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DECISIVE ACTION TRAINING ENVIRONMENT AT THE JRTC, VOLUME X

LESSONS AND BEST PRACTICES

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Decisive Action Training Environment at the Joint Readiness Training Center, Volume X

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Foreword

(U) The decisive action training environment (DATE) was designed to capture lessons and best practices from the past decade of war and incorporate them into future unified land operations against a near-peer enemy. Some changes in DATE are dramatic, such as joint forcible entry (JFE). Some are less dramatic, but no less important, in the effects they have on a rotational training unit (RTU). DATE is a moving fight on an ever-changing battlefield; anticipating transitions is fundamental. Integration of enablers and common requirements are equally basic. What worked in a decade of stability operations may need adjustment when it comes to integrating into a DATE scenario. Synchronization of mission command, sustainment, and protection in a movement-and-maneuver fight often is a struggle.

(FOUO) This newsletter looks at the challenges of mission command under near-constant transition. Brigade command post (CP) trends show that without a thoughtful, practiced design, a brigade CP suffers when it is not ready for such transitions. DATE is a fight by phases and an S-6 (information management) nightmare unless those transitions are addressed via warfighting function (WfF) and priorities of work. Sustainment operations also must concentrate on key functions in a moving fight; getting critical tasks right mitigates challenges by less critical issues.

(FOUO) Integration of WfFs and enablers similarly requires adjustment. Intelligence enablers such as tactical unmanned aerial systems or human intelligence remain valuable in DATE. This integration also requires adjustments from stability and counterinsurgency operations to a decisive action environment; medical evacuation planning and execution; and personnel recovery, training, and operations.

(FOUO) Synchronization at all levels also changes. A synchronization matrix in Afghanistan might last for weeks. A company commander in a DATE is lucky if he can synchronize his operations and intelligence to meet the challenges of the next 24 to 72 hours. Therefore, companies must exercise effective troop leading procedures through established standard operating procedures to avoid chaos in the company's operations.

Paul P. Reese
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Chapter 1

(U) Brigade Command Post Trends from Battle Staff Observer-Coach/Trainers at the Joint Readiness Training Center

CPT Brady Powell and SSG Mathew Uptegrove

(FOUO) As observer-coach/trainers (OC/Ts) at the Joint Readiness Training Center (JRTC), we provide feedback and support to our rotational counterparts incorporating our own operational experiences and, more importantly, coaching that is well-grounded in Army doctrine. We observe many successes and innovative solutions from all rotational units that come through JRTC; however, as OC/Ts in the brigade mission command task force, we see brigade staffs routinely struggle with one of their most fundamental functions: to establish and operate an effective brigade command post (CP). Three of the most common observations causing this friction include the following:

- Poorly defined roles and responsibilities within the CP.
- Poorly designed and controlled CPs.
- Lack of detailed planning for transitions of authority between the main CP, tactical CP (TAC), command group, and other CPs as operations progress.

(U) The intent of this chapter is to inform the rest of the force of these identified observations and to promote self-reflection and professional discussion among current and future brigade combat team (BCT) leaders.

(FOUO) Poorly Defined Roles and Responsibilities Within the CP

(U) There is an early scene in the 1970 film "Patton" in which the newly appointed commander of II Corps arrives at his headquarters in North Africa and finds a Soldier sleeping. Patton wakes the Soldier roughly and the general's aide asks him what he is doing. The Soldier responds, "Trying to get some sleep, Sir." Patton commands: "Get back down there, son. You're the only S.O.B. in this headquarters who knows what he is trying to do."[1]

(U) Know Your Job and Do It Well

(FOUO) At all levels, the Army is a very team-centric organization. For any team to excel at the highest levels, whether that team is a professional football team, a race-car pit crew, or a light infantry rifle squad, every member of the organization needs to know exactly what is expected of him as an individual. When this principle is not followed and members of the team do not have a rock-solid understanding of their place in the organization, the team can never reach its full potential. The OC/Ts observed this issue with brigade staffs at the JRTC time and again. Soldiers and key leaders alike do not have a strong grasp of their role within the organization and are not confident in what they are expected to oversee and/or execute.

(U) What Is It You Would Say You Do Here?

(FOUO) Whereas doctrine clearly defines the roles and responsibilities for rifle squad leaders, platoon sergeants, company commanders, etc., doctrine is ambiguous when it comes to providing

direction for staff officers. Field Manual (FM) 6-0, *Commander and Staff Organization and Operations*, provides general guidance for staff officers and specific information for coordinating staff (i.e., the S-1, S-3, etc.) and selected special staff officers. What it does not do is address the Soldiers and leaders running the day-to-day operations of the CP and utilizing the multitude of digital and analog mission command tools found in a modern BCT CP.[2]

(FOUO) For example, the chief of operations (CHOPS) is one of the most important individuals on any operational staff. Typically the CHOPS is responsible for managing transitions between the plans and current operations (CUOPS) integration cells, as well as acting within his delegated authority to make decisions on the CUOPS floor. However, as this position is not specifically allocated in the BCT's modified table of organization and equipment (MTOE), no roles and responsibilities are defined in current Army doctrine. CHOPS responsibilities are based on commonly utilized tactics, techniques, and procedures (TTPs). In fact, no current Army doctrine describes the roles and responsibilities of the CHOPS, battle captain, battle noncommissioned officer (NCO), or operations sergeant major (SGM). While this lack of published doctrine is frustrating for first-time staff officers and doctrinally focused OC/Ts, many argue that this ambiguity is by design, intended to give the commander and chief of staff, the unit's executive officer (XO), the flexibility to mold the organization to best fit the mission, environment, and personalities as the situation dictates.

(U) Make a Decision. Write it Down. Call it an SOP. Publish it.

(FOUO) Should a commander want to authorize his CHOPS to dynamically re-task assets per operational priorities and rules of engagement, that decision is doctrinally correct. If the commander elects not to empower the CHOPS and instead gives that authority to the S-3, the XO, or retain it for himself, he is equally correct by doctrine. FM 6-0 states, "Trained and trusted staff members, given decision-making authority based on the commander's intent, free commanders from routine decisions. This enables commanders to focus on key aspects of operations."[3] Whatever authority the commander chooses to delegate to his subordinates, everyone on the staff must have full confidence in knowing with whom different authorities and responsibilities reside. This can be achieved by adding a modified decision authority matrix (DAM) to the unit's CP standard operating procedure (SOP).

(U) When You Make Assumptions, You Make …

(FOUO) Similarly, if the battle NCO is responsible for maintaining both a digital and an analog common operational picture (COP), he needs to be told that is one of his specified tasks before a JRTC rotation or operational deployment. While this seems like an obvious implied task, it is easily the most common mistake seen, rotation after rotation. Brigades are encouraged to establish clear tasks, conditions, and standards for all individuals in the CP and to incorporate the tasks/conditions/standards into a published CP SOP or terms-of-reference document, but by the same token, that SOP must be a living document and not a cumbersome, multi-volume compendium that no one will actually use. Without a detailed and well-rehearsed SOP covering the roles and responsibilities of all CP personnel, Soldiers and leaders operate under assumptions and best guesses, leading to confusion, frustration, and inefficiency across the brigade.

(FOUO) Poorly Designed and Controlled CPs

(FOUO) Almost everyone has seen a submarine movie. The commander looks through his periscope and issues orders. The chief of the boat repeats them quietly. The cook never walks

in to ask about the evening menu. No one interrupts the operational drama. While this is how it plays out in Hollywood movies, it is rarely so efficient at the JRTC. Another recurring trend observed with most rotational units is the need to streamline the form and function of the CP.

(U) Location, Location, Location

(FOUO) Within the CP, little emphasis is placed on form and function — this is often treated as an afterthought of the BCT in garrison. Nearly all of the most common battle drills run by a BCT require multiple WfF cells to work together closely, benefiting from proximity or the ability to share systems that support one another. For example, keeping a fires cell closely tied into the joint terminal attack controller (JTAC), brigade aviation element (BAE), and air defense and airspace management (ADAM) cells streamlines the fire mission/counter-fire process. In practice, however, units regularly split up these elements out of habit or convenience. Often, this decision is made by the S-3 or operations sergeant major based on the failure to properly plan and rehearse the establishment of the main CP.

(U) Default Settings May Be at Fault

(FOUO) A CP layout that worked in Afghanistan or Iraq may not be the ideal solution in a decisive action training environment (DATE). Leaders attempt to replicate CP layouts they have used in the past with little regard for the constraints of the current situation. Many times they execute whatever legacy design is drawn up in their unit's unrehearsed SOP. Just as there is no doctrinal solution for establishing roles and responsibilities within the brigade CP, neither is there a doctrinally-prescribed layout for CPs. Therefore, it is imperative that the design of the CP in general and the CUOPS floor in particular (an operation that will have third- and fourth-order effects down to the rifle squads and fire teams throughout the brigade) be given enough thought prior to execution.

(U) Quiet in the TOC!

(FOUO) By doctrine, the CUOPS floor is the focal point for the execution of operations.[4] It is where the COP is maintained, where reports from subordinate units are received, and where decisions are made that directly affect ongoing operations throughout the area of operations (AO). In short, the CUOPS floor is where the action is and where everyone on the staff wants to be when events start to get exciting. After many hours, days, and weeks of planning operations, staff members understandably want to be where they can see all their hard work put into action. However, allowing the CUOPS floor to become a point of interest for the casually curious generates much of the friction in what should be a very quiet, deliberate environment. Observations have shown that the busiest, most highly trafficked CUOPS floors are almost always the loudest, most disorganized, and least effective overall.

(U) Only the Right People

(FOUO) This mission-critical area of the CP needs to be tightly controlled. During DATE rotations in particular, OC/Ts see brigades put the CUOPS tent at the very center of the main CP. This turns what should be the calmest, most orderly space in the CP into a thoroughfare and meeting place.

(FOUO) Speaking again to the importance of well-defined roles and responsibilities within the staff, different units protect the sanctity of this space in different ways. Often the operations

SGM is the bulldog who keeps unnecessary personnel off the floor and excessive sidebar conversations to a whisper. Other times it falls to a battle captain or brigade commander (this usually happens in organizations with particularly poor delegation of roles and responsibilities). Regardless of whom this task falls to, that individual or team must have the enthusiastic support of the brigade's senior leadership, as the worst offenders on the floor often have significantly more rank than the person trying to control the room. In the end, OC/Ts have come to see a quiet, orderly, and generally disciplined atmosphere on the CUOPS floor as a virtual prerequisite for success.

(U) Only in the Right Places

(FOUO) A second aspect of form and function with which brigades routinely struggle is the physical layout of the CUOPS floor. Once again, no doctrinal publication provides a baseline for how to structure a brigade CP, forcing staffs to rely on often outdated SOPs, their personal experiences, and simple best judgments to shape the CP to the current situation. This often results in an inefficient CUOPS cell, with mutually supporting WfFs located apart from one another. For example, by positioning the battle captain and CHOPS too far forward on the floor, they are essentially thrown into the trenches, where they can become bogged down in the minutiae of the fight as opposed to orchestrating all the brigade's operations holistically.

(U) Doing Only the Right Things

(FOUO) Also, brigades often host senior-leader events on the CUOPS floor, almost always to the detriment of the battle staff's ability to do its job effectively. The CUOPS floor, where the battle is being tracked and managed in real time, is generally not the best place for hour-long daily update briefings or military decisionmaking process (MDMP) sessions. By designating, and using, a workspace away from CUOPS to conduct updates, operational briefings, crisis management, and staff work in general, units can allow the battle staff to fight the fight without distraction or micromanagement. Similarly, when a commander or XO has his dedicated workspace on the CUOPS floor, it cannot be a surprise to anyone when those senior leaders get drawn into the details of every fight, effectively neutering the authority of the battle staff. In the most efficient CPs, conversations are held, plans are built, and decisions are made elsewhere in the CP until it is time for battle staff to execute them on the CUOPS floor.

(FOUO) Lack of Detailed Planning for Transitions of Authority Between the Main CP, Tactical CP (TAC), Command Group, and Other CPs as Operations Progress

(FOUO) The most telling failure in DATE scenarios, apparent in every rotation, is the failure to plan for transition of authority between CPs. This shows that units are not making CP operations a priority during home-station training. As a result, personnel must figure it out as they go along. Picture a BCT conducting a joint forcible entry. As the operation progresses, command authority (as well as counter-fire responsibility, airspace synchronization, medical evacuation control, etc.) is passed from a robust main CP to a much-less-capable analog TAC, and then back again to a rebuilt main. Each of these transitions represents a friction point that requires a well-thought-out plan to mitigate any degradation to the brigade's ability to control the fight.

(U) Big Assumptions Create Big Problems

(FOUO) The real issue comes when units operate under assumptions and plan based on gross generalities. Surprisingly, few brigades create dedicated decision support and decision authority matrices for transitioning CP authority in any more depth than "these transitions will occur at some point during the operation." A few leading questions OC/Ts might ask the staff in a situation like this include the following:

- If an execution checklist (EXCHECK) calls for the TAC to be "fully operational" by H+5, what exactly does "fully operational" mean?
- Does it mean all WfFs are on site at the TAC? Or, does it mean the TAC has the ability to receive reports and disseminate guidance?
- What if some WfFs are operational while others are not?
- If the commander is speaking over the command net from the TAC, does that mean the TAC has de facto control of the fight?

(FOUO) These may sound like hypothetical "what-ifs" from an argumentative OC/T, but failure to think through details like these can cause massive confusion and wreak havoc on a BCT's ability to execute mission command.

(U) Articulate and Coordinate

(FOUO) The BCT must clearly articulate which CP controls what aspects of the operation. Making assumptions here will create confusion and likely lead to redundant, and sometimes divergent, efforts across the formation. Units also must take into account exactly what capabilities the commander needs and wants at each CP, during every phase of the operation.

(FOUO) In the absence of a plan or SOP, staffs try to replicate a smaller version of the brigade main at the TAC. This is unnecessary and only serves to strip capability from where it is useful. Similarly, once a decision is made that a particular WfF cell needs to go forward with the TAC, defining what conditions must be set before the forward element assumes control from the main is imperative. Quite often the staff members with the TAC will establish themselves and begin operating immediately, without getting a formal hand-over of responsibility from the main. As a result, multiple entities are approving fire missions, clearing airspace, re-tasking assets, and conducting other activities.

(U) There Can Be Only One

(FOUO) Among the TTPs coached at JRTC is for WfF cells to complete a virtual handshake over the appropriate net, formally transitioning that mission command function from one CP to another. For example, once the fire support cell with the TAC has established the communications and situational awareness necessary to safely clear fire missions, the cell reports back to the main CP (over the brigade command net), "Main Fires, this is TAC Fires; we are assuming fire mission responsibility," to which the main CP should respond with a clear confirmation, "TAC Fires, this is Main Fires; you have fire mission responsibility." Using plain English reporting as opposed to code words or EXCHECK calls greatly increases shared understanding for everyone on the net and reduces the likelihood that two CPs will try to

control the same aspect of mission command — something JRTC OC/Ts often see happening. Establishing these control measures is not novel or even unique to the brigade staff (weapons squads all over the Army conduct shift-fire confirmation drills countless times every month), but without a well-vetted SOP and detailed planning effort put into each phase of the operation, transitioning authority between CPs can have as much negative impact on mission command as anything the enemy can do to a brigade.

(U) Conclusion

(FOUO) In conclusion, JRTC's brigade mission command OC/Ts routinely see rotational BCTs struggle to clearly define roles and responsibilities within the CP, design and control the layout of the CP, and apply enough detailed planning to the transition of authority between CPs. None of these issues is complicated or technical, but each is, to varying degrees, endemic to every BCT observed in the past nine months. It is the OC/Ts' position that solidifying a team early, particularly on the CUOPS floor, and executing detailed rehearsals at home station will greatly improve the overall performance of brigade staffs, both operationally and at the JRTC.

(FOUO) Lastly, OC/Ts recommend that BCT leaders reassess the emphasis placed on CP operations at home station, taking into account that managing training is not the same thing as conducting training. While setting up the brigade CP to manage subordinate operations such as company live fires or battalion walk-and-shoots is beneficial, team leaders should not confuse that drill with well-planned, resourced, and higher-headquarters-supported CP training.

