagnate in motor pools across all components while being reported as fully mission capable. This happens more frequently at lower echelons in which water treatment specialists are organized in platoons with other specialties and their training and purpose become secondary.

It is also a good idea to establish a relationship with your Tank-automotive and Armaments Command (TACOM) logistics assistance representative (LAR). The LAR is your unit’s direct conduit to the TACOM Life Cycle Management Command enterprise.

The LAR’s technical expertise can help your unit solve tough maintenance problems and can provide technical advice on TACOM-managed equipment. Being tied into the enterprise could help highlight the increased maintenance demand for aging systems, such as the 3,000-gallon ROWPU, and could drive future demand for modernization.

Training

The next factor is training. Water treatment specialists are required to operate three different systems for water treatment based on echelon. The water they produce is intended for human consumption and meets Tri-Service Field Water Standards.

Many quartermaster specialties require Soldiers to store and distribute commodities. However, water treatment requires Soldiers to understand water reconnaissance,

source selection, production, storage, and distribution, which all have associated equipment. Being such a technical specialty, water treatment requires continual training to reach and maintain proficiency.

The Quartermaster School’s Petroleum and Water Department and the Training and Doctrine Command are working to develop water treatment training that will be available through the Army Virtual Learning Environment in order to increase proficiency.

At the unit level, a lack of training is often blamed on environmental constraints. This is easy to overcome and is usually just a matter of educating the installation environmental office about the treatment process.

From there, it is typically a negotiation about what chemicals are used and when. Merely allowing wastewater naturally to filter across terrain instead of letting it flow directly back into the source is the kind of concession that will allow a unit to complete its training.

Another purported barrier to training is the associated costs of chemicals and filters. A great example is fuel. Fuel is accounted for and issued using fuel keys that are assigned by Department of Defense activity address code. Water treatment chemicals and filters are no different; they need to be forecast and budgeted. They also need to be managed and protected.

For example, if the microfilters for the tactical water purification system (TWPS) are appropriately cleaned and preserved according to the technical manual’s instructions, they can last 10 years. If not, their life span under certain conditions can be less than a year. When chemicals and filters are used as justification for not training, it often indicates a broader management problem.

Exercising water purification equipment during unit-level training is excellent, but planners at all levels should understand their roles in ensuring that the Army’s treatment

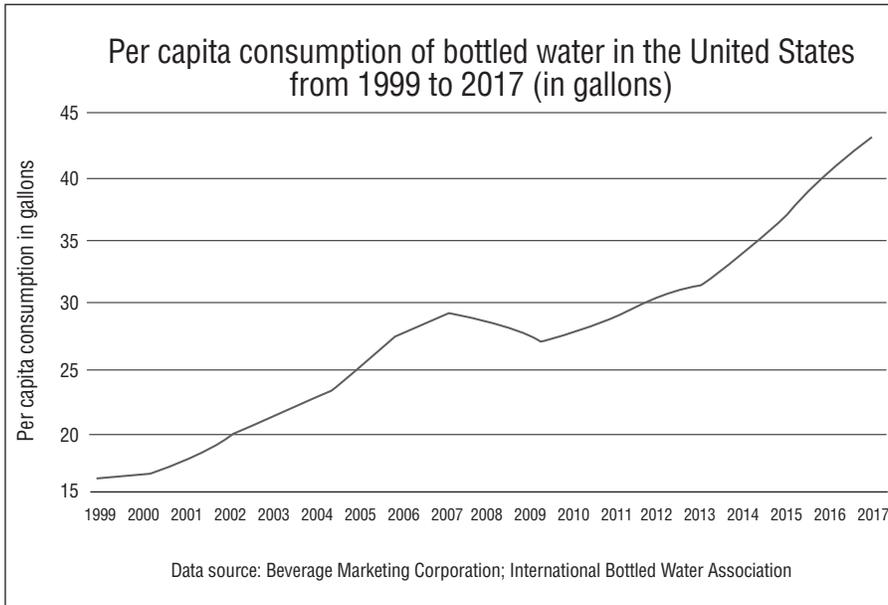


Figure 1. This information from the World Bottled Water Association shows how U.S. water consumption increased from 1999 to 2017.

capability remains expeditionary. The justification for contracting water for major exercises is often tied to the requirement for preventive medicine personnel to test the water. For continental U.S. exercises, it is easy to coordinate with preventive medicine personnel for raw water characterization.

