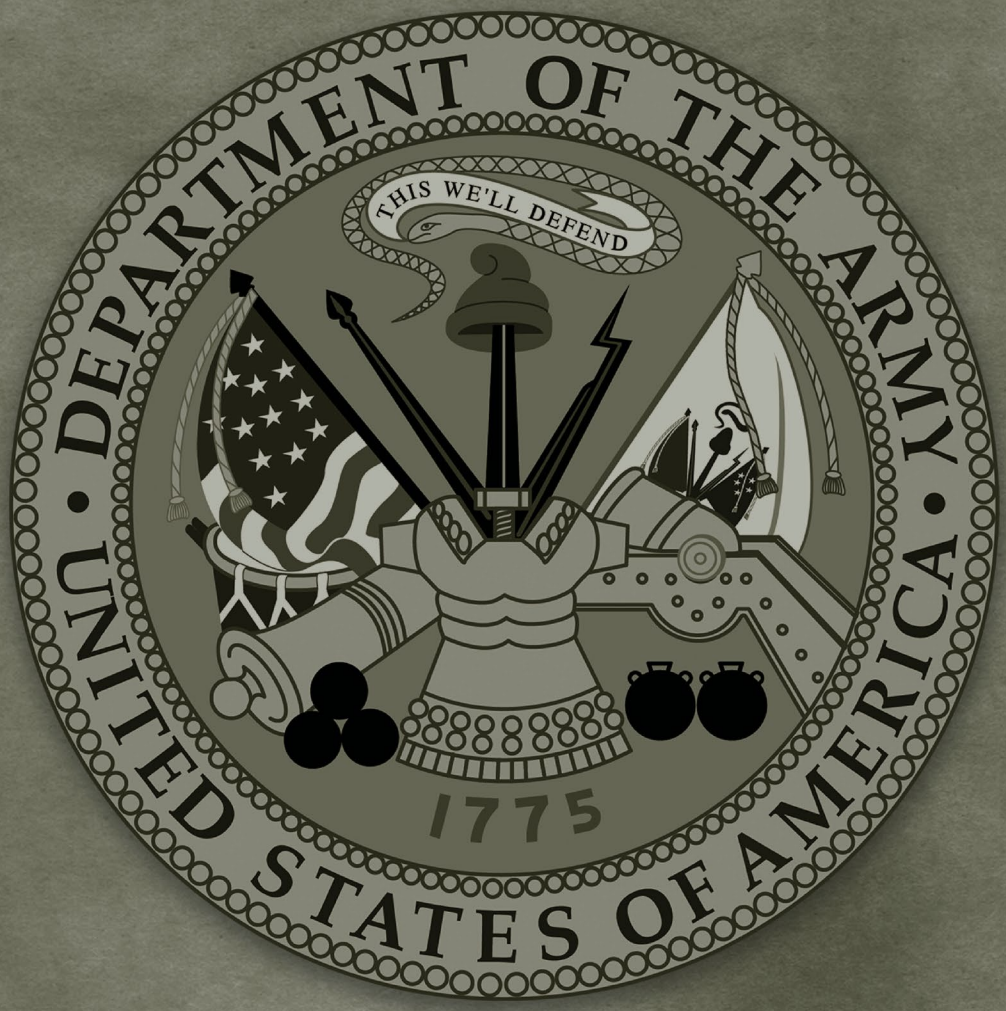
FM 4-0
SUSTAINMENT OPERATIONS



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This publication supersedes FM 4-0, dated 31 July 2019; FM 4-01, dated 3 April 2014; FM 4-30, dated 1 April 2014; and FM 4-40, dated 22 October 2013.

HEADQUARTERS, DEPARTMENT OF THE ARMY

Foreword

Advances in civilian and military technology have changed the character of warfare and the conduct of Army and joint force operations. The dilemmas posed by the integration of new technologies into the future battlefield have changed the way the Army and the joint force sustain multidomain operations. In the future, sustainment will be more complex, demanding, visible to the enemy, vulnerable, and therefore, must be more synchronized, dispersed, and responsive than ever before. FM 4-0 provides a doctrinal approach for armies, corps, divisions, and brigades to address sustainment challenges across the range of military operations, the competition continuum and the strategic contexts in which Army forces conduct operations. As the keystone sustainment doctrine, it describes how sustainment is embedded into all military operations, tasks, and activities. FM 4-0 also identifies the sustainment implications for the Army's operating concept and describes how sustainment forces are arrayed against the operational framework to include sustainment considerations for operations in a maritime environment.

The currently ongoing Russo-Ukrainian conflict is the most recent example of the current character of war, and it has provided many critical insights into how the U.S. Army will need to support large-scale combat operations in the future. FM 4-0 integrates many of these lessons learned into its doctrinal framework. The Army and joint force must quickly learn and adapt to the challenges of the modern battlefield to survive, sustain, fight, and win in the future. The wide variety of sensors and intelligence disciplines employed by our adversaries will make the future battlefield transparent and contested across its breadth and depth. Sustainment units, nodes and routes can and will be seen by the enemy. Sustainment nodes and assets will be targeted with direct and indirect fires delivered by air, land, maritime, cyberspace, space, and special operations forces. The enemy will employ unmanned aerial systems of every size and description to find and engage sustainment formations. These fundamental truths of warfare must be understood by all leaders, especially sustainment leaders, and integrated into all aspects of operations.

The geography, terrain, infrastructure, and vast distances in the Pacific and European theaters will also challenge Army and joint force freedom of action, operational reach, and endurance. These theaters have environmental conditions ranging from arctic to jungle and include complex urban, littoral, mountainous, and island terrain. In many cases, the terrain and the threat of enemy long-range fires will increase the distance between maneuver and sustainment forces and make it imperative that sustainment be precise, predictive, and data centric. The state of port, airfield, road, and rail infrastructure will also challenge Army and joint force sustainment. The Army must be able to sustain operations in austere environments where infrastructure is non-existent, unimproved, damaged, or destroyed.

The Army must continually transform to counter emerging threats and the challenges of the Pacific and European theaters. We must continue to transform in contact developing our ability to leverage data and invest in predictive logistics capabilities to make sustainment more precise. We must integrate autonomous technology into our formations