Endnotes

1. "Patton," directed by Franklin J. Schaffner (1970; Burbank, CA: 20th Century Fox).
2. Field Manual (FM) 6-0, *Commander and Staff Organization and Operations,* 2-4 to 2-29.
3. FM 6-0, 2-1.
4. FM 6-0, 1-8.

Chapter 2

(U) S-6 Priorities of Work and Warfighting Functions Influence

CPT Matthew Norris and SFC Mark Duncan

(FOUO) As signal observer-coach/trainers (OC/Ts) at the Joint Readiness Training Center (JRTC), we help shape and mentor up to 10 units per year. We have seen both sides of the spectrum when it comes to efficiency and execution. The one product that will set an S-6 section apart from another is the development and production of S-6 priorities of work and warfighting functions (WfFs). This chapter discusses the importance of understanding WfFs, S-6 priorities of work, and how WfFs influence S-6 priorities of work.

(U) Understanding WfFs from a Signal Perspective

(U) First, S-6 personnel have to understand their unit's mission, the commander's intent, key tasks, and expected end state. Intent is the goal; key tasks are what need to happen to get there; and end state is what it should look like when all is done. A unit's ability to perform its WfFs plays an integral role in accomplishing the mission and commander's intent. Army Doctrine Reference Publication (ADRP) 3.0, *Unified Land Operations*, defines the WfF as follows:

> (U) "To execute operations, commanders conceptualize capabilities in terms of combat power. Combat power has eight elements: Leadership, information, mission command, movement and maneuver, intelligence, fires, sustainment, and protection. The Army collectively describes the last six elements as the warfighting functions. Commanders apply combat power through the warfighting functions using leadership and information."

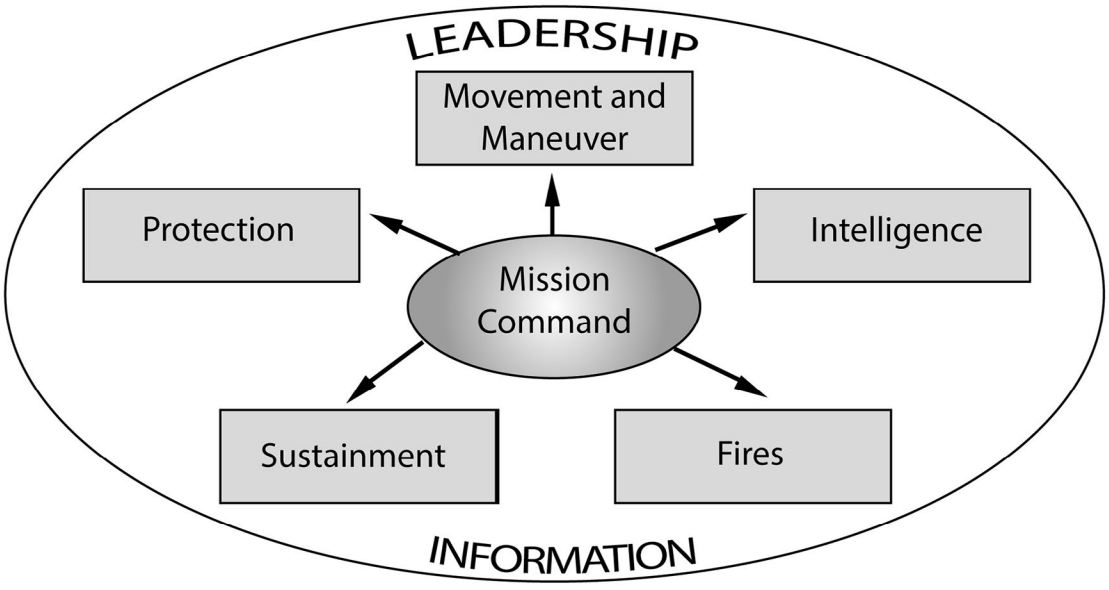

Figure 2-1. The eight elements of combat power (Source: Army Doctrine Reference Publication 3-0, Unified Land Operations).

(FOUO) Each WfF requires and utilizes different communications platforms to accomplish its duties and responsibilities. The following represents the combat net radio (CNR) and Army Battle Command System (ABCS) platforms that WfFs typically use:

- **(FOUO) Mission Command**
    - CNR: frequency modulation (FM)/high frequency (HF)/ very high frequency (VHF)/ultrahigh frequency (UHF)/satellite communications (SATCOM)
    - ABCS: Command Post of the Future (CPOF) (Transverse, Ventrilo); Blue Force Tracking/Joint Capabilities Release (BFT/JCR); SECRET Internet Protocol Router Network (SIPRNET) data/voice
- **(FOUO) Movement and Maneuver**
    - CNR: FM/HF/VHF/UHF/SATCOM
    - ABCS: Tactical Airspace Integration System (TAIS) (aviation); CPOF; BFT/JCR; SIPRNET data/voice
- **(FOUO) Intelligence**
    - CNR: FM/SATCOM
    - ABCS: Distributed Common Ground System–Army (DCGS-A); Tactical Ground Reporting System (TIGR); BFT/JCR; SIPRNET data/voice
- **(FOUO) Fires**
    - CNR: FM/HF/VHF/UHF/SATCOM
    - ABCS: Fire Support Command and Control (FSC2)/Advanced Field Artillery Tactical Data System (AFATDS); BFT/JCR; SIPRNET data/voice
- **(FOUO) Sustainment**
    - CNR: FM/SATCOM
    - ABCS: Sustainment System Mission Command (S2MC)/Battle Command Sustainment Support System (BCS-3); BFT/JCR; SIPRNET data/voice
- **(FOUO) Protection**
    - CNR: FM/HF/VHF/UHF/SATCOM
    - ABCS: Air and Missile Defense Workstation (AMDWS); BFT/JCR; SIPRNET data/voice

(U) The Army Battle Command System

(FOUO) The backbone of the ABCS platforms is the Warfighter Information Network-Tactical (WIN-T) telecommunications system and fiber, or a combination of both. Signal officers become acutely aware of this situation during their first exercise when digital communications are not up and running, and the command team is aggressively requesting results.

(FOUO) In this digital age, units rely heavily on the Signal Corps to meet these needs. With battle command system requirements, it is obvious that the WfFs cannot function as expected without the S-6. It is imperative that the S-6 understands the WfFs and their needs in order to best develop priorities of work for the S-6 section. Time also is important, whether operating in a mission environment or training exercise. The following should ensure that Soldiers are getting the job done and WfFs are getting needed services:

(U) Importance of Publishing S-6 Priorities of Work

(FOUO) You just arrived in the "box"; now what do you do? Before any work starts, you need a method of relaying to your Soldiers what needs to happen. The number one product all Soldiers should follow is the S-6's priorities of work. A good analogy to understand priorities of work better is a football team. Within this team, the head coach is the planner and the team coordinators are the doers. The planner gives the doers a game plan for the team. The doers for the offense, defense, and special teams now know what they need to accomplish without the planner's presence. The planner is then able to focus more on areas that require his or her attention. The same goes for S-6 priorities of work. When you publish your priorities of work, guidance is available any time of the day with or without the presence of leadership. This allows the leaders to focus on staff processes and mission planning, which generally take up a good portion of their time. Meanwhile, the S-6 Soldiers are accomplishing tasks within the priorities framework.

(FOUO) A battalion S-6 in a combat aviation brigade (who recently participated in a JRTC rotation) offered the following insight into priorities of work: "It is important to publish and post your priorities of work, because it provides your team a sense of direction for each day and phase of the operation. It also provides team members a sense of teamwork and working to accomplish the missions of the day. When one section is finished with their work, they can flex to the other teams in order to help them finish their jobs, or continue down the list until complete. We published our priorities of work early in the rotation, and the installation of communication assets was completed in record time."

(FOUO) What happens if the S-6 does not publish priorities of work? Based on rotational observations, the S-6 leadership is always overwhelmed. Let's refer back to the football team. What happens if the coach does not provide the coordinators with a game plan? Coordinators will take things into their own hands, and may possibly put all their hard effort toward the wrong goals. The team will lose games and the head coach will usually get the boot to make way for better leadership. The same goes for priorities of work. Soldiers inherently rely on their leadership to provide guidance and direction. OC/Ts observed S-6s compelled to give continual guidance and miss vital mission planning. Alternately, the S-6 is focused on mission planning, and section personnel are not doing what they should be. Either way, the results are negative for the section, and will have second- and third-order effect on the WfFs.

(FOUO) An S-6 for another battalion in a combat aviation brigade states the following about how Soldiers suffer from lack of priorities of work: "The tasks that compose the priorities of work are derived from the warfighting functions. The warfighting functions provide the purpose (or why) behind the task given. By not basing the priorities of work off of the warfighting functions, the tasks at hand become hollow and the Soldiers assigned to work those tasks could soon question the purpose of their work and how it contributes to the overall mission."

(U) An S-6 section's ultimate success, however, is determined by its Soldiers and their accomplishments. The S-6 noncommisioned officer-in-charge (NCOIC) additionally needs guidance to lead those Soldiers.

(U) The S-6 NCOIC

(U) The S-6 NCOIC is the backbone of the S-6 section. Oftentimes, the NCOIC must pick up the pieces of an overly taxed officer in charge (OIC). Without defining the priorities of work early and left to make the mission happen, the noncommissioned officer in charge (NCOIC) may resort to the power of personality, which can desynchronize the S-6 shop. The NCOIC must understand the strengths and weaknesses of his Soldiers and exercise a well-thought-out troop-to-task analysis. Also, clearly defining duties and responsibilities and placing correctly trained Soldiers in the proper positions save critical time during initial setup and steady-state operations. The NCOIC executes the duties of the position, but in the absence of orders, may focus his attention in the wrong direction. Therefore, establishing the S-6 priorities of work is critical for an effective team.

(U) WfF Influence on Priorities of Work

(FOUO) Commanders accomplish the mission by using the six WfFs to synchronize and leverage combat power. WfFs are completely reliant on communications to be successful. Of the six WfFs, which are the most important? Which system is top priority? The answer is, all the WfFs are important and each is reliant upon the other in some form or fashion. Without intelligence, the commander has no idea where to apply his combat power to defeat the enemy. Without sustainment, movement and maneuver capabilities suffer when the S-4 does not forecast and request fuel or ammunition. However, mission command is the most important when setting up communication systems. Mission command is defined 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." (Army Doctrine Publication 6-0, *Mission Command*)

(FOUO) When developing priorities of work, encompass priorities for both CNR and automations. S-6 priorities of work should first focus on enabling mission command (MC). This is usually CNR based, because analog systems are the quickest means to get some form of MC up and operational. Concurrently, the S-6 automations section is establishing the WIN-T platform to provide Nonsecure Internet Protocol Router Network (NIPRNET) and SIPRNET data and voice services. The WIN-T network also forms the main support for connectivity of the WfF systems. Each WfF is responsible for setting up its ABCS or WfF platform that will eventually connect to the network. Generally, it takes some time to get WIN-T platforms fully operational, so CNR systems are usually the first priority to enable mission command. Some brigade S-6s

feel that frequency modulation (FM) is easy and put off establishing it. With complete focus on getting the WIN-T system established, those S-6s left out the CNR portion within the priorities of work. Ultimately, the commander dictated communications priorities because he lacked a means to exercise MC. To reiterate, the S-6 section establishes CNR platforms first because CNR is most readily available and reliable and provides commanders an initial MC capability. It also allows all WfFs some form of communication to plan and collaborate. Next should be digital services with a focus on MC platforms, followed by the remaining WfFs.

(U) Users Have Responsibilities to Train and Operate

(FOUO) In an ideal world, each WfF knows how to operate its ABCS platform, provided the unit conducted individual training followed by a culmination exercise. Sometimes this is not the case, and support from the S-6 is required. "This is the power cable, and it goes here" should not happen. Leaders should ensure that operator-specific training is conducted for each platform. An observed issue is that the S-6 automations section is doing the job the WfF personnel should be doing; for example, physically setting up CPOF for the main CP. That is an S-3 operator responsibility. Physically setting up an ABCS platform is counterproductive to the S-6 priorities of work. Time is important, and the more people who are properly trained, the quicker WfFs are operating as expected. The S-6 connects the Ethernet cable and configures the system for digital services; the system operator physically sets the system up and operates it.

(FOUO) What happens if a Soldier submits a trouble ticket for user-level issues or requesting a NIPR line? If it does not enable a WfF, it moves down on the priority list until all WfF platforms are up and operational. If the trouble ticket relates to the CNR and affects a WfF, that will then become a priority. The S-6 priorities of work should encompass the CNR and automations in the following order of importance:

- The CNR
- Digital network and services providing MC
- Remaining WfFs in order, dependent on requirements for that mission phase
- User-level requests

(FOUO) If need be, provide details to the Soldiers on what these priorities mean. Soldiers should understand the order of priorities and feel empowered, so they are not inadvertently taken away from the task at hand by a senior leader.

(U) Priorities Change; So Must You

(FOUO) Establishing a valid S-6 priorities of work list is the first step in the right direction. However, ensuring priorities of work remain valid requires daily revision and situational awareness on different phases of the operation. Here at JRTC, DATEs are returning as the primary type of rotation. Most of the friction appears to occur during phase transitions, because priorities of work are not updated or valid for that phase. During a DATE rotation, there are typically five phases to the operation that include the following:

- Reception, staging, onward movement, and integration (RSOI)
- Joint forcible entry (JFE)

- Expand the lodgement
- Defense
- Offense

(FOUO) Each of these phases requires the S-6 to analyze priorities of work based on the commander's and WfF requirements. For example, the JFE phase is an important movement phase. CNR is the biggest focus, because it is the S-6's only reliable means of maintaining communications for the unit's WfFs. Establishing a retransmission site may also be a unit tasking, so that also becomes a top priority. Generally, digital systems are not the first priority for that phase. Only when WIN-T systems arrive at the TAC do digital systems become a priority.

(FOUO) The forward TAC needs to be operational on both digital and CNR in order for the main CP to break down and move. S-6 priorities of work are fluid in nature and are different for each unit and its mission. It is important that an S-6 understands the unit's mission and how to flex S-6 capabilities to influence the battle.

(U) Conclusion

(FOUO) S-6 priorities of work will make or break an S-6 team. Our hope is to never see another S-6 fail because he forgot to publish and update his priorities of work or provide detailed and logical priorities of work to his Soldiers. S-6 OICs are leaders first, not technical hands or gurus. That is the unit Soldiers' job, and the job of the S-6 is to train the Soldiers accordingly. The S-6 should provide guidance with priorities of work, and supervise when needed to keep the Soldiers on track. As stated in Army Doctrine Publication 6.0, *Mission Command,* "Leadership is the process of influencing people by providing purpose, direction, and motivation to accomplish the mission and improve the organization."

Chapter 3

(U) Combat Trains Command Post: Keys to Success at the Joint Readiness Training Center

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(FOUO) Once referred to as an administrative logistics operation center (ALOC), a combat trains command post (CTCP) is the key to sustainment success at the Joint Readiness Training Center (JRTC) if it is done properly. The combined arms training strategy (CATS) and Field Manual (FM) 7-15, *The Army Universal Task List*, offer seven collective tasks supported by 62 subtasks necessary to establish and operate a CTCP. A JRTC rotation is a fast-moving, condensed experience that requires simultaneous timelines for certain processes central to CTCP operations. Personnel replacement, battle loss and battle damage, and Class VII (equipment such as tanks and vehicles) replacement are the critical CTCP processes that JRTC logistical observer-coach/trainers (OC/Ts) emphasize. JRTC OC/Ts have further identified the critical tasks and subtasks that allow unit CTCPs to succeed during JRTC rotations. Units that have not trained CTCP personnel on these tasks face significant complications at the JRTC.