Overseas exercises are a little more challenging because the Army Institute of Public Health will recommend raw water characterization ahead of the engagement. One reason for the additional testing overseas is that many partner countries lack an organization equivalent to the Environmental Protection Agency. Planners should not let this be a barrier or justification to not include water treatment capabilities in major exercises.

Additionally, even though the United States has robust water treatment and distribution networks, not all of our allies and partners have this luxury. Sharing our water treatment capabilities through partner engagements can have a huge effect on shaping operations.

Current and Future RO Systems

The Army’s current RO systems

were the result of government-funded research that led to the fielding of ROWPUs in the 1980s. The current systems are designed at echelon to provide potable water from raw water sources globally.

As treatment technology has changed, the Army’s equipment has changed as well. The original RO systems used traditional multimedia and cartridge filter pretreatment. The newer systems use microfiltration and ultrafiltration.

The next system that will increase the Army’s capacity is the 3,000-gallon-per-hour TWPS. This TWPS was designed in house by TARDEC and will take advantage of technological advancements while mitigating some of the challenges of the current 1,500-gallon-per-hour TWPS.

The new system will go back to conventional pretreatment, which reduces complex electronics and the costly repercussions of not maintaining things such as the microfilters. Some additional enhancements include an energy recovery turbocharger, anodized aluminum couplings, and a manual operation capability.

Unfortunately, it is unclear when

the system will be produced. According to the Product Manager Petroleum and Water Systems, the system has faced some challenges over the past couple of years mostly revolving around funding.

When a capability like water treatment loses priority and fades from focus, you have to ask why. Could a major contributor be our growing demand for bottled water?

Figure 1 depicts the U.S. per capita consumption of bottled water from 1999 to 2017. Published by the World Bottled Water Association, this chart speaks volumes about how the focus on water treatment has faded over the past 20 years. The Army has allowed a growing desire for convenience to affect its water treatment capability and its ability to be expeditionary.

As TARDEC evaluates and considers new technology such as graphene, sustainers should have a renewed emphasis on being expeditionary using current capabilities. Lethality encompasses much more than fighting capability and is a demand of all warfighting functions. As sustainers, we cannot lose sight of that.

The challenge of desalinating water will continue to evolve. The truth is the Army currently has a family of systems designed by echelon that gives it unmatched reach and endurance. Modernization does not always mean new technology or materials. Sometimes it means looking back at previous capabilities and reconsidering their benefits.

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Command Relationships Between Corps and ESCs

Broken, unrealistic, and in some cases, mutually exclusive doctrine undermines the expeditionary sustainment command's role to set sustainment conditions ahead of maneuver decisions in a decisive action conflict.

■ By Maj. Daniel J. N. Belzer

Sustainment doctrine that delineates the relationship between the expeditionary sustainment command (ESC) and theater sustainment command (TSC) is incompatible with decisive action. Army Doctrine Publication 4-0, Sustainment, defines ESCs as “force pooled assets [that] are under the mission command of the TSC.”

Army Techniques Publication (ATP) 4-94, Theater Sustainment Command, describes the TSC as a fixed headquarters that can deploy an ESC in specific circumstances. Even more confusing, Joint Publication 4-0, Joint Logistics, describes an ESC as a deployable subset of a deployable TSC that “provides a regional C2 [command and control] capability until the TSC can assume that function.”

That these manuals barely overlap and in some cases establish two mutually exclusive conditions leaves logisticians to lean on unit-level standard operating procedures instead of published doctrine.

This article argues that an operational control (OPCON) relationship between the ESC and corps is the best answer for decisive action. The 593rd ESC validated a way ahead for such a relationship that leveraged experiences from exercises across the Pacific and the ESC's relationships with both I Corps and III Corps.

Doctrine Versus Reality

Sustainment doctrine defines ESCs as extensions of TSCs, but it does not

acknowledge that each ESC has a very different mission set and relationship with its higher headquarters. This oversight extends to the roles of the ESC and TSC in both decisive action and counterinsurgency operations. This suggests that the support, security, and coordination requirements are equivalent in both environments; but actually, they are demonstrably different.

Nesting ESCs under TSCs in doctrine but not in practice requires ESCs to alter what they normally would do in order to accommodate exercises that loosely model disjointed doctrine.