(U) Making Choices and Establishing Standard Operating Procedures (SOPs)

(U) Following are the seven collective tasks for the CTCP:

- 12-06-005, Conduct Casualty Operations
- 12-6-0009, Process Replacements
- 71-8-4210, Provide Human Resource Support
- 12-06-0012, Conduct Personnel Readiness Procedures
- 71-8-4100, Provide Logistics Support
- 71-8-4130, Provide Supplies
- 71-8-5144, Develop Running Estimates

(FOUO) Experience at the JRTC shows that if units concentrate on the following four collective tasks, the other tasks will be accomplished:

- Conduct casualty operations
- Process replacements
- Develop running estimates
- Provide logistics support

(FOUO) With those tasks in mind, the sections that make up a CTCP (S-1, S-4, elements of S-6 and S-3, medical service corps officer [MSC], and the unit ministry team) must come together as a team in conjunction with the forward support company (FSC) commander within the maneuver battalions. The best way to assure cross-talk and mutual understanding within the CTCP is to develop and then train on an SOP. Note that every recommendation given will include the development of an SOP, as it should be the basis of developing training and conducting rehearsals. Remember that the CTCP is focused on the big four processes. The CTCP SOP should address those processes. It should not be a compilation of staff section SOPs.

(U) Conduct Casualty Operations

(FOUO) The CTCP operates with the MSC and his or her platoon conducting casualty operations and performing medical operations. The MSC and S-1 must cross-talk because the tasks of casualty operations and processing replacements share essential subtasks to support and sustain combat operations. OC/T trends show no cross-talk and little shared understanding among the MSC, S-1, and line companies. Coupled with confusion of roles and responsibilities, casualty-care operations overwhelm a battalion's "Role 1" capability. OC/Ts see a high died-of-wounds rate because the unit casualty operations are stovepiped and the unit cannot evacuate casualties to the next higher echelon of care. One key to success is conducting cross-talk within the CTCP to share pertinent information. Another is developing an SOP that will outline roles and responsibilities, battle drills, and the required process of conducting casualty operations. Lastly, understanding and rehearsing the communications plan at both the brigade and battalion levels assist in tracking causalities at all levels and resourcing commodities and additional support for the battalion.

(U) Process Replacements

(FOUO) Processing replacements is one of the most difficult tasks for a battalion S-1 at the JRTC because it requires more than just the S-1 section to execute the task.

> (U) Personnel accountability (PA) is one of the most important functions a brigade or battalion S-1 performs on a continuing basis regardless of location or environment. Data accuracy is critical to the PA process. PA is the by-name management of the location and duty status of every person assigned or attached to a unit. It includes tracking the movement of personnel as they arrive at, and depart from, a unit for duty.
>
> (U) Army Techniques Publication (ATP) 1-0.1, *G-1/AG and S-1 Operations*

(FOUO) Accurate PA is key to replacement operations. OC/Ts commonly see companies failing to provide accurate PA, a failure that in turn delays commanders at all levels in creating and executing a plan to achieve a mission. Since the S-1 cannot tell the battalion how many Soldiers are in what location and what replacements are expected, the battalion staff cannot conduct mission analysis or create courses of action. Therefore, the key to success is not only developing an SOP that outlines the process needed to receive replacements, but sharing the replacement process with all companies.

(U) Develop Running Estimates

(FOUO) Running estimates guide commanders toward making quantifiable and informed decisions. As such, running estimates must be as thorough as time permits. When it comes to CTCP operations, analog trackers work best; OC/Ts often instruct units in developing simple and useful analog trackers. These trackers paint a picture that all can see and provide understanding throughout the organization.

(FOUO) When a decisive action training environment rotation begins at the JRTC, a unit has most, if not all, of its communication capabilities. As a unit completes a joint forcible entry and begins the second phase of operations, however, it has limited digital systems until D+2. The CTCP staff (during that initial phase) often fails to develop an analog running estimate, resulting in reactionary logistics. OC/Ts see some form of reactionary logistics during every rotation as companies contact the battalion's tactical operations center (TOC) and request emergency resupply. At that point, the battalion commander usually gets involved, and logistics takes priority over all missions. The key to success is not difficult if an analog tracker is created for tracking commodities (this tracking process should be placed in the unit's SOP).

(FOUO) Along with developing analog trackers that can be used at any time, the most important tool to provide shared understanding is creating a logistics common operational picture (LCOP). This is the single tool all S-4s should use because it enables sustainers to give a commander the "so what?" during updates and provide logistical situational understanding for personnel in the CTCP and battalion TOC. (To view best examples of a developed LCOP posted by JRTC on Army Knowledge Online, to go https://www.us.army.mil/suite/page/689812.)

(U) Provide Logistics Support

(FOUO) FM 3-21.20, *The Infantry Battalion* (Chapter 1), describes the FSC as a "multifunctional sustainment unit organized to provide habitual and direct support to the infantry battalion." The S-4 coordinates direct support to the infantry battalion with the FSC commander. The S-4 and FSC commander must have a close relationship; both must understand their roles and responsibilities to facilitate sustainment of the battalion and increase operational reach. In the modular force, the FSC is responsible for conducting sustainment operations. The combat trains must maintain the capability to rearm and refuel the battalion by anticipating, coordinating, and supervising requests. OC/Ts ask each S-4 and FSC commander when they arrive at the JRTC, "Who plans the logistics for the battalion?" Most units rely on the FSC commander (usually a logistics officer) to plan and execute logistics. He controls the logistical assets in the battalion. FM 3-21.20 also states that "the battalion executive officer (XO) orchestrates sustainment activities in conjunction with the S-1, S-4, and FSC commander." Together they plan and employ sustainment assets to facilitate operations and ensure success of the battalion's mission. Therefore, the battalion XO oversees the CTCP logistical operations to ensure they meet logistical processes, procedures, and reporting requirements. Another key to success is establishing an SOP that incorporates a logistics synchronization meeting requirement to reinforce the eight principles of sustainment (found in Army Doctrine Publication 4-0, *Sustainment*) and clarify each staff member's roles and responsibilities as outlined in FM 6-0, *Commander and Staff Organization and Operations*. This contributes to seamless logistical support to units.

(U) Conclusion

A unit that develops and exercises the mentioned keys to success at JRTC will better provide seamless proactive logistics. The four processes must be captured, learned, and practiced in a working, functionally orientated SOP.

Chapter 4

(U) Troop Leading Procedures in an Austere Environment

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(U) Troop leading procedures (TLPs) constitute the fundamental process that company/troop and smaller-sized units use to plan for operations. The TLPs follow a simple method that units can use in planning for training operations at home base or conducting combat operations in theater. (See Field Manual [FM] 6-0, *Commander and Staff Organization and Operations*, Chapter 10, for more information.)

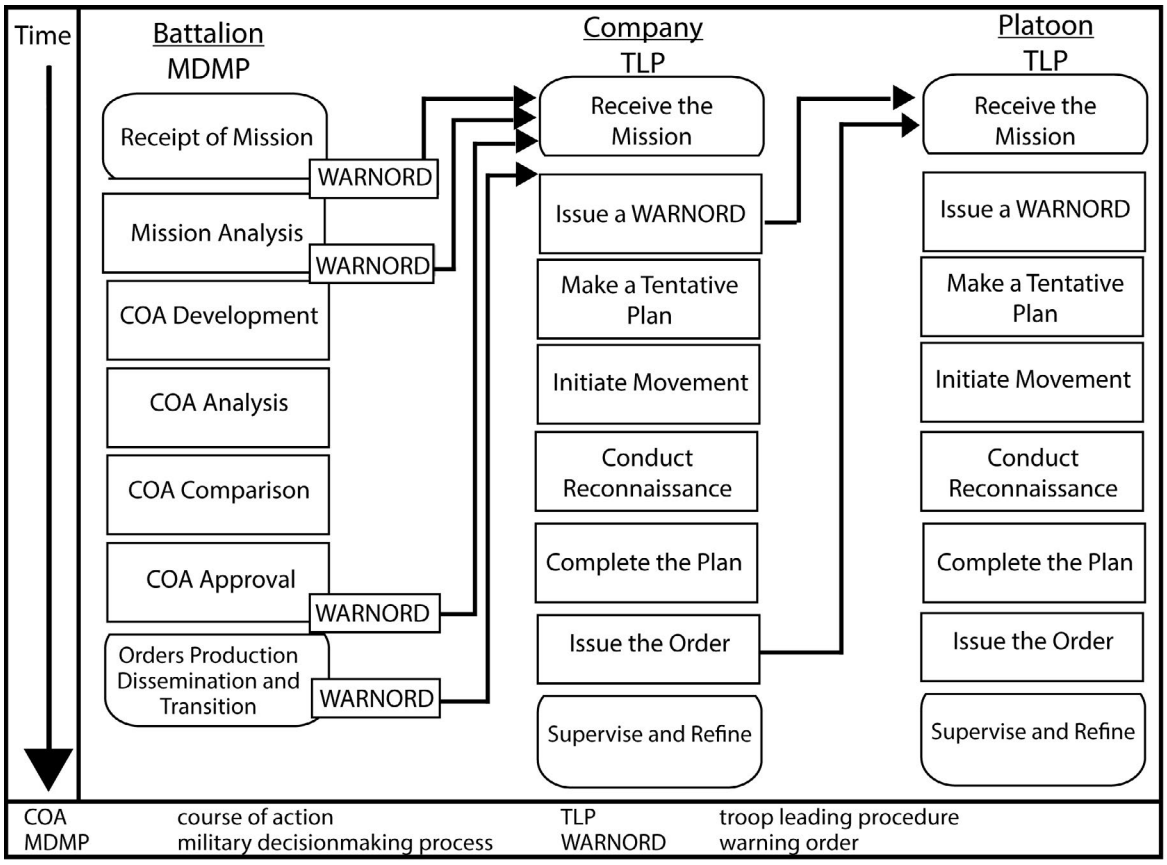

Figure 4-1. Parallel sequences of the military decisionmaking process and TLPs (Source: FM 6-0).

(U) Austere Environments

(FOUO) Accomplishing a process that would be simple at home station or on a forward operating base (FOB) will not be so simple in thick brush during a rainstorm or on top of a ridge. These places are referred to as "austere environments" because that sounds neutral; the old maxim from island operations in the Pacific was "the jungle is neutral." That remains true today. It does not mean the jungle is equally friendly; it means the jungle hates everyone equally. Although TLPs may be simple at a FOB, they are much less so in the dismal places where combat tends to occur. Terrain and weather will affect planning; so, too, will the enemy,

when possible. Therefore, forget those hard structures with electricity when the time comes for TLPs. Leaders have to be able to conduct detailed planning without the use of computers and weatherproof structures. Given that TLPs are a multi-stepped process, troops and platoons most often struggle with the following three steps:

- Making a tentative plan.
- Initiating movement alongside reconnaissance.
- Supervising and refining the plan.

(U) Course of Action Development — Key to Making a Good Tentative Plan

(FOUO) The third step of TLPs is making a tentative plan. This requires the leader to use course of action (COA) development. Units typically only generate one COA, but if time allows, a leader may find it useful to create more than one. When time is short, a leader may desire to delegate elements of his plan to others. However, be careful in delegating. Although it distributes work, it also compartmentalizes elements of the plan with the separate planners. At some stage, the plan must be synchronized so each planner shares a common understanding of the whole.

Table 4-1. Mission Variables (Source: FM 6-0)

Variable	*Description*
Mission	Commanders and staffs view all of the mission variables in terms of their impact on mission accomplishment. The mission is the task, together with the purpose, that clearly indicates the action to be taken and the reason therefore. It is always the first variable commanders consider during decisionmaking. A mission statement contains the "who, what, when, where, and why" of the operation.
Enemy	The second variable to consider is the enemy—dispositions (including organization, strength, location, and tactical mobility), doctrine, equipment, capabilities, vulnerabilities, and probable courses of action.
Terrain and weather	Terrain and weather analysis are inseparable and directly influence each other's impact on military operations. Terrain includes natural features (such as rivers and mountains) and man-made features (such as cities, airfields, and bridges). Commanders analyze terrain using the five military aspects of terrain expressed in the memory aid OAKOC: observation and fields of fire, avenues of approach, key and decisive terrain, obstacles, cover and concealment. The military aspects of weather include visibility, wind, precipitation, cloud cover, temperature, and humidity.
Troops and support available	This variable includes the number, type, capabilities, and condition of available friendly troops and support. These include supplies, services, and support available from joint, host nation, and unified action partners. They also include support from civilians and contractors employed by military organizations, such as the Defense Logistics Agency and the Army Materiel Command.
Time available	Commanders assess the time available for planning, preparing, and executing tasks and operations. This includes the time required to assemble, deploy, and maneuver units in relationship to the enemy and conditions.
Civil considerations	*Civil considerations* are the influence of man-made infrastructure, civilian institutions, and activities of the civilian leaders, populations, and organizations within an area of operations on the conduct of military operations (ADRP 5-0). Civil considerations comprise six characteristics, expressed in the memory aid ASCOPE: areas, structures, capabilities, organizations, people, and events.

(FOUO) The command post has much of the necessary products required for planning. Following the steps of COA development, the leader first must analyze his available forces and brainstorm ideas of what he can do with those forces. Drawing his organization on butcher-block paper with current strength (personnel and critical equipment/supplies) helps the commander understand the combat power he has available.

(FOUO) Second, the leader should assign specific tasks to a specific subordinate unit. At this point, the leader completes the concept of the operation and assigns headquarters elements to control portions of the operation. At the company/troop and platoon levels, leaders will not be able to create an additional headquarters; therefore, the unit leader acts as the only headquarters. Now the leader can complete his COA statement and sketch. In an austere environment, he should create a statement and draw a sketch on whatever notebook paper he has available. Regardless of the poor aesthetics of his presentation, the leader now is able to explain the basic idea of the plan.

(U) Do Not Get Comfortable; You Will Move

(FOUO) Leaders should expect to move in austere environments, even as they try to plan. In fact, step four of the TLPs is to initiate movement. It is often performed alongside step five — reconnaissance. Once the COAs are developed, leaders can acquire supplies and synchronize

assets to gain the maximum combat power available during the mission. Reconnaissance gives leaders an opportunity to judge any changes or developments in the situation. Giving organizational leaders a clear task, purpose, and intent allows them to operate with little supervision.

(FOUO) The executive officer and first sergeant take charge of initiating movement. The executive officer analyzes the supply requirements of the COAs, begins requisitioning supplies with the assistance of the supply sergeant, and plans for projected maintenance with the team chief. The first sergeant supervises the noncommissioned officers (NCOs) while they prepare equipment for the mission and, with the assistance of the senior medic and training NCO, the first sergeant also plans for any medical and administrative requirements.

(FOUO) Commanders, platoon leaders, and section leaders should collect as much information about their area of operations as possible. The first, simplest, and most readily available method of information collection for a company/troop or platoon is a map reconnaissance. Troops can use Ravens (unmanned aircraft systems used for real-time situational awareness) to conduct area reconnaissance while units acquire intelligence updates from the company intelligence support team. Enemy and weather updates from the intelligence officer ease preparation of operations, because enemy and weather timelines also affect friendly timelines. Based on the intelligence collected, the fire support officer can develop a viable fire-support plan. Collaborative planning among these elements is essential so the company/troop commander can synchronize his entire organization.

(U) Rehearsal Is Key

(FOUO) The leader's job does not end when orders are issued. Step eight of the TLPs is supervising and refining. In step eight, the leader imprints his vision and intent into the operation. A key part in this step is rehearsing the plan. Units often rehearse contingency plans such as actions on contact. The most important rehearsal in synchronizing an operation is the rehearsal of the actual plan. At a minimum, units should rehearse actions on the objective.

(FOUO) In an austere environment, the easiest rehearsal is leaders talking through the plan while looking at a map. Such a rehearsal is quiet, can quickly identify issues with the plan, and does not require resources. An often overlooked aspect of a rehearsal is operational risk incurred by the rehearsal itself. While it is true that a more detailed and involved rehearsal creates a greater shared understanding, commanders must ensure that the risk of revelation to the enemy has been properly mitigated. The enemy is always watching, and a near-peer enemy will have remote piloted aircraft available to perform area reconnaissance on friendly formations. If not properly concealed, the rehearsal could forecast the operation to the enemy.