For example, the doctrinal relationship would require that ESCs communicate and coordinate through a TSC before coordinating directly with a corps, despite the fact that they are most commonly co-located with and assigned in direct support of a corps or joint task force (JTF) headquarters. In this scenario, having the TSC function as a theater-level middleman is neither effective nor efficient.

Redundancy Versus Waste

The cardinal rule for achieving supply chain efficiency is to reduce waste. Waste comes in many forms, but Soldiers are most often wasteful through duplication of effort. Some leaders will take it upon their organizations to complete duplicative efforts faster, rather than eliminating overlap and deliberately defin-

ing roles and responsibilities.

Other leaders identify duplicative efforts and assume that they have an “access problem.” Junior and midlevel leaders need access to decision-makers; insufficient contact between “doers” and “delegators” often results in the redoing of tasks previously completed by others.

The modern answer to this problem, often called “flattening the leadership pyramid,” is similar but insufficient. Flattening the pyramid in sustainment is easier said than done, especially in cases in which a TSC, on an infrequent basis, has assets that are enormously valuable.

In the case of the 593rd ESC, Warfighter Exercise (WFX) 17-04 highlighted the need to revise the command relationship between the ESC and the corps headquarters. This revision was a collaborative effort between the ESC and TSC staffs and effectively managed overlaps in decision-making and battle rhythm events.

Distribution for Decisive Action

Decisive action situations present critical distribution vulnerabilities. Materiel and commodities are available for units to use, but delivering them in advance of need—under extraordinary stress and in fluid environments—is the difference between winning and losing at the operational level.

Conversely, counterinsurgency op-

erations rely on fixed facilities that are arrayed to limit the length of lines of communication and built to maintain larger, fixed stocks. Units do not have the burden of maintaining their organic mobility.

“Momentum” and “initiative” do not have the same meaning in both cases. Instead, units prioritize responsiveness so that they react to situations with the correct materiel, commodity, and Soldier specialty.

Counterinsurgency represents a critical vulnerability in materiel management, not distribution management. Distribution is to decisive action what materiel management is to counterinsurgency.

Doctrine for a Different Fight

The goal for TSC-ESC relationships outlined in doctrine was to model those of a geographic combatant command and a JTF. Because TSC and ESC doctrine was written for counterinsurgency operations, it matched that operational environment. It is not relevant to decisive action, which relies on rapid planning and decision-making.

Changing the doctrinal command relationships is the fastest and most reversible way to validate that the change achieves stated goals. If ESCs are not more anticipatory and responsive under the new arrangement, the Army could revert to and strengthen the doctrinal command relationships and alter how the ESCs are manned and deployed.

Doctrine defines the ESC as a forward element of the TSC, similar to the way a joint deployment and distribution center functions as a forward element of the U.S. Transportation Command (US-TRANSCOM). However, doctrine does not match reality.

There are nine ESCs in the Army; three are active component and six are reserve. Each active component ESC is co-located with a corps. No ESC is aligned, allocated, or assigned to a TSC, nor does a TSC fulfill the staff functions for long-term planning, which were deliberately omit-

ted when ESCs were first created.

The fiscal year 2018 modified tables of organization and equipment for each ESC acknowledged this shortfall and reorganized officer billets to create a G-5 section. By altering the modified tables of organization and equipment, the Army has already acknowledged the flaw in the original doctrine.

Relationships During Phases

The maneuver responsibilities in doctrine are fixed and should remain so. The role of a corps is to provide mission command as a JTF headquarters in order to execute operations on behalf of the geographic combatant commander. The JTF commander retains his responsibility to exert influence over a geographic combatant command subset known as the joint operations area.

The TSC retains responsibility for setting the theater on behalf of the geographic combatant commander. This includes executive agency responsibilities, but the TSC is a strategic enabler, not an operational integrator. The role of integrating and executing sustainment to JTF and host-nation forces in a joint operations area falls to the ESC.

When the primary sustainment functions are setting the theater (phase I) and joint reception, staging, onward movement and integration (phase II), the ESC should fall under the OPCON of the TSC and have a direct support relationship to a corps.

During phase III, where the primary sustainment functions are to build operational reach and maintain endurance, the relationships should change. The ESC should be moved under OPCON of the corps for the duration of phase III and IV and revert to TSC control for phase V when retrograding personnel, equipment, and materiel is the primary sustainment focus.

This arrangement would allow the TSC to influence unit arrival and departure schedules in concert with TRANSCOM and better meet the

requirements of transitioning a theater back to host-nation control.

Placing ESCs with Corps

Altering doctrine now represents an opportunity to unify sustainment relationships. There is no argument against a BCT retaining OPCON of a brigade support battalion. There is little argument over whether division commanders have or retain OPCON of divisional sustainment brigades.

Placing ESCs under the OPCON of corps is the most logical next step in unifying sustainment relationships. This arrangement best serves maneuver and sustainment organizations by avoiding confusion, improving access to corps enablers, clarifying planning horizons between the ESC and TSC, and codifying the decision authorities that JTFs should delegate to ESCs.

The maneuver community has valid angst and confusion regarding the differences between the command and support relationships under the current TSC-ESC architecture. Combat formations want to know how the change will augment the support they receive. Maneuver organizations deserve the simplest concept of support that the sustainment enterprise can provide. Applying and codifying the brigade and division relationships at the corps echelon is the simplest and most intuitive way ahead.

Pragmatically, BSB support operation sections (SPOs) execute sustainment planned by a brigade combat team S-4. Sustainment brigade SPOs enable division G-4s and are under the OPCON of their divisions. By extension, ESC SPOs enable corps G-4s and should be under the corps commander’s OPCON.

Operationally controlled units have better access to corps enablers. A TSC cannot provide mission command for maneuver or combat support organizations in a JTF area. As a result, all of the intelligence, surveillance, and reconnaissance assets, security, route clearance and

engineering, medevac, and aviation assets are coordinated through the JTF main or forward command post.

The current arrangement requires ESCs to forward their requirements through the TSC and then laterally to the JTF, creating a middleman without the tactical or operational context to prioritize sustainment and maneuver requirements with the JTF commander.

The original alignment between the TSC and ESC suggested a pass-back support relationship that only exists in specific cases. During phases I and II, while the TSC is focused on setting the theater and the ESC is preparing to begin reception, staging, onward movement, and integration, the pass-back relationship is essential. Once phase III begins, the TSC should assume the role of a strategic sustainment partner and leave execution to the ESC.

The TSC retains coordinating authority with the ESC, leveraging its relationships and processes with USTRANSCOM, the Army Materiel Command, and the Army Medical Department and their subordinate commands to resource JTF requirements.

The ESC commander communicates the JTF commander's sustainment priorities to the strategic sustainment enterprise. Once the TSC sets the theater during phase II, OPCON should be transferred from the TSC to the corps. This is a key sustainment task prior to beginning phase III.

Corps OPCON in Practice

Empowering the ESC commander to speak to the industrial base and the TSC with the JTF commander's authority requires delegation in decision-making. An OPCON arrangement codifies the relationship between the JTF and ESC commanders, which directly influences which decisions are delegated and which are withheld.

WFX 17-04 highlighted that this arrangement is especially critical to

intertheater deliveries. During the exercise, the ESC commander was given the choice between downloading ammunition required to maintain coalition forces land component command deep fires and the critical class VII (major end items) required to regenerate combat power. This decision was unnecessary because the ESC commander was delegated as the authority to delay or anchor arriving vessels to

of the ESC and TSC is both ineffective and inefficient and requires revision.

The JTF gaining OPCON of the ESC at the end of phase II is a critical event equivalent to permitting theater sustainment to cross a line of departure. The OPCON relationship improves communication and coordination between ESC and corps-level staffs, alleviates confusion over roles and responsibilities

Command and support relationships between sustainment and maneuver organizations may be among the most contested discussions in the post-modular Army. Discussion and disagreement are critical to matching relationships to the problem sets.

prevent a berthing conflict.

Given the tactical and operational situation, the ESC commander decided to delay a vessel carrying items of low value in favor of berthing two carrying critical items. This decision may have been unpopular at the strategic level where the delayed cargo may have been of specific value to another JTF component.

But empowering the ESC commander to make the decision was ideal; it prevented a tactical halt during a critical step of phase III and did not create a distraction for the JTF or TSC commanders.

The OPCON arrangement between the JTF and the ESC encouraged the JTF commander to delegate decision authority prior to the sustainment rehearsal.

Command and support relationships between sustainment and maneuver organizations may be among the most contested discussions in the post-modular Army. Discussion and disagreement are critical to matching relationships to the problem sets.

During phase III operations, especially in a decisive action environment, the doctrinal relationship

in the concept of support, improves access and prioritization of corps-level enablers, and prevents the TSC from becoming regionally focused.