(FOUO) Another important part of the rehearsal is identifying major friction points. A good example is the amount of time needed for a recovery asset to reach a stuck vehicle. Talking through this point in the rehearsal may lead to a specific readiness-condition level for the recovery vehicle at a certain point in the operation. Other key steps of this phase are pre-combat checks (PCCs) and pre-combat inspections (PCIs). Junior NCOs perform PCCs that are all-inclusive and ongoing. The unit leader does the PCIs of mission-essential equipment. During the operation order (OPORD), the leader publishes a list of equipment that he deems essential to complete the mission, and verifies that the equipment is operational and that the operator is capable of using the equipment. Throughout this step, leaders will modify their plan through the use of fragmentary orders (FRAGORDs) that change a part of the OPORD based on changes in the situation. These FRAGORDs are best delivered through a communication system, as the orders are typically small and do not require personal delivery.

(U) TLPs Are Simple To Say, Not To Do

(FOUO) The making of a tentative plan, the initiation of movement (supported by reconnaissance), and supervision and refinement of the plan are three steps of the TLPs that company/troops and platoons often struggle to perform while operating in an austere environment. These units are more than capable of performing all the TLP steps while planning from an office environment, but the struggle comes from performing the same level of detail while operating deep in the forest or in desert conditions where electricity and weather protection are not readily available. Therefore, units should have analog systems such as butcher block paper, dry-erase boards, and maps to support the necessary planning for combat operations in theater.

Chapter 5

(U) Threat Analysis at the Company Level

MAJ Glenn Neilson, CPT(P) Chad Corbin, and 1SG David Barron

(FOUO) In the switch to the decisive action training environment (DATE) and unified land operations (ULO), observer-coach/trainers (OC/Ts) noted that rotational units often failed to switch enemies. Mission rehearsal exercises focused on a theater-specific insurgent threat as part of counterinsurgency and stability operations. Rotational training units have actively and dramatically altered training and operations to meet the challenges of ULO; that is especially true with the brigade combat team (BCT) and battalion, where mission command challenges are enhanced by movement and maneuver. But how is the company level in DATE doing when it comes to ULO against a near-peer enemy? OC/Ts see too many company leaders approaching enemy analysis as if they are still fighting the Taliban in Afghanistan. These tendencies show in the following company leader observations:

- No system to analyze the threat; commanders use intuition to make a best guess.
- Duties and responsibilities prior to coming to the Joint Readiness Training Center (JRTC) are not clearly defined in standard operating procedures (SOPs).
- A "friendly" scheme of maneuver (SOM) is developed before analyzing terrain and the threat.
- Threat situation templates (SITEMPs) that portray key weapon systems or how the systems may be employed are not developed. Companies do not consider how conventional, unconventional, guerrilla, insurgent, and criminal formations work in concert.
- Threat critical capabilities (CCs) and critical vulnerabilities (CVs) are not identified.

(FOUO) Observation 1. Companies do not have a system to analyze the threat; commanders use intuition to make a best guess.

(FOUO) Company commanders and their headquarters need a system that enables analysis of the threat in DATE and ULO based on the following:

- Visualize what the threat is doing and why.
- Identify threat CCs and targetable CVs.
    - CC — A means that is considered a crucial enabler for a center of gravity to function as such and is essential to the accomplishment of the specified or assumed objective(s). (Joint Publication [JP] 5-0, *Joint Operation Planning*)
    - CV — An aspect of a critical requirement (CR), which is deficient or vulnerable to direct or indirect attack that will create decisive or significant effects. (JP 5-0)
- Create a force array that masses blue strengths against threat weaknesses.
- Consider all facets of a hybrid threat.

(FOUO) Observation 2: Companies do not clearly define duties and responsibilities in their SOPs prior to coming to the JRTC.

(FOUO) OC/Ts assume that higher headquarters provides (in broad terms) a hybrid-threat doctrinal template (DOCTEMP), SITEMP, and composition, disposition, and strength of the threat, to include capabilities and limitations. While the company does not have a staff as such, its modified table of organization and equipment has a number of key personnel who can, when used correctly, significantly contribute to the development of threat analysis. For example, BCT 2020 units are integrating an intelligence analyst (35F10) into each rifle company. Currently the integration of an intelligence analyst has been met with mixed results, often because the training required by Army Regulation (AR) 350-1, *Army Training and Leader Development*, and AR 350-32, *Army Foundry Intelligence Training Program*, compete with other training objectives. Often company intelligence support team (CoIST) training lacks commanders' input from the battalion command team and down. A poor CoIST training plan and a lack of clearly defined duties mean the intelligence analyst will not be integrated, or effective, in support of the company planning process.

(FOUO) Observation 3: Companies build a friendly SOM before analyzing terrain and the threat.

(FOUO) Field Manual (FM) 3.21-10, *The Infantry Rifle Company*, identifies terrain and weather analysis as the starting point for threat analysis. During this step, the company analyzes terrain (both natural and manmade) using the categories of observation and fields of fire, avenues of approach, key terrain, obstacles and movement, cover and concealment. The company must consider the effects of terrain on both itself and the threat. The battalion should provide the company with a modified combined obstacle overlay (MCOO) that can be used to gain greater understanding of the terrain in the area of operations (AO). The MCOO is used by the company to generate a graphic-terrain analysis overlay during planning and the orders briefing.

(FOUO) One rotational training unit (RTU) had the intelligence analyst conduct terrain analysis and then produced a MCOO as the starting point for its orders process. The MCOO enabled the company to identify unrestricted avenues of approach and key terrain, which translated to a threat assessment of where the enemy would most likely attempt to penetrate the company's defense. The company operationalized the threat analysis and deployed linear ambushes on the predicted threat avenues of approach. The RTU successfully repelled the opposing force's (OPFOR's) brigade reconnaissance group and blocked the penetration.

(FOUO) Units often are not clear on friendly capabilities. A thorough analysis of friendly combat power against a given threat SITEMP that includes robust analysis of terrain, light, and weather can be crucial in preventing this shortcoming. For example, a company was given the task of conducting a blocking position on a likely threat avenue of approach. The company placed its engagement area (EA) away from the blocking obstacle. The EA had a serpentine, eight-row wired obstacle and a tank trench that was easy to bypass because it was not tied to natural terrain. The company intended to utilize its FGM-148 Javelin missile system and M-136 AT-4s (rocket launchers) against the motorized threat consisting of BRDMs (Russian reconnaissance patrol vehicles), BMP-2s (infantry fighting vehicle), and T-80 tanks. While those systems are capable of having effects on the threat, no consideration had been given to how the terrain (in this example, a densely wooded area) would affect those weapon systems' effectiveness.

(FOUO) Table 5-1 is an example of a pre-formatted analog terrain analysis tool. This tool can be utilized while creating a terrain overlay, which in turn can be briefed during the order. Highly successful units develop a planning SOP that tasks the CoIST or the lead platoon in the order of movement (for example) to analyze terrain and create a terrain overlay. The conclusions of this analysis can be used during course of action (COA) development to aid in determining feasibility.

(FOUO) Table 5-1. Battlespace Analysis

Battlespace Analysis and Effects **Outputs of battlespace analysis include a completed modified combined obstacle overlay (MCOO)**		
Deductions? **Observation and Field of Fire:** This process refers to physical terrain. Do not neglect human and informational terrain. Be as specific as possible; mention directions and distances from key points (This ties into key terrain/ decisive terrain [DT]). During this process, produce a MCOO to support war gaming later in the planning process. Battlespace analysis will be reflected in the situation briefing of the operation order (OPORD) and the terrain model that subordinates produce in support of the OPORD.	**So What Does That Mean to Me and What Does That Mean to the Threat?** The "So what?" portion demonstrates a sound understanding of the terrain and how it affects both friendly (FR) and enemy (EN) elements. This ensures that COAs are feasible, acceptable, sustainable and distinguishable with regard to terrain. The "So what?" paragraph will feed your terrain brief within the OPORD. FR— EN—	**Therefore, What Do I Need To Do About It (Friendly Tasks/ Constraints)?** What friendly tasks flow out of the enemy/friendly analysis in the previous box? What can you do to best take advantage of the identified ground? How can you prevent the enemy from using it or affecting you from using it? FR— EN—
Cover and Concealment: What cover and concealment is available? How will this affect the plan (aid or damage)?	FR— EN—	FR— EN—
Obstacles: Discuss natural and artificial obstacles. Discuss how they are incorporated or mitigated within the scheme of maneuver (SOM), obstacle plan, or bypass/breach criteria.	FR— EN—	FR— EN—

(Table continued on next page)

Deductions? **Key Terrain/Decisive Terrain:** It is a good idea to number each piece of key or decisive terrain so you can reference it on your MCOO and during your terrain brief. Outline why each piece of terrain is key either to you or to the enemy. Link key terrain to avenues of approach to highlight how and it is important to enemy or friendly SOM.	**What Does that Mean to Me?** **What Does That Mean to the Threat?** FR— EN—	**Therefore, What Do I Need To Do About It (Friendly Tasks/ Constraints)?** FR— EN—
Avenues of Approach: Identify likely enemy avenues to approach; number each one (i.e., AA1, AA2), and provide strengths/ weaknesses (such as, not feasible, action through a likely engagement area).	FR— EN—	FR— EN—
Weather Analysis and Effects		
Deductions? First Light: Last Light: Moonrise: Moon Set (With Illumination %): Wind Direction and Speed: Weather Effects:	**So What does That Mean to Me?** **So What Does That Mean to the Threat?** Discuss visibility, wind, precipitation, cloud cover, temperature, humidity, and hydrographic issues. Discuss effect weather has on operational capabilities (yours and the enemy's) to mitigate weather effects in friendly SOM and exploit the weather against the enemy.	**Therefore, What Do I Need To Do About It (Tasks/Constraints)?** What tactical advantage can I draw from the weather effect? What enemy targetable CV has been exposed as a result of weather?
Note: This list is not exhaustive and should be tailored to support the mission parameters.		

(FOUO) Observation 4: Companies do not build threat SITEMPs that portray key weapon systems or how the systems may be employed. Companies do not consider how conventional, unconventional, guerrilla, insurgent, and criminal formations work in concert.

(FOUO) According to FM 3.21-10, leaders must analyze the threat's dispositions, compositions, strengths, equipment, capabilities, vulnerabilities, and probable COAs all in line with current doctrine. The threat's disposition, composition, and strengths should be provided by the battalion S-2 (intelligence); the company should use the battalion S-2 assessment as its starting point for threat analysis. A general understanding of how the battalion S-2 generates his assessment is essential to ensure that the threat analysis conducted by the company is nested with the battalion's threat analysis. The company also needs to understand what components of the battalion S-2 assessment are facts or assumptions; this ensures that the company information collection matrix supports the battalion's and avoids duplication of effort.

(FOUO) At the JRTC most companies are proficient in generating workable threat COAs for the conventional threat the companies face within the Fullerton training area, which is the competitive box at JRTC. What the companies often fail to do is incorporate other key stakeholders that operate in the known battlespace (such as criminal elements, unconventional and guerrilla forces, and asymmetric threats) when the companies generate the threat's most likely and most dangerous COAs. Companies also neglect to identify the targetable CVs of these other key stakeholders to ensure the friendly SOM targets the threat's weaknesses rather than pitting the company forces against a known strength. The operational environment (OE) generated within the training area serves as a full dress rehearsal for future operations. Therefore, the rotating unit should use the opportunities provided to flex all its systems and processes and ensure it can be deployed if and when required.

(FOUO) Figure 5-1 (Page 28) and Figure 5-2 (Page 29) are two examples of a hybrid-threat order of battle.

- Figure 5-1 demonstrates how a threat battalion may task-organize against U.S. forces. This illustrates several capabilities that often are not considered and demonstrates the level of cooperation among several types of forces.

- Figure 5-2 is a significantly underutilized tool that companies can use to support an estimate of threat systems by warfighting function (WfF).

(FOUO) To translate the battalion SITEMP into a company SITEMP, it is imperative that the company consider the threat DOCTEMP, associated with the company's mission set (how the threat prefers to fight without regard to terrain or weather factors). The hybrid threat DOCTEMP informs this SITEMP by laying out what units/systems typically engage in what function. This information helps break down the threat from a conventional platoon icon to where key systems, nodes, and capabilities affect the battlespace. (See Figure 5-3, Page 30, for an example of a motorized battalion conducting an attack.)

(FOUO) These tools can be used to build a robust company-level SITEMP. (See Table 5-2, Page 31, for an example of an analog tool that captures the narrative of the threat analysis.) In concert with the threat overlay, it can inform the war-gaming process and production of the enemy most likely COA.

(FOUO) Next, the company is responsible for analyzing the threat's capabilities and vulnerabilities. These encompass more than just weapons systems, and the company must be extra cautious not to get tunnel vision in terms of defining a capability. Doctrine urges the use of WfFs to frame the discussion. The threat may have none or more than one CC or CV per WfF. Furthermore, a technique to help sort capabilities is to categorize by functional tactic (such as attack, defend, and disrupt). This technique allows the company to focus on one phase at a time. For instance, the hybrid threat at the JRTC is often in the transition phase. A functional tactic used by the threat during a transition phase against an extra regional player is to deny an aerial port of entry (APOE). Therefore, when conducting threat analysis for a joint forcible entry, the company is more concerned about the hybrid threat's actions during APOE denial and does a better job of analyzing the CCs associated with that functional tactic.

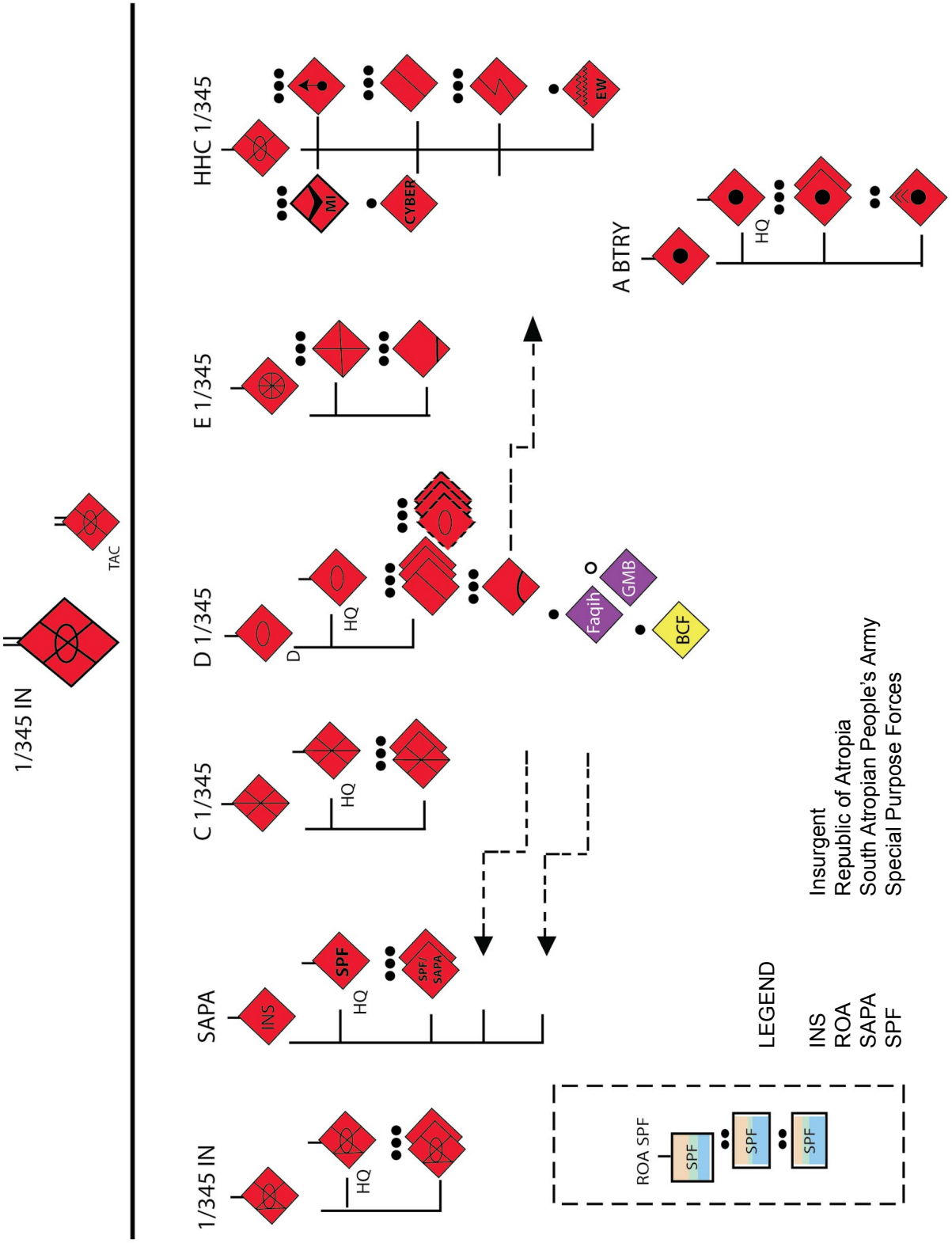

Figure 5-1. Example of a threat battalion task organization.