This arrangement meets the original intent of ATP 4-94, which states that the ESC specifically exists to provide a TSC commander with the "regional focus necessary to provide operational-level support to Army or JTF missions."

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Brig. Gen. Jack Haley, Col. Dennis Kerwood, retired Col. Dave Saffold, Capt. Jon-Michael King, and many other members of the 593rd ESC contributed to this article.

From Structure in Peace to Ready for War: A Vision for Movement Control

Movement control will be the key to supporting large-scale combat operations, and the Army must optimize its organizational structure to better execute it.

■ By Capt. Alexander Brubaker

Ask logisticians if movement control works, and many will say it does not. Ask how it works, and you'll get many different answers.

The Army's support of contingency operations from forward operating bases using contracted assets has altered how we think about movement control. As the Army shifts toward large-scale combat operations (LSCO), it must ensure the force is optimally designed and structured to manage distribution networks to be ready for war. The risk associated with "figuring it out" on the battlefield against peer threats will be high. The Army must optimize this critical capability now.

Organize During Peace

The Army is manned, trained, and equipped to fight and win our nation's wars. It creates its units with that mentality and designs movement control to support the fight during major combat operations. It helps execute key operations like deployment, reception, staging, onward movement, and integration, replenishment, resupply, redeployment, and other movements.

How the Army organizes in peacetime is of secondary importance, yet it can play a pivotal role in warfighting. Why doesn't the Army organize at home station the way it will fight in LSCO?

This article advocates for a new vision of movement control implemented with the following low-cost organizational solutions designed to enhance readiness and improve effectiveness in support of warfighters:

- Redesign movement control teams (MCTs) to grow leaders and enable movement control organizational changes.
- Reorganize movement control battalions (MCBs) and MCTs to improve warfighter support during LSCO.

Redesign MCTs

The first step in improving movement control is to redesign MCTs. This will allow the Army to fix the military occupational specialty (MOS) 88N (transportation management coordinator) grade distribution, grow better leaders, enhance the mobility warrant officer community, and most importantly, enable a task

organization change for movement control forces.

MCTs are small detachments of 21 personnel designed to expedite, coordinate, and supervise the various transportation nodes and modes in an assigned area. They are designed to operate as four teams that can execute various mission sets: intermodal, area, movement regulation, documentation, and division support. To put it simply, they help manage the distribution network for whomever they support.

The current MCT design has resulted in some personnel structure challenges. The Army strives to have a ratio of roughly 51 Soldiers to 49 noncommissioned officers (NCOs). In the grade cap distribution matrix in

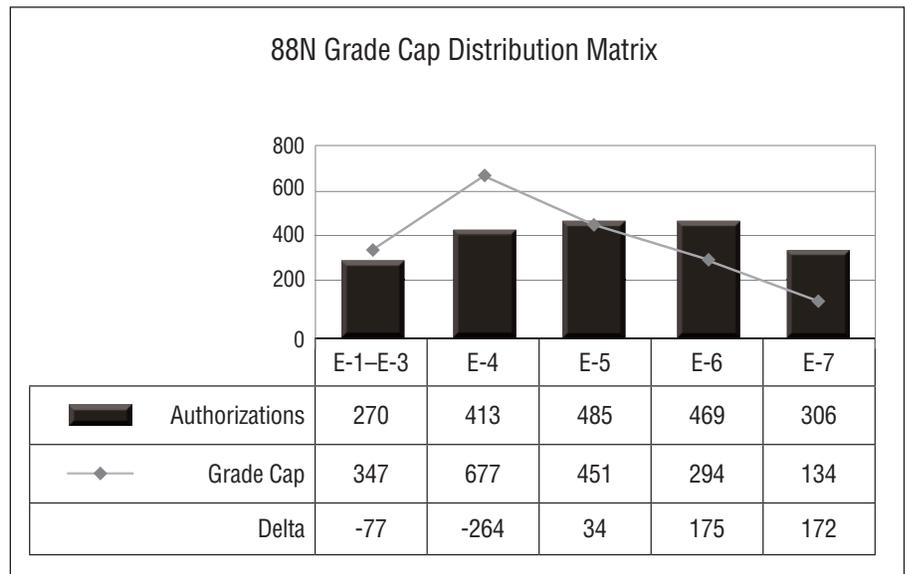


Figure 1. In this grade cap distribution matrix, the line indicates how many military occupational specialty 88N (transportation management coordinator) Soldiers are authorized at each grade, and the bars depict the number of authorizations the Army currently has at each grade.

figure 1, the line indicates how many 88Ns are authorized at each grade, and the bars depict the number of authorizations the Army currently has at each grade.

There are a couple negative consequences to the lack of balance in the Army's 88N structure. First, the 88N field lacks a "bench" from which to promote Soldiers. Specialists can make sergeant with little effort because the 88N field structurally needs more sergeants than specialists. Additionally, 88N specialists get little time as leaders because they have one or zero subordinates. This results in junior Soldiers with little experience in their technical field or in leading troops before promotion.

Second, the Army does not require individual MOSs to be balanced, but it does require balancing in the overall 88-series career field. The NCO overages in the 88N population means other 88-series MOSs must have fewer NCOs than they should, resulting in tougher promotion numbers. For example, the average pin-on time to sergeant first class for an MOS 88M (motor transport operator) or MOS 88H (cargo specialist) is 14.3 and 15.4 years respectively; for 88Ns, it is 13.1 years.

In order to grow better leaders, NCOs in the MCTs need time to lead Soldiers and hone their craft. One way is to change the proportion of NCOs to Soldiers. The typical squad leader is a staff sergeant with two team leaders who each have a few Soldiers. This enables NCOs to receive missions, delegate tasks to subordinates, then lead and follow up to ensure completion.

Developing leadership qualities requires dealing with both positive and negative behavior from Soldiers and taking time to teach, coach, and mentor.

Balance the Field

In today's Army, there are many competing priorities. Achieving the growth of Soldiers in a unit is incredibly difficult. It requires force designers to work within their existing personnel structure for redesigns.

One way to achieve the aforementioned desired effects and improve movement control is proposed in figure 2 on page 52. This design would reduce the number of MCTs from 38 to 20 in the active component and from 90 to 48 in the reserve component. It also allows excess spaces to be re-allocated to growing the MCB's staff, giving it vital capability for managing movements in LSCO.

The proposed design puts the sergeant first class in charge of an element that is roughly the same size as the elements their peers in other companies lead. It allows a staff sergeant to lead a squad of 10 Soldiers. It grows junior Soldiers and reduces the number of NCOs, which helps to fix some of the grade distribution issues in the 88N structure. It also leaves some leftover authorizations that can be used to supplement the MCB staff.

This design also introduces mobility warrant officers into the MCTs. It provides a great opportunity for young warrant officers to get their feet wet and have a chief warrant officer 3 or 4 mentor them prior to becoming a brigade mobility officer.

But more importantly, as officers focus on learning all the disciplines of the sustainment warfighting function, the Army's functional expertise will be more frequently provided by the warrant community. Institutional instruction is limited, requiring most new mobility warrant officers to learn through the self-development and experience domains. A logical entry learning point to gain distribution experience is an MCT.

Ask every MCT or MCB commander what person they need most for their units and the unanimous response is a supply specialist. MCTs will undoubtedly support movements across the corps and theater areas of operation, and managing equipment that is spread across multiple locations will become a more challenging endeavor. Now is the opportunity to provide a dedicated supply representative to their formations.

The original MCT was designed to

split into four sections to operate at different nodes. The redesign would not change the fundamental operating concept; however, a staff sergeant would lead a 10-person squad with two four-person sections each led by a sergeant.

This increases the total number of teams capable of operating at nodes from four to six per MCT. A sergeant could be in charge of a smaller node (trailer transfer point, main supply route checkpoint, etc.), while a more senior person could operate the larger nodes (airport, seaport, etc.) The team can be broken down further depending on the area of operations and mission set. As the number of MCTs decreases, the area they cover must increase correspondingly. The new unit will be plenty capable to execute the expanded requirements.

Reorganize MCBs and MCTs

The redesign of MCTs gives the Army freedom of action to implement a new task organization for movement control. It allows the Army to prepare for LSCO by posturing forces in peace like they will fight in war. This will increase MCTs' deployment readiness by giving them realistic and focused training repetitions.

The Training and Doctrine Command's draft version of an echelons-above-brigade (EAB) concept states that the Army must prepare to operate dispersed. It says, "To achieve depth, simultaneity of action, and ensure accomplishment of campaign objectives when operating dispersed, EAB headquarters must coordinate shaping and sustaining efforts, conduct intelligence synchronization, optimize task organization and command and control relationships."