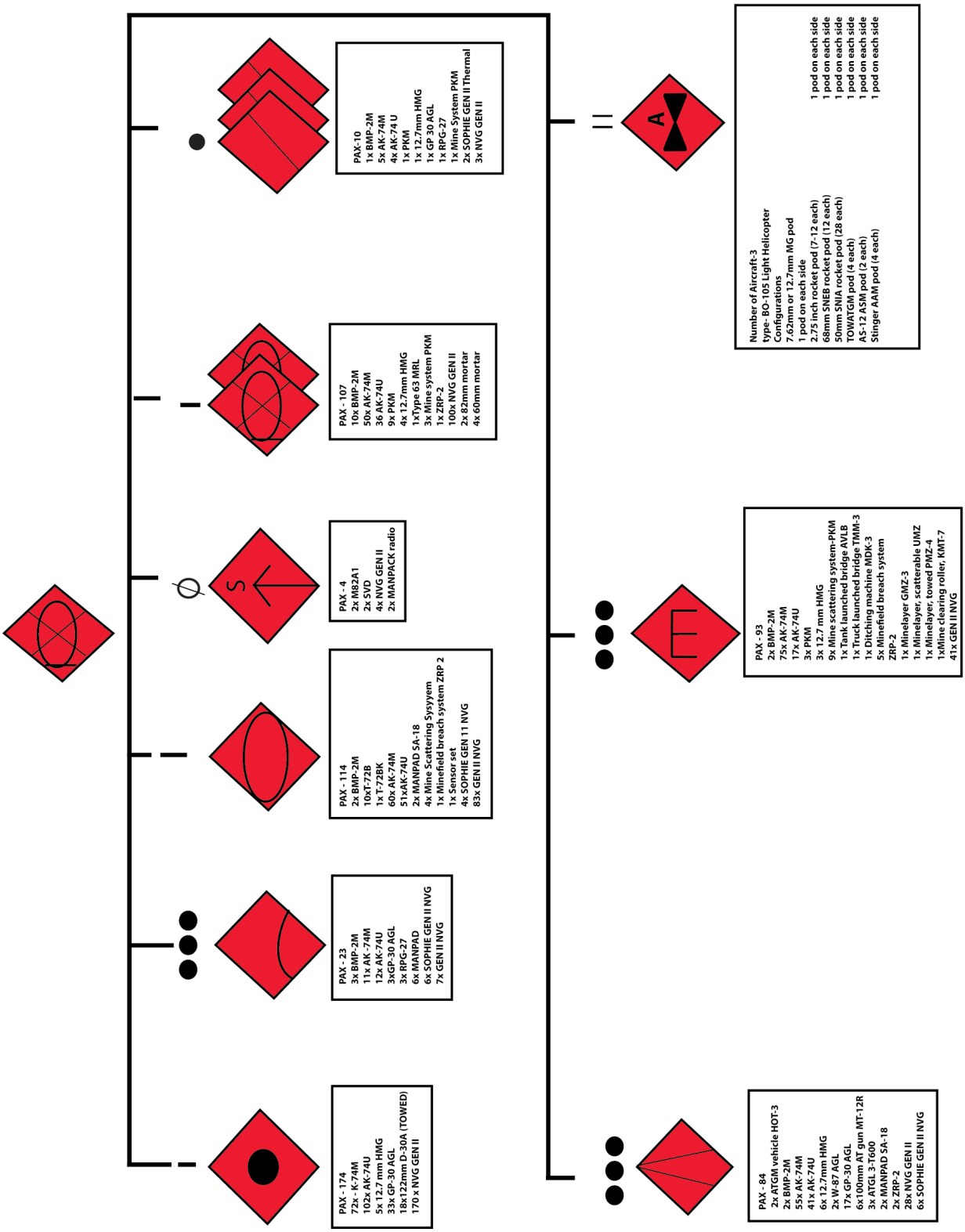

Figure 5-2. Example of a threat battalion order of battle.

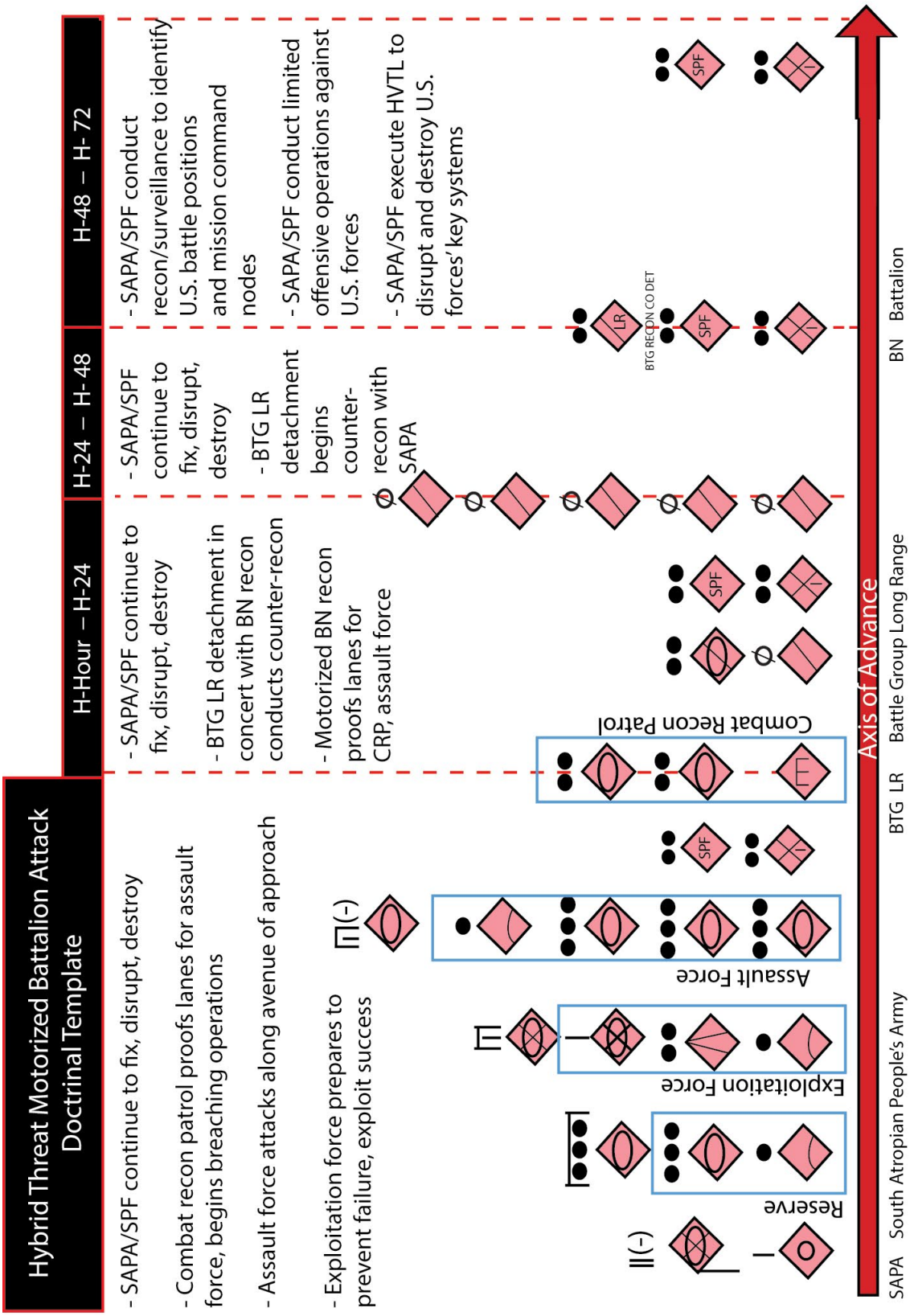

Figure 5-3. An example of a motorized battalion conducting an attack.

(FOUO) Table 5-2. Stakeholder Analysis

Factor/Statement Deduction:	**Strengths/Weaknesses** So What?:	**Friendly Tasks/Constraints** Therefore:
Composition— Identify the enemy task organization from the assessment of the enemy. Ensure that all threat groups are listed in this area, as there may be multiple.	What are the relative strengths and weaknesses based on the assessment of the enemy's composition?	What can be done to shield/mitigate enemy strengths identified in the previous box? What can be done to exploit enemy weaknesses (targetable critical vulnerabilities) identified in the "So what?" portion of the composition?
Disposition— Identify enemy locations and layout (formation, spacing, and orientation) on the ground within AO/area of interest (AI). If locations are unknown, make assessments. If the enemy is on the offensive, use avenues of approach identified in terrain analysis chart, in conjunction with the enemy's tactics, techniques, and procedures, to outline enemy disposition.	What are the relative strengths and weaknesses of the facts written in the previous box? What information requirements (IRs) are generated as a result of assumptions made about the enemy's dispositions? How do these IRs feed information collection tasks within the company or battalion?	What can be done to shield/mitigate the enemy's strengths identified in the previous box? What can be done to exploit the enemy's weaknesses identified in the previous box?
Capabilities— Enemy capabilities are important. Do not focus on enemy weapon systems, but rather the effect the systems impose against friendly forces in the battlespace.	What are the relative strengths and weaknesses of the facts written in the previous box? What are the impacts of the deductions on the friendly's plan or the threat's plan?	What can be done to shield/mitigate the enemy's strengths identified in the previous box? What can be done to exploit the enemy's weaknesses identified in the previous box?
Limitations— Enemy limitations are based on constraints and restrictions observed/perceived (get information from battalion S-2). Analyze what the enemy cannot/must do and provide that information.	What are the relative strengths and weaknesses of the facts written in the previous box? What are the impacts of the deductions on the friendly's plan or the threat's plan?	What can be done to exploit the enemy's limitations? Do the contraints placed on the enemy's commander make the enemy predictable?
Level of Command (Enemy Against Friendly):		
Level of Command (Supporting Assets):		
Factor/Statement Deduction:	**Strengths/Weaknesses** So What?:	**Friendly Tasks/Constraints** Therefore:
Explore elements within battlespace in support of other government agencies and non-governmental organizations in AO/AI.		
Information gaps? (This should result in the creation of IRs.) What information is not available? (This becomes a request for information [RFI].) Refine RFIs; link to commander's critical information requirements, as applicable.		

(FOUO) Observation 5: Companies do not identify threat CCs and CVs.

(FOUO) Joint Publication (JP) 5-0 directs analysis aimed at identifying friendly and threat CVs. Companies must take into account factors like accessibility, vulnerability, redundancy, ability to recuperate, and impact on the civilian population when analyzing those vulnerabilities that are targetable. At the same time, the company must protect its own vulnerability from threat strengths.

(FOUO) The critical factors identified at this phase are based on adaptive understanding of the threat's tactics as well as physical and psychological strengths and weaknesses. During this analysis, it is important to avoid the trap of ascribing friendly attributes to the threat. Known as mirror imaging, this is an analytical pitfall that requires deliberate intellectual thought and training to avoid. At the same time, the company has to envision how friendly actions will appear to the threat and the resulting influence on its SOM.

(FOUO) Finally, as the company breaks the threat down into several CCs, CRs, and CVs, company leaders have an opportunity to look at what is targetable and how. This should signal the beginning of COA development, the war-gaming portion of troop leading procedures. As a result of COA development, the force array, when done properly, considers the threat's CCs and CVs and masses effects where the threat is weakest. A company commander should then ensure that his COAs are:

- Feasible. Does the company have the necessary combat power and force ratio to achieve the mission?
- Acceptable. Are the COAs within the risk tolerance of the higher commander?
- Sustainable. Will the company achieve mission success before it culminates through a lack of logistical sustainment?

(FOUO) An important aspect of any SOM is the minimum force required for a given operation and the criteria for engagement and disengagement. These can be better predicted with a detailed threat assessment. For example, an infantry company was given the task of seizing an objective during the BCT attack against Sangari (Shughart-Gordon MOUT [military operations in urban terrain] village). The company began the movement with 53 Soldiers and the unit ministry team. Forty-two OPFOR soldiers initially manned the objective; an infantry platoon and two BMP-2 infantry combat vehicles provided reinforcement. The company was unable to seize the objective and was attrited to the last man within an hour. Had the company conducted a relative combat power analysis, it would have been apparent that an entrenched threat force in a deliberate defense would have CCs, such as planned EAs that had direct and indirect fires massed, tactical and protective obstacles, robust and redundant mission command systems, listening and observation posts, survivability positions, and support from adjacent units in the form of mechanized and rotary-wing forces. The company massed its forces at the strongest place the threat force was defending.

(FOUO) Table 5-3 (Page 33) is an example of an analog tool that companies can use at this stage of the analysis to illustrate the identified CCs and the corresponding CRs. A CR is an essential condition, resource, and means for a CC to be fully operational (see JP 5-0). The tool associates a CV with each of those requirements. This information is essential to identifying the threat's most likely and most dangerous COAs, as the threat usually plays to its various strengths.

(FOUO) Table 5-3. Identify the Threat Center of Gravity

<table>
<tr><td colspan="3">A threat center of gravity (COG) is one of the following:
• Specific (normally warfighting functions [WfFs] or force elements).
• Generic (the capability focus that the enemy [EN] possesses, related to the mission. These COGs require the combined capabilities of units/formations and WfFs to be effective, such as critical capabilities [CCs]).</td></tr>
<tr><td>Critical Capability
Inherent capabilities to give a COG its strength.</td><td>Critical Capability</td><td>Critical Capability</td></tr>
<tr><td>Critical Requirement
Essential resources, conditions, and means for a CC to be fully operative.</td><td>Critical Requirement
Use a numbering system, e.g.:
1.
2.
3.</td><td>Critical Requirement</td></tr>
<tr><td>Critical Vulnerability
Identify targetable critical vulnerabilities (CVs), those that, if destroyed, captured, or neutralized, will significantly undermine fighting capability of the force and its COG.
Targetable CVs are those that can and should be targeted.
Spell out the CVs in detail.
Mark targetable CVs. This is imperative as the targetable CVs form a key crux in the decisive event.</td><td>Critical Vulnerability
(Identify targetable CVs.)
Use a numbering system, e.g.:
1.1 Targetable CV.
1.2 As per Step 1, link the critical requirement (see above).
2.1
2.2</td><td>Critical Vulnerability
(Identify targetable CVs.)</td></tr>
<tr><td colspan="3">Determine Stakeholder COA</td></tr>
<tr><td>Objectives and Intent
Intent of the enemy gained from battalion operation orders (OPORDs) or fragmentary orders (FRAGORDs).
Two up:
One up:
Against the friendly force:
(It is important to understand the enemy’s constraints, limitations, and intent across several echelons.)</td><td>Likely Mission
Who, what, when, where, and why?
This is the mission statement for the enemy force.</td><td>End state
Expressed in terms of mission completion, unit positions, and future intentions.</td></tr>
<tr><td colspan="3">Most Likely COAs (against friendly mission):
Expressed in detail. (Note: Do not copy the most likely/most dangerous COAs from the BN OPORD/FRAGORD.)
Think of the enemy COA as a story with a start, middle, and end. By this stage, it is apparent who the enemy is, what he possesses, and his goals. Most likely/most dangerous COAs provide details of battlespace and possible enemy maneuvers. Link with assessed intent, mission, and end state. Analysis and assessment produce an informed estimate of the situation. Develop an OPORD applicable to BN OPORD; include call signs, disposition, composition, timings, triggers, supporting assets, locations, actions, mission, and end state.</td></tr>
<tr><td colspan="3">Most Dangerous COAs (against friendly mission):
The most dangerous COAs should be focused on the greatest impact to the mission’s success. In most cases, the most dangerous COAs would result in mission failure or suspension.</td></tr>
</table>

(U) Conclusion

(FOUO) The figures and tables presented in this chapter are designed to provide tools that can be operationalized and exported to any OE. As warfare evolves and mission command philosophies further develop, company-level leadership will be required to conduct more and more detailed analysis to maximize the effect achieved against the enemy's CCs. This level of analysis is vital to successful company commander leadership.