The concept also discusses that EAB units must manage terrain and direct movements. "Past efforts to fight dispersed over wide areas (the Pentomic Army of the late '50s and the Cold War Army in Europe) disclosed considerable problems of coordination and manning. Specifically, the Cold War Army found that ter-

Proposed Changes to Movement Control Team Authorizations					
Current MCT Personnel		AC Authorizations (38 MCTs)		RC Authorizations (90 MCTs)	
Captain	1	Captain	38	Captain	90
Lieutenant	2	Lieutenant	76	Lieutenant	180
Sergeant First Class	1	Sergeant First Class	38	Sergeant First Class	90
Staff Sergeant	4	Staff Sergeant	152	Staff Sergeant	360
Sergeant	4	Sergeant	152	Sergeant	360
Specialist	5	Specialist	190	Specialist	450
Private/Private First Class	4	Private/Private First Class	152	Private/Private First Class	360
Total	21	Total	798	Total	1890
Proposed MCT Personnel		Proposed AC Authorizations (20 MCTs)		Proposed RC Authorizations (48 MCTs)	
Captain	1	Captain	20	Captain	48
Lieutenant	1	Lieutenant	20	Lieutenant	48
Warrant Officer 1	1	Warrant Officer 1	20	Warrant Officer 1	48
Sergeant First Class	1	Sergeant First Class	20	Sergeant First Class	48
Staff Sergeant	3	Staff Sergeant	60	Staff Sergeant	144
Sergeant	6	Sergeant	120	Sergeant	288
Specialist	13	Specialist	260	Specialist	624
Private First Class	12	Private First Class	240	Private First Class	576
Total	38	Total	760	Total	1824

Figure 2. This proposed way to reorganize movement control teams (MCTs) would decrease the number of MCTs in both the active and reserve components and improve the ratio of Soldiers to noncommissioned officers.

rain management, movement control ... all required intense command and staff attention.”

The Army must reorganize its logistics constructs designed to operate in counterinsurgency environments into the critical enabling capabilities warfighters need to fight and win on future battlefields against peer competitors.

To prepare for war, the Army must realign its movement control structure. (See figure 3 on page 53.) Numerous I Corps after action reviews indicate that the struggle to manage movements during exercises and deployments could be remedied by moving one of the two MCBs currently under the XVIII Airborne Corps. The 53rd MCB could be moved under a command implementation plan and relocated to Joint Base Lewis-McChord (JBLM), Washington. This action is already underway at the Forces Com-

mand and should be approved as soon as possible to provide crucial support to the I Corps mission.

This would also have a secondary effect of the 53d MCB supporting the only major power projection platform on the West Coast when not deployed or on deployment cycle. Both Fort Bragg, North Carolina, and Fort Hood, Texas, each have MCBs providing support when available to the eastern and central power projection platforms, while JBLM continues to go without.

JBLM is the most likely installation to deploy large-scale forces on short notice to counter threats in the Indo-Pacific Command area of responsibility. It is also one of seven primary mobilization force generation installations, which serve as reserve component mobilization sites. I Corps will continue to be hindered in coordinat-

ing the preplanned or rapid deployment of forces to support geographic combatant commander needs until it is resourced an MCB.

To make this new task organization of MCBs combat effective, the Army must relook how it assigns MCTs. There is no discernible logic to the Army’s current emplacement of MCTs and how they will help manage our transportation networks if we were to mobilize for war.

Forward-stationed MCTs are asked to manage large areas while many continental U.S. MCTs remain underutilized. Some installations have four MCTs, some have two, and others have one. The XVIII Airborne Corps has 15 MCTs in its organizational hierarchy, but I Corps has one. How can we best standardize and align units to optimally train and support the Army?

The Army must align these newly designed MCTs to units where their support can be best employed: divisions and forward-deployed geographic combatant commands that support contingency operations, exercises, and extended or heavily used lines of communication. These areas are considered the most likely to host conflict.

Attach MCTs to MCBs

To truly train as we fight, MCTs should no longer be attached to special troops battalions or combat sustainment support battalions under sustainment brigades. They must be attached to MCBs.

The dispersion of Soldiers across many states adds challenges, but sustainment forces already operate this way across numerous commands. It can and should be done. Additionally, MCBs should not be assigned to sustainment brigades but rather to ESCs or TSCs. This is how it will look in war, and this is how it should look in peace.

MCBs know best how to employ MCTs. They speak the technical language, know the mission, and know the challenges associated with managing MCTs. They provide the best opportunity for MCTs to get great training. As a direct plug into the ESC, the MCB understands the major movements and missions in its area of responsibility and can employ its MCTs to assist. The MCTs gain valuable experience by performing real-world support missions.

Movement control is inherently dispersed and promotes decentralized execution much like the EAB concept dictates. Let MCBs manage MCTs in different states to become proficient in what will certainly be a real-world scenario.

With this alignment, MCTs would habitually support their designated divisions or Army service component command MCB, and MCBs would support their designated corps or higher command. It would enable a clear and consistent movement control hierarchy that is customer friendly.

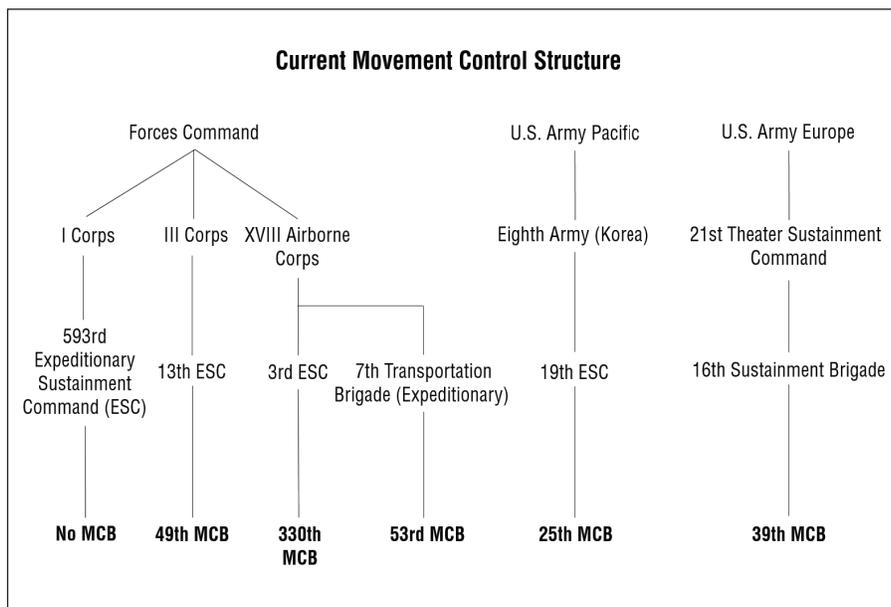


Figure 3. This chart depicts the current task organization of movement control battalions (MCBs) in the Army. The structure could be improved by moving one of the XVIII Airborne Corps' MCBs to I Corps.

What we must prevent is MCBs getting turned into generic sustainment battalions. This distracts from their core mission of providing in-transit visibility, coordinating transportation assets, and providing command and control of MCTs. The MCB staff simply is not built to support a large number of troops.

It is too easy to think of an MCB as another combat sustainment support battalion and use it as such. This changes its mission from controlling movement to executing sustainment missions. At best, this splits the MCB's focus so that it does neither mission as well as it could.

Field Manual 3-0, Operations, describes a clear shift back to LSCO in the Army's warfighting strategy. The Army's distribution network is vast and complicated, and experts in its use will be a valuable commodity on the future battlefield. Movement control will be key in supporting LSCO, and the time is now to optimize the Army's organizational structure to better execute it.

Movement control requirements have been captured and are repeatedly emphasized in the new Field Manu-

al 3-0. The requirements are heaviest within the support areas and their command posts. Now, more than ever, it is critical to get movement control right. The Army must redesign and reorganize to best execute movement control.

Movement control is critical in both peace and war. It is long overdue for a comprehensive reorganization. The Army does not design units and task organization to improve garrison operations, but it does make changes to improve warfighting capability for LSCO.

This proposal provides the opportunity to do both. It will strengthen training, relationships with supported units, and the Army's ability to execute the core tasks of movement control in the next fight.

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Lt. Col. Matthew Reynolds, the commander of the 703rd Brigade Support Battalion, 2nd Armored Brigade Combat Team, 3rd Infantry Division, briefs his unit on Oct. 19, 2018, at Fort Stewart, Ga., about the brigade's mission at the National Training Center. (Photo by Pfc. Devron Bost)