Chapter 6

(U) Capabilities Set 14, Mission Command, and the Maneuver Company

CPT Luke Hallsten, Task Force 3,
Joint Readiness Training Center, Operations Group

(FOUO) Security of the FOB (forward operating base) was easy; establishing digital connectivity from squadron to troop was harder than we thought (mission command). Some of the heroes of the rotation were the troopers responsible for the innovation that took place in regard to digital troop CP (command post) capabilities. Over the course of the rotation, we learned how to leverage, and then leveraged, the CS-14 digital communication systems at squadron and below. … But each of these efforts were long to occur; it was well into FoF (force on force) before we were able to actually communicate; had we not all been in the same location, I am not sure we could have done it in 12 days (CPX+FoF).

(FOUO) The aim of this chapter is to focus on the systems available at the company level and how these systems enhance mission command. Data was collected from observations of one light infantry battalion enabled with Capabilities Set 14 (CS-14) at the Joint Readiness Training Center (JRTC).

(U) Mission Command

(FOUO) Commanders at all levels struggle with visualizing the battlefield and developing a common operational picture (COP), both of which enable mission command. Army Doctrine Publication 6-0, *Mission Command*, defines mission command as the following:

> 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….
>
> Through mission command, commanders integrate and synchronize operations. Commanders understand they do not operate independently but as part of a larger force. They integrate and synchronize their actions with the rest of the force to achieve the overall objective of the operation.

(FOUO) If brigade and battalion commanders are challenged by mission command, it should surprise no one that most observed company commanders struggle with the concept of mission command. This leads to poorly developed, or non-existent, COPs and the inability to tie into the larger plan to achieve the overall objective of the operation.

(U) CS-14 Overview

(FOUO) CS-14 and its predecessor, CS-13, were developed and fielded to enhance situational awareness and enable mission command across a unit in the field. Of all the resources available at the company level, CS-14 promised to drastically improve the company commander's ability to exercise mission command. CS-14 consists of various tools intended to improve communications and situational awareness at all echelons.

(FOUO) At the squad and platoon levels, CS-14 provides digital and voice communications in the form of the AN/PRC-155 mounted/dismounted radio (provides Soldier radio waveform [SRW], single channel ground to air radio system, tactical satellite, very high frequency, and high frequency capabilities); Joint Capabilities Release (JCR)/Blue Force Tracker (BFT) in vehicles; and the NETT Warrior system, which includes the AN/PRC-154A rifleman radio (SRW only) and the end user device (EUD). As designed, these systems allow elements to communicate via digital voice (SRW) over the AN/PRC-154A and the AN/PRC-155A, via frequency modulation in the form of the AN/PRC-155A, and with free text via the JCR/BFT and EUD. Another capability that CS-14 provides is the ability to populate position location information (PLI) with the NETT Warrior system or via JCR/BFT.

(FOUO) The same systems are available at the company level with the addition of the Soldier network extension (SNE) and JCR/BFT tactical operations center kit. The SNE provides the company commander with on-the-move or at-the-quick-halt JCR/BFT; voice over Internet protocol/voice; full motion video/UAV access; imagery; e-mail/portal access; a bridge to lower and higher tactical internets; and PLI extension.

(U) CS-14 in MREs

(FOUO) MREs at the JRTC are fairly static; of late, MREs have become hybrids that incorporate elements from the decisive action training environment (DATE). In both MREs and DATE, one of the shortcomings of the NETT Warrior system is it is a line-of-sight system with a range up to 2 kilometers, depending on terrain. Beyond that, line of sight can be achieved, but requires radio networking — having radios within range of each other, all the way back to the location receiving the report. This severely limits the ability for long-range communications and the ability to populate PLI for outlying units.

Figure 6-1. One unit's attempt at radio networking.

(U) Mission Command and the Integration of CS-14

(FOUO) In most cases, platoons and squads utilize the NETT Warrior system for communication within each platoon and squad's organic element, for route planning and land navigation. The more advanced (or better trained) units are, the more likely units are to utilize this system as a collaborative planning tool, designating sectors of fire; developing sector sketches; sending nine-line medical evacuation requests; marking obstacles, friendly locations, enemy locations, and support-by-fire positions; and sharing intelligence with higher and adjacent units.

(FOUO) The best utilization of CS-14 was by a company that incorporated the system into its command post and utilized the NETT Warrior system to track patrols, send and receive reports, report obstacles, and send up platoon sector sketches. This information was received by the company executive officer via his EUD. He then would transpose the information onto an analog COP in the CP. This enhanced the commander's ability to visualize the battlefield, which enabled him to make timely and sound decisions in support of the operation.

(FOUO) Units that either did not utilize the systems or did not utilize the systems to the full extent of its capabilities, had difficulties battle tracking, reporting, and developing shared understanding across the formations. It became apparent that while some Soldiers know how to operate the equipment, and operate it well, many of the Soldiers that were initially trained on the systems are no longer in the unit and the training was never passed on.

Figure 6-2. A company commander utilizes the AN/PRC-154A radio.

(U) The Necessity of Analog Systems

(FOUO) Throughout the rotation, observer-coach/trainers placed heavy emphasis on the necessity of analog systems to supplement digital capabilities. Initially, units were slow to accept this coaching and relied heavily on digital systems; however, as the rotation progressed, it became apparent that the unit did need analog systems because digital systems failed and information was not readily available to the company leadership on a medium that was accessible. This is more apparent during DATE rotations when commanders attempt to use their vehicle as a mobile command post with overlays, unit locations, sector sketches, etc., on their BFT. This does not allow for shared understanding across the company and hinders the subordinate leader's abilities to plan and execute operations.

Figure 6-3. The difference between a command post during a military rehearsal exercise (left) and a DATE rotation (right).

(U) Conclusion

(FOUO) In summary, CS-14 is a tool that can, and should, be utilized at the company level and below. When used in conjunction with analog systems it greatly helps the commander visualize the battlefield and enhances mission command. While there is a training aspect that must be addressed to ensure that Soldiers know how to utilize the equipment to its full potential, this training is available and can even be conducted internally by the unit.

Chapter 7

(U) Aeromedical Evacuation Operations in Future Conflict

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Aviation Division, Joint Readiness Training Center, Operations Group

Figure 7-1. Medical evacuation operations at the Joint Readiness Training Center.

(U) The sun rises over the poppy fields of southern Afghanistan as your platoon maneuvers toward a village where a meeting is set to take place with local Afghan leaders. Suddenly, 10 meters ahead, a small but powerful explosion pierces the silence. Your friend and fellow Soldier has triggered a pressure-plate improvised explosive device, and now the fight to save his life begins. Immediately, you administer buddy aid and call for the platoon medic, who quickly arrives and begins treating the blood hemorrhaging from a partially amputated leg. A tourniquet is applied to the wound while a security parameter is set and the platoon sergeant calls in an urgent nine-line aeromedical evacuation (AE) request. Within minutes, an aircraft arrives to transport the severely wounded Soldier to the nearest treatment facility with medical personnel trained for such situations.

(U) That is not an unfamiliar scenario. We have faced such events for the past 14 years while fighting the insurgent enemies of Iraq and Afghanistan. Every Soldier who steps off a forward operating base, occupies a combat outpost, or patrols a neighborhood knows he can count on AE aircrews to fly to his location without hesitation to evacuate the severely wounded to advanced medical care. The non-contiguous battlefields of Iraq and Afghanistan require AE aircrews to regularly rush into the “lion’s den” to rescue fallen comrades at their point of injury (POI). Our dominance of the air and the unconventional wars present a relatively low air threat.

(FOUO) Consider a decisive action training environment (DATE) in which a hybrid near-peer enemy presents an active air and air-defense threat. Include in that consideration heavier casualties from sustained decisive action (DA). As a result, AE procedures must adjust to safeguard and preserve critical medical evacuation (MEDEVAC) assets from more complex and better-equipped enemy threats to ensure a fallen comrade is never left behind.

(FOUO) Current AE force structure provides one forward support MEDEVAC platoon (FSMP), consisting of three HH-60G (Pave Hawk) helicopters with associated personnel and lifesaving equipment, in direct support of a brigade combat team (BCT). The FSMP is usually assigned as a platoon to a battalion-sized aviation task force. As a low-density, high-demand asset, commanders must carefully consider the risk-reward of authorizing POI MEDEVAC missions in future DA environments. Employing AE assets in the DATE using the same tactics, techniques, and procedures used in Iraq and Afghanistan is a quick way to lose those assets. The proliferation of integrated air defense systems, anti-aircraft artillery, and surface-to-air missiles limits the freedom of movement throughout the area of operations (AO). The key to maintaining the historic 92-percent survival rate of Operation Iraqi Freedom and Operation Enduring Freedom (OEF) casualties who received rapid MEDEVAC to appropriate medical care lies in the ability of medical planners to develop solid health services support plans executed through deliberate, well-planned FSMP operations managed by the air ambulance company and platoon leadership.

(FOUO) As outlined in Army Techniques Publication 4-02.3, *Army Health System Support to Maneuver Forces*, "medical treatment and MEDEVAC must be synchronized with all medical functions considered and planned for within the operations process." The brigade surgeon, who also serves as the medical mission approval authority to employ AE aircraft for patient evacuation, has primary responsibility for health system support (HSS) planning, including prioritization, triage, and assignment of nine-line MEDEVAC requests within the BCT AO. Unlike MEDEVAC procedures in OEF, the HSS plan must address ground MEDEVAC procedures from the POI, to known casualty collection points, to pre-coordinated ambulance exchange points (AXP), and finally to an appropriate medical facility. The plan must address requirements for security, triage capability, suitable helicopter landing areas, and trained medical personnel required to stabilize casualties as they move through the backhaul process. Finally, the HSS plan must address additional MEDEVAC capabilities required to sustain continuous medical operations such as blood and medical supplies movement, patient transfer procedures, and integration into higher-level and host-nation medical procedures.

(FOUO) To resource and execute the AE aspect of the HSS plan, the FSMP leader and platoon sergeant serve as the critical link that connects the HSS plan to the aviation task force. The FSMP leader serves as a liaison with the brigade surgeon section and provides aircraft and aircrew capabilities to support the HSS plan. The FSMP leader establishes communications procedures to alert and launch AE aircraft, and articulates the aviaton task force commander's risk tolerance for enemy and meteorological factors. Fully understanding the aviation task force commander's risk tolerance allows the FSMP leader to advise HSS planners on additional force protection requirements needed to execute a MEDEVAC mission in a DATE. Those requirements address attack aircraft to secure a high threat AXP, use of artificial illumination during periods of very low illumination, and additional on-board medical attendants for specific types of injuries. After completing the HSS plan and fully integrating AE procedures into the medical support scheme, the FSMP leader executes troop leading procedures (TLPs) to articulate the plan to AE crews and to prepare for mission execution.

(FOUO) FSMP leaders should use TLPs to plan and develop an operation order to brief their assigned Soldiers on the employment of AE assets to support the BCT HSS plan. After receiving the mission, the FSMP leader should issue an initial warning order to the platoon for mission clarification, provide initial AO information to determine aircraft configurations, and establish the planning timeline to assume AE duty. To properly stage and prepare aircrews and equipment, the FSMP leader conducts parallel planning with higher headquarters to nest the plan into both the aviation task force plan and the HSS plan. The FSMP leader coordinates required support for execution. The tentative plan should include the following:

- Verification of friendly unit locations
- Locations of all medical stations, AXPs, and forward arm and refuel points
- Map reconnaissance and imagery analysis of helicopter landing zones
- Tentative standard flight routes, aircraft escort requirements, and launch notification procedures

The final plan refines all of this information in the platoon operation order, allowing aircrews and flight medics to finalize aircraft configurations, acquire required Class VIII (medical) supplies, and establish movement plans to occupy forward assembly areas to ensure operational reach to all AXPs within the AO. As the final requirement of TLPs, the FSMP leader should stage all crews and aircraft to support combat operations, establish the platoon command post/communications nets, and initiate the crew rest plan.

(FOUO) Throughout combat operations, the FSMP leader engages with the aviation task force to track future operations, such as a major air assault that may require an AE surge to support the mission. Such deliberate operations may require the FSMP leader to develop specific AE routes to deconflict air ambulances from other aircraft flight routes, restricted operating zones, prepared artillery areas, battle positions, and gun-target lines, synchronizing the MEDEVAC plan within the deliberate operation. AE crews normally follow standard 12- or 24-hour duty cycles as outlined in unit standard operating procedures, but deliberate operations may interrupt these cycles, requiring higher-level commanders to accept the risk of temporary reduction in AE coverage. The FSMP leader must advise the brigade surgeon of any deviations from the standard medical coverage outlined in the BCT HSS plan to allow a temporary shift to ground MEDEVAC coverage through the deliberate operation window.

(FOUO) As witnessed during the past 14 years of conflict in the Global War on Terror, AE has served as a key enabler across the battlefield, requiring coordination, leadership, and synchronization executed with an understanding of the operations process and development of the HSS plan. As the subject matter experts for AE operations, air ambulance commanders and FSMP leaders must engage early and often in planning and executing the AE aspect of the HSS plan, especially as the Army shifts its focus toward DATE operations against peer and near-peer enemy threats. These AE experts must rapidly adapt to the new operating environment. The best practices accumulated through the past several years in Afghanistan and Iraq should be applied while making critical, informed adjustments to operating procedures that preserve high-demand, low-density AE assets. Getting back-to-basics mission planning to develop a comprehensive HSS plan that effectively supports the ground tactical plan is the first step. The plan must address the threat profile and the commander's risk threshold. The proper use of TLPs arms Soldiers with the pertinent information needed to successfully execute the mission.

Chapter 8

(U) Personnel Recovery: Plan, Train, Prevent an Isolating Event

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Figure 8-1. A Soldier trains for an isolating event.

(U) Imagine being deployed to a combat zone on a UH-60 Blackhawk helicopter with five other Soldiers and four aircrew members. The flight is headed for a combat outpost where you and the other Soldiers will link up with a newly assigned unit. While en route, there is a sudden jolt and the aircraft lurches out of control. A fireball explodes outside of the helicopter's right door. Ears ringing and completely disoriented, you find yourself being pulled out of a burning aircraft in total darkness. As your head clears, you realize that you and three other Soldiers, fellow passengers from the aircraft, are the only survivors. The wingman from the flight is nowhere in sight.

(U) You are now in the midst of what the Army refers to as an "isolating event," a deliberately dry, understated description of being alone or nearly alone in a hostile environment. Why deliberately understated? Because panic is not conducive to survival. And before you say, "I'm not a pilot," or "I am not special forces," ask yourself: "Did you ever fly in theater? Did you ever get on board a convoy as a strap hanger?" Unless you magically materialized inside a secure forward operating base, you were exposed to the risk of an isolating event.

(U) Train Before You Need It

(FOUO) Just how prepared are you and your Soldiers for an isolating event? What are your actions? What is the proficiency level of the Soldiers around you? In an instant, any Soldier can become the victim of an isolating event, attempting to recall the proper actions and steps to evade and maneuver for recovery. Unfortunately, as witnessed at the Joint Readiness Training Center (JRTC), very few Soldiers understand basic personnel recovery (PR) skills, nor do they have the proficiency needed to successfully evade during an isolating event. It is often said, "A thousand days of evasion are better than one day in captivity." Are you prepared?

(FOUO) Army leaders must understand the critical importance of PR training and proficiency for every Soldier. Although Soldiers are required (see Army Regulation 350-1, *Army Training and Leader Development*) to complete annual computer-based training on the code of conduct, PR concepts and responsibilities, and survival, evasion, resistance, and escape (SERE) Level A, most Soldiers cannot explain basic isolated Soldier guidance (ISG) or its purpose. Most cannot state their official status in the event they become isolated. Current computer-based training includes Army PR 101, Army SERE 102, Army PR 101C, and Army PR 202 on the Army Learning Management System and joint products SERE 100.1, PR 102, and PR 106 on Joint Knowledge Online. However, this training alone does not adequately prepare Soldiers and leaders for an isolating event. Leaders must move beyond computer-based training and plan and execute hands-on PR training events aimed at ensuring Soldiers understand PR tasks, achieve proficiency on the application of ISG, and properly understand PR authentication procedures. Training plans should include classes and validation on the following PR proficiencies (see FM 3-50, *Army Personnel Recovery*):

- Preserve life
- Architecture and doctrine
- Communicate
- Endure hardship
- Navigate

Proper hands-on training and rehearsal of PR actions ensure that Soldiers and Army civilians in the command are trained in all aspects of PR to include both actions as isolated personnel and as a recovery force or staff. The unit must conduct training that includes operations to recover isolated personnel. Take it beyond the computer screen; make the doctrine real through application.

(FOUO) Observation 1: Most Soldiers are Unfamiliar With, and Therefore Untrained, in PR Proficiencies

(FOUO) At the JRTC, PR enabling training exercise lanes are executed during most rotations. Units normally send a broad range of military occupational skills (MOSs) to the lane, including cooks, fuel handlers, medics, communication specialists, logisticians, aircraft mechanics, pilots, and other aircrew members. Ranks vary from lower-enlisted Soldiers to seasoned pilots with multiple combat tours. Regardless of MOS, rank, or skill, the common trends observed across all units include inability to perform basic shoot, move, and communicate skills such as individual

and squad movement techniques, map reading, land navigation (utilizing a map and compass), and talking on a radio via secure or unsecure means. Observations show that most Soldiers have never performed these tasks outside of initial-entry training, and the limited training conducted at the unit is insufficient to build individual confidence and proficiency. Robust, recurring training on basic skills such as navigation, first aid, communications, and individual movement techniques will provide a solid foundation for surviving an isolating event, but training plans must also include knowledge and application of ISG.

(FOUO) Observation 2: Most Units Focus PR Training on Pilots

(FOUO) Most units focus aircrew members, and more specifically pilots, on PR training. However, Soldiers who may travel "outside the wire" as a member of a convoy, who fly between unit locations across the AO, or patrol outside of a tactical unit area are all subject to potential isolating events. Commanders must ensure all Soldiers receive the individual training necessary to maintain proficiency in the fundamental tasks of preserving life, establishing and maintaining communication, and navigation. Proper training and proficiency in these tasks will instill the confidence and skills that Soldiers need to understand the recovery architecture, relate it to their situation, develop a PR plan within ISG, and try to survive with the confidence that U.S. forces will recover them from the isolating event.

(U) Develop ISG and PR Training Plans, Then Execute

(FOUO) Proper PR planning requires commanders and staffs to develop training scenarios containing detailed PR and ISG plans, which build Soldiers' confidence and enables them to apply the universal PR principles to any real-world isolating event. Units with known regional alignment or prescribed missions should tailor PR training to the environment in which units expect to operate. For other units, JRTC recommends they focus on execution of PR training in a decisive action environment.

(FOUO) The decisive action environment challenges friendly forces to defeat a near-peer enemy threat in a linear battlefield environment while simultaneously executing defensive and stability tasks, such as fighting insurgent and criminal elements. The linear battlefields of the decisive action fight complicate PR planning, requiring additional planning and resources to manage a PR event. Using Field Manual 3-50 as a guide, units can develop PR training plans that describe the organization, training, and equipment requirements unique at each echelon, and how these elements apply to the decisive action environment. Unlike the environments of Iraq and Afghanistan, where the perception was that the presence of friendly forces throughout the AO would allow for immediate recovery of isolated personnel, decisive action environments may require friendly forces to move into previously unoccupied areas within the AO or conduct other "out of sector" missions isolated from friendly units. Isolating events occurring in these areas will require Soldiers to evade enemy forces, navigate toward friendly positions, and communicate effectively for rescue operations.

(FOUO) To provide oversight and development of robust PR training plans, commanders employ a personnel recovery officer (PRO). The PRO develops training scenarios aimed at increasing the proficiency of individual Soldiers in executing PR tasks. The PRO also trains staff officers in their PR roles. Similar to other battle drills, PR events require time-sensitive, deliberately planned, and well-rehearsed action to ensure rescue operations occur rapidly, instinctively, and parallel to current operations. Employing the PRO to develop, train, and execute PR training plans ensures commanders comply with regulatory guidance outlined in AR 525-28, *Personnel*

Recovery, which mandates PR training and preparations. Incorporating PR training tasks in Army warrior tasks and battle drills that dictate a specified number of common tasks and iterations over each annual and semi-annual period strengthens the PR program and grows confidence in Soldiers in accomplishing PR tasks.

(U) Conclusion

(FOUO) As the Army transitions from more than a decade of counterinsurgency operations, robust PR training must be reinvigorated and executed at every level. Soldiers eagerly move to the front lines to face a determined, highly trained enemy in the decisive action environment, and as leaders, we should emphasize the notion that no Soldier will be left behind. This is accomplished through sufficient training and proper emphasis on PR as a whole, not relying solely on computer-based training programs that only introduce PR concepts and over-arching principles. Thorough, hands-on training and practical exercises in PR develop a strong Soldier mindset that includes faith in the Army, belief in the code of conduct, and the will to survive. This mindset is reinforced through training and a thorough understanding of the PR architecture and functions. These provide Soldiers at all levels the ability and means to return with honor.

Chapter 9

(U) Theater Response Force and Quick Reaction Force: Best Tactics, Techniques, and Procedures Observed at the Joint Readiness Training Center

CPT Alexander Bowling and SSG David McKinzey

(U) "A quick reaction force is a designated organization for any immediate response requirement that occurs in a designated AO [area of operations]. In contrast to a unit designated as a reserve, a quick reaction force is not committed to support one particular mission but rather is on call to respond to a multitude of contingencies within an operational area."

Army Tactics, Techniques, and Procedures 3-21.71
Mechanized Infantry Platoon and Squad (Bradley)

(FOUO) A theater response force (TRF) mission, like the quick reaction force (QRF), maintained at the battalion, brigade, and division in the counterinsurgency environments of Afghanistan and Iraq, is purposely ill-defined. A unit assigned as a TRF/QRF must shape its planning and preparation to be successful and mitigate the uncertainty associated with the QRF mission. Success during execution, which includes everything from notification until the unit returns to base, relies on the unit's ability to plan and prepare for fluid, unusual, and dynamic operations.

(FOUO) While most reaction forces vary in composition, capability, and method of infiltration, this chapter explores some fundamental ideas a unit should consider once it is designated a TRF or QRF. Some of the best observed reaction force practices include the following:

- Clearly defined activation/launch criteria and release authority.
- Configuring Soldiers, weapons, and equipment for movement by air or ground.
- Established and rehearsed alert procedures.
- Well-defined mission command structures (including staff support).
- Liaison officers (LNOs) in the release authority's headquarters.
- Contingency operations (CONOPs) for the types of missions the unit is likely to support.
- Coordination with the battlespace owner (not only to inform of reaction force operations, but also to request enabler support not organic or attached to the reaction force).
- Consistent rehearsals and continuous refinement.

(FOUO) A TRF also may want to consider developing multiple planning teams within its headquarters, especially for a combat training center deployment, as a TRF likely will receive the order to execute a future operation while in the middle of executing an operation.

(U) Activation and Launch Criteria and Release Authority

(FOUO) Activation and launch criteria are defined as the specific reasons to launch the TRF/QRF. While it is impossible to predict every situation, the minimum criteria for launch should be related to identifiable decision points to enhance understanding at all levels. Units requesting QRF support have to know when to expect support (and when not), as well as what information the headquarters will need to meet the minimum standards required to activate the TRF/QRF. Accidental activations, confusing launch criteria, and miscommunications between echelons constantly plague formations rehearsing and executing TRF/QRF operations for the first time. Clearly defining the release authority for the TRF/QRF also goes a long way in avoiding confusion by ensuring the TRF/QRF is not activated simply based on a request, but based on the commander's decision to launch.

(U) Configuring Soldiers, Weapons, and Equipment for Movement by Air or Ground

(FOUO) While the response time may vary by mission, the tasks that have to be accomplished upon notification remain the same. At the platoon and company levels, those tasks include accountability of personnel, preparation of personal gear, communication and vehicle readiness, and implementation of night equipment (running to the aircraft is not the time to switch from dark to clear lenses). The small units must integrate enablers such as explosive ordnance disposal; chemical, biological, radiological, nuclear and explosive teams; military working dogs; civil affairs; and others. At the battalion level and above, the tasks include coordinating support from enablers such as intelligence, close combat attack, close air support, and casualty evacuation. The battalion should update and refine intelligence and develop execution tools (ExCheck, gridded reference graphic, etc.).

(U) Established and Rehearsed Alert Procedures

(FOUO) The worst time to figure out what a unit needs and how long it will take it to get it done is when the unit is alerted for the first time. Codifying everything the unit and the headquarters need to do once the unit is alerted will streamline the readiness of the unit. In planning alert procedures, the unit must recognize that specific actions enable a reaction force to prepare and launch within a predetermined time standard. Thus, readiness conditions must be established and fully understood by all units involved. Readiness conditions, as defined in Field Manual 3-21.10, *The Infantry Rifle Company*, are simple time standards ranging from REDCON 1 (immediately) to REDCON 4 (be prepared to move in two hours).

(U) Well-Defined Mission Command Structures (Including Staff Support)

(FOUO) The mission command structure for a reaction force should resemble a standard chain of command, but the TRF/QRF must clearly understand who the higher headquarters is, submit routine/standard reports to that higher headquarters, and tie in to its battle rhythm. This also applies to every single staff function or warfighting function (WfF). Not only does this provide the higher headquarters with greater visibility of the reaction forces' status, it also facilitates communication between the reaction force and the higher headquarters. The reaction force must

know who it goes to for support as it relates to the mission. This basic understanding and cross-talk become even more important in reaction force operations where a platoon, company, or battalion is typically no longer reporting to its normal parent headquarters. Creating products, shared expectations, and rehearsing this process greatly enhance the support, which drastically improves the effectiveness of TRF/QRF operations.

(U) LNOs in the Release Authority Headquarters

(FOUO) Establishing LNOs within the release authority headquarters is a must when it comes to supporting efficient reaction force operations. That specific relationship could range from a constant presence in the headquarters, typically observed at battalion and above, to simply participating in select battle rhythm events and switching to a constant presence during major operations when the reaction force is likely to be activated. Regardless of the method used, the reaction force LNO needs to have a current understanding of ongoing, planned, and possible operations within the AO, especially those operations that may require reaction force support. Likewise, the LNO can provide the headquarters with the status of the reaction force at all times, both between and during reaction force operations.

(U) CONOPs for the Types of Missions the Unit Supports

(FOUO) Reaction forces that generate CONOPs for the types of missions they may be asked to support typically reduce the time required to begin operations once they are notified. Generating a basic CONOP forces the unit to identify general requirements by WfF to support each mission. At a minimum, the CONOP enables the unit to predict what size force is required, identify enablers to support the mission, and develop a general concept and timeline for the operation. Some of the missions a reaction force might encounter include personnel recovery, downed aircraft, and friendly forces being overrun.

(U) Coordination With the Battlespace Owner

(FOUO) Coordination with the battlespace owner (BSO) is a must for reaction force operations. As stated earlier, the coordination goes beyond simply informing the BSO that the reaction force is operating in its AO. The reaction force is rarely assigned every enabler it needs to accomplish its mission, simply due to availability of assets. Depending on the mission, the reaction force may require intelligence, surveillance, and reconnaissance; close combat attack/close air support; combat aviation brigade; or casualty evacuation support. It requests that support from the BSO. While this reliance on the BSO may be an added requirement for both the reaction force and BSO, it also enables communication between the two elements. This established communication between the reaction force and BSO may become especially important if the reaction force has to receive approval from the BSO for select operations or effects.

(U) Consistent Rehearsals, Continuous Refinement, Constant Readiness

(FOUO) A TRF/QRF should never be part of a unit rest cycle; readiness demands more than just executing mission essential task list (METL) tasks. Any element operating as part of a response force must understand that detailed preparation, refinement of tactics, techniques, and procedures (TTPs), improvement of planning standard operating procedures, and targeted rehearsals are the only ways to optimize mission execution. CONOPs must be updated and refined as situations in the AO dictate as described by the BSO and supported by the release headquarters. LNOs at the release headquarters should remain on constant alert for new missions and taskings. If

every element of the TRF/QRF works on the continuous improvement of the organization's capabilities, the chaos normally associated with rapid activation and uncertain missions will undoubtedly be mitigated, resulting in a more effective force.

(U) The Way Ahead

(FOUO) TRF/QRF operations are seldom part of a unit METL and are rarely trained in garrison. However, upon receipt of a QRF mission, it falls on the unit to begin preparing its personnel, equipment, TTPs, planning efforts, LNOs, and overall mentality to that of a force dedicated to sharpening its sword until that singular moment when the element is called upon to strike. Leaders must determine every possible aspect of configuring their force, alert procedures, and activation methods to most effectively respond to a variety of missions. Recognizing the intent of a TRF/QRF is to provide additional combat power capable of responding to a situation in a moment's notice, the above TTPs detail methods to optimize TRF/QRF operations and send a more capable force out the gate faster.

Chapter 10

(U) The Tactical Unmanned Aircraft System's Role In the Decisive Action Training Environment, Joint Forcible Entry

SFC Jamie Simmons, Senior TUAS Observer-Coach/Trainer, Joint Readiness Training Center

(FOUO) Units across the Army face many challenges in employing the Shadow 200 tactical unmanned aircraft system (TUAS) in the austere environment of a decisive action training environment (DATE) at the Joint Readiness Training Center (JRTC). There has been no actual expeditionary employment of the Shadow 200 TUAS since U.S. forces initially entered Iraq in 2003. Unmanned aircraft vehicles (UAVs) have been in the U.S. defense inventory for more than 20 years. Still, rotational units experience significant challenges in integrating and exploiting the asset during the critical phase of a joint forcible entry (JFE) by brigade combat team (BCT). There are arguments for and against using the BCT TUAS during a JFE. It gives the BCT commander his own internal intelligence, surveillance, and reconnaissance (ISR) platform for finding enemy positions. On the other hand, there are divisional and higher assets that redundantly perform this function. The challenge to the unit is planning how the TUAS will follow the BCT into the area of operations (AO) where operational ISR is already present.

Figure 10-1. An RQ-7B (unmanned aircraft system) lands at a drop zone.

(U) D-2 to D-Day

(FOUO) The TUAS platoon initiates planning almost immediately during reception, staging, onward movement, and integration to engage with the S-2, brigade collection manager, and the area denial anti-personnel mine/brigade aviation element to establish collection priorities; obtain named areas of interest, targeted areas of interest, and high value target lists; and coordinate planned fire missions and establish priorities of fire. The TUAS platoon receives an operations and intelligence briefing outlining potential threats. Ideally, the platoon conducts its first TUAS launch several days before the actual insertion into the AO and optimally each day thereafter. The first flights conducted play an integral role in intelligence preparation of the battlefield to collect and develop the information needed by the BCT commander to plan his assault on the objective. The TUAS can and should be used during this period to find enemy locations and obstacles. An advantage of using the organic BCT TUAS during this phase is that the chief of operations has full retask authority over the asset and can more directly dictate near-real-time full-motion video for the BCT.

(FOUO) The TUAS at D-2/D-1 is at the initial staging base (ISB) with the BCT. By D-Day the TUAS is in the first serial and deploys a ground control station (GCS) and ground data terminal as the BCT pushes forward to the staging area. The TUAS also should send forward a set of arresting gear, a tactical automated landing system (TALS), and a launcher to take over the mission from the ISB and to begin setting up a new launch and recovery site (LRS) if the platoon has the available personnel and equipment. The mission planning and control site (MPCS) remains with the brigade tactical operations center (TOC) or forward with the tactical command post (TAC).

(FOUO) The platoon uses a 72-hour surge cycle to ensure that the TUAS can accomplish the BCT commander's intent. While there is increased risk due to crew fatigue, the BCT commander's priority intelligence requirements must be answered. On D-Day, the TUAS platoon's mission focus shifts from information collection operations to reconnaissance, surveillance, and target acquisition during the assault on the objective, ideally confirming and fixing enemy locations. The TUAS maintains direct communications through the communications relay package to assist the ground commander in flanking and moving toward targeted positions. The TUAS collaborates with fires as a means of destroying and disrupting the enemy while the BCT maneuvers ground forces toward the objective. The TUAS platoon also works in unison with task force aviation assets by employing remote Hellfire designation. The complexity of coordination requires a rehearsed and validated primary, alternate, contingency, and emergency (PACE) communications plan and a dedicated command post node (CPN) for redundant and digital means of communications.

(FOUO) An advantage of employing an unmanned system is that if it is shot down, no aircrew personnel are lost. Therefore, using manned-unmanned teaming is a principal skill required for TUAS and manned-aviation personnel. TUAS platoons require training on the multitude of threat capabilities to avoid needless loss of aircraft and increased risk against mission accomplishment. The SA-18 Grouse man-portable air defense system is the largest threat posed to TUAS during most rotations at the JRTC. Soldiers trained in the threat capabilities of the SA-18 and other ground-to-air attack platforms will greatly improve their ability to function and survive in theater.

(U) D+1 to D+2

(FOUO) The MPCS at the TOC will jump with the TOC or TAC to the objective once the LRS (at the staging area) has full mission control. The LRS is established at the objective while maintaining the MPCS at the brigade TOC or TAC. The MPCS continues to function at minimal manning until the LRS makes its final jump. The MPCS requires enough personnel to maintain mission posture, conduct site surveys, and build the new LRS at the objective. With minimal equipment in place, the LRS at the staging area collapses and jumps to the final site on the objective. Several factors must be considered in selecting the LRS site, such as placement and equipment security, discussed in the following sections.

Figure 10-2. The TUAS platoon's mission command node.

(U) Placement

(FOUO) The proper placement of equipment can determine the survivability of the platoon. TUAS personnel, Army-wide, have developed a sense of complacency in site selection and equipment setup after years of falling in on already improved runway surfaces and developed infrastructure on forward operating bases. Plan for and deploy with tents that create a minimal signature. Large tents should not be used until a more stable, secure environment can be created and maintained. There is a general lack of understanding of the tactical requirements needed to perform in a decisive action environment.

FM 3-21.10, *The Infantry Rifle Company* (Page 3-84), lists several characteristics of an assembly area, which also apply to the TUAS LRS.

(U) Cover and concealment are important if the company is to remain in the area for any length of time. Vehicles, equipment, entrances, and exits should be camouflaged to keep the enemy from detecting the location of the company. Consideration should be given to the following:

- Concealment.
- Cover from direct and indirect fire.
- Defendable terrain.
- Drainage, and a surface that will support vehicles.
- Exits and entrances, and adequate internal roads or trails.
- Space for dispersion of vehicles, personnel, and equipment.
- A suitable landing site nearby for helicopters.

(FOUO) The TUAS platoon also should use the following factors to determine the placement of equipment and sleeping areas for Soldiers:

- Concealment.
- Cover from direct and indirect fire.
- Defendable terrain.
- Drainage, and a surface that will support vehicles.
- Space for dispersion of vehicles, personnel, and equipment.

(FOUO) Concealment is difficult to accomplish for the TUAS platoon; however, there are measures that can minimize the signature of the LRS. Use of ultra-lightweight camouflage net systems (ULCANS) serve several purposes, primarily to conceal the large amount of equipment on site and provide needed shade to TUAS equipment such as the data interface boxes, which are prone to overheating in direct sunlight. The TUAS platoon also requires engineer support to arrange for protective security measures such as berms, T-walls, or HESCO barriers. Rotational units do not rehearse site security and improvement, and they struggle to develop fighting positions, sleeping areas, and maintenance areas. The Shadow runway itself cannot have any structures, either natural or manmade, within 60 feet of the centerline in accordance with Engineering Technical Letter 1110-3-510, *Aviation Complex Planning and Design Criteria for Unmanned Aircraft Systems*; however, the commander may make a risk decision based on mitigating circumstances inherent to the decisive action environment.

(FOUO) Platoons that have come through the JRTC during the past year have set up equipment side by side with sleeping areas and maintenance tents, all within the blast radius of one 155mm artillery round. It is imperative that appropriate distances be maintained between the GCSs, vehicles, fuel and petroleum products, and tents at the site. Maximize the cable length when emplacing the GCS and TALS. Setting up the equipment 30-50 meters apart will limit the amount of damage caused by indirect fire. Fuel should not be kept within the perimeter of the TUAS footprint, if possible; if not possible, the fuel and air vehicle transporter should be located no closer than 300 meters from any mission essential equipment and sleep areas, and should be placed in a fuel bunker or berms. The Soldiers' sleeping area should be at least 50 meters from any equipment and should provide cover and concealment, if possible. The mission command tent's placement is limited to cable lengths for communications, video, and TALS. The portable ground-control station should be located within the mission command tent as a backup shelter, but as far as possible from the GCS. The maintenance area should be located near the runway, but far enough away so that it does not contribute to a mass casualty event during an artillery attack. Dispersion of equipment and mission command nodes necessarily creates a large footprint for the TUAS platoon to cover and makes security a significant challenge.

Figure 10-3. A TUAS platoon maintains appropriate distances between vehicles, fuel products, and tents.

(U) Security

(FOUO) In an ideal situation, the TUAS platoon would have an infantry platoon attached to it for security. This would allow the TUAS platoon to conduct its mission with minimal disturbance to crew-endurance policies (outlined in standard operating procedures [SOPs]) and heavy maintenance schedules that exist in an austere environment. However, combat scenarios are hardly ideal, and the TUAS platoon must be trained and prepared to conduct its own security measures. Basic Soldier skills are a must, but the rotational units in FY 2012 and FY 2013 showed a general lack of knowledge in Skill Level 1 tasks (such as move under direct fire, react to indirect fire, and select temporary fighting positions). The TUAS Soldier focused on the operational portion of being an unmanned aircraft operator and not on being a Soldier. TUAS platoons require leaders at all levels to be involved in training-plan development to balance the

technical flight requirements with the need for warrior tasks and battle drills. As senior trainers, platoon sergeants and company first sergeants ensure their Soldiers are being trained to standard in warrior tasks, and commanders and platoon leaders resource the requests for engineer and logistics support for this critical battlefield asset.

Figure 10-4. A TUAS platoon incorporates into the brigade special troops battalion footprint.

(FOUO) Priorities of work must be addressed as the platoon leadership coordinates with the security section's leadership in the manning of hasty fighting positions with non-mission-essential personnel. The Soldiers need proficiency in developing range cards and sector sketches. Spot checks should be conducted, and duties and responsibilities should be briefed and understood by all Soldiers. Assign and deploy the TUAS with multiple crew-served weapons such as the M240B or M249 SAW (machine guns) to augment the security perimeter. A focus on home-station training is required to familiarize and qualify all personnel on multiple weapon systems besides the M9 (handgun) and M4s/M16s (assault rifles) to possess increased organic combat power as well as ease the burden of personnel rotation in the security plan.

(FOUO) Engineer and logistical support is required from higher echelons and is coordinated through the command. In addition to engineer support, the platoon requires a substantial amount of Class IV (construction/barrier materials) to improve and develop the site. This should be planned for in the unit SOP for a variety of contingency operations. If external personnel are requested and available, triple-strand concertina wire should be erected at the most strategic locations along the established berm. More permanent fighting positions are constructed and occupied. Site security depends on covering the avenues of approach, but care always should be taken to minimize fratricide. Coordination with adjacent units is made and a security and fires plan for the site is developed. Observation posts and listening posts should be established to provide early warning of oncoming danger. These posts should overwatch high-speed avenues of approach, should be manned constantly, and should have a rehearsed and validated PACE communications plan with the TUAS mission command node.

(FOUO) The lack of a dedicated security element/platoon stresses the operational capability of the TUAS and can affect mission execution. Personnel management to maintain flight crews without jeopardizing crew endurance policies and rotating guards at security positions will create additional challenges for platoon operations.

Figure 10-5. Diminish noise by placing generators in hand-dug holes.

(U) Site Improvement

(FOUO) The TUAS platoon must continually adjust and improve its site. The UAS platoon itself presents a targetable footprint for enemy surveillance with the amount of vehicles, systems, and generators on site. The UAV platoon SOP should address noise abatement, and the following measures to moderate light and noise, thereby reducing the threat, should be rehearsed.

- Position ULCANS to conceal the light signature from the GCS doors during crew changes. Opaque tarps can also be requisitioned to place over the GCS doors during shift/crew changes. The GCS is equipped with a blue light for night use, which should be utilized during operations.
- Coordinate for engineer support or hand-dig holes to embed generators.
- Create a sandbag wall around the generator 3 to 4 feet high and 1 foot from the equipment; also, build a berm roughly the same height and distance from the sandbag wall.

(FOUO) Safety of flight needs to be the priority when improving any structure within the TUAS site. Safe zones, runoffs, and dimensions of the runway and other air assets in the area should be considered when designing the end product.

Figure 10-6. A TUAS is ready for operations.

(FOUO) The TUAS platoon must conduct home-station training designed for an austere environment. Commanders and senior noncommissioned officers should plan training that is both realistic and designed to replicate the DATE. Leaders should be mindful of equipment placement and security requirements and train their Soldiers to maintain these skills. The future of warfare is dynamic, with multiple threats that will place the TUAS platoon in jeopardy, and steps need to be taken to train Soldiers to standard on how to set up equipment and properly react to enemy threats. Platoons need to be proactive with security measures and institute common-sense plans to ensure the safety of this most valuable asset.

Chapter 11

(U) M7 Spider Usage at the Joint Readiness Training Center

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Figure 11-1. The The M7 Spider is a new type of anti-personnel system.

(FOUO) The M7 Spider is a fairly new piece of equipment on which few units are trained. At most, rotational training units (RTUs) have seen the Spider emplaced around forward operating bases or combat outposts in Afghanistan. Many believe that its only use is as a protective obstacle in the defense. In truth, the Spider offers much more. With U.S. policy now aligned with the key provisions of the Ottawa Convention banning anti-personnel mines, the Army — outside of the Korean Peninsula — no longer can use the M131 Modular Pack Mine System, anti-personnel and anti-tank mixed Volcano loads, Hornets, or area denial anti-personnel mines due to the armor-piercing capabilities of these systems (even if these weapons have a self-destruct time and are within a fratricide fence). The M7 Spider does not replace "dumb" mines or scatterable mines, but it does have a place in the Soldier kit, regardless of military occupational specialty.

(FOUO) Direct-Fire System

(FOUO) The M7 Spider is not a mine, but a networked, remote-controlled anti-personnel system capable of firing grenades, Claymores, or anything else detonated with an electric blasting cap, including lethal and less-lethal munitions. The man-in-the-loop requirement to fire complies with the Ottawa Convention, and the Spider can be used for base security, a protective obstacle, terrain denial, interdiction, or ambushes. Because it is treated as a direct-fire weapon, it does not require any release authority besides the rules of engagement. Its main drawback is that it currently does not offer a practical anti-vehicle or anti-armor capability; however, that was not its original purpose.

Figure 11-2. M7 Spider preparation.

(FOUO) Limited Use

(FOUO) At the Joint Readiness Training Center (JRTC), the M7 Spider has seen limited use because of lack of training and access to the systems. RTUs often do not think about employing the M7 Spider until it is too late. The system's use is not forecast, and the M7 Spiders are not transported to the location or unit where they can have the most impact. Additionally, only the engineers have employed the system, although any branch or military occupation speciality can employ the M7 Spider with proper training. The M7 Spider can be used throughout most phases of an operation. The sensors connected to the tripwires can be used without any kinetic effects as an early warning device. The M7 Spider also can be used with Claymores on ambushes in an offensive manner, but that technique has not been used at the JRTC.

(U) The Defense

(FOUO) The uses for the M7 Spider are all in the deliberate defense, and usually are not emplaced until the last minute before the no-later-than defend time. Some uses have been to tie adjacent companies' defensive lines together when the companies cannot physically tie into one another. The M7 Spider has also been used with Claymores and no tripwires to cover gaps in its obstacles or cover lanes that have not been closed off. The remote capability allows for significantly more standoff distance to command-detonate Claymores.

Figure 11-3. M7 Spider emplacement.

(U) Conclusion

(FOUO) Units planning to employ the M7 Spider need to properly train and equip personnel, and must order the correct Class V (ammunition) supplies to use the system to its potential. Often limited in quantity, the M7 Spider must be allocated to units in locations where the system will actually be used. The M7 Spider should be used for more than just a few hours in the defense. Adjacent units must know that the M7 Spider is deployed and what the system is, so that friendly forces do not trip the alarms.

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Center for Army Leadership (CAL)

CAL plans and programs leadership instruction, doctrine, and research. CAL integrates and synchronizes the Professional Military Education Systems and Civilian Education System. Find CAL products at <http://usacac.army.mil/cac2/cal>.

Combat Studies Institute (CSI)

CSI is a military history think tank that produces timely and relevant military history and contemporary operational history. Find CSI products at <http://usacac.army.mil/cac2/csi/csipubs.asp>.

Combined Arms Doctrine Directorate (CADD)

CADD develops, writes, and updates Army doctrine at the corps and division level. Find the doctrinal publications at either the Army Publishing Directorate (APD) <http://www.apd.army.mil> or the Central Army Registry (formerly known as the Reimer Digital Library) <http://www.adtdl.army.mil>.

Foreign Military Studies Office (FMSO)

FMSO is a research and analysis center on Fort Leavenworth under the TRADOC G2. FMSO manages and conducts analytical programs focused on emerging and asymmetric threats, regional military and security developments, and other issues that define evolving operational environments around the world. Find FMSO products at <http://fmso.leavenworth.army.mil>.

Military Review (MR)

MR is a revered journal that provides a forum for original thought and debate on the art and science of land warfare and other issues of current interest to the U.S. Army and the Department of Defense. Find MR at <http://usacac.army.mil/cac2/militaryreview>.

TRADOC Intelligence Support Activity (TRISA)

TRISA is a field agency of the TRADOC G2 and a tenant organization on Fort Leavenworth. TRISA is responsible for the development of intelligence products to support the policy-making, training, combat development, models, and simulations arenas. Find TRISA at <https://atn.army.mil/media/dat/TRISA/trisa.aspx> (CAC login required).

Combined Arms Center-Capability Development Integration Directorate (CAC-CDID)

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Joint Center for International Security Force Assistance (JCISFA)

JCISFA's mission is to capture and analyze security force assistance (SFA) lessons from contemporary operations to advise combatant commands and military departments on appropriate doctrine; practices; and proven tactics, techniques, and procedures (TTP) to prepare for and conduct SFA missions efficiently. JCISFA was created to institutionalize SFA across DOD and serve as the DOD SFA Center of Excellence. Find JCISFA at <https://jcisfa.jcs.mil/Public/Index.aspx>.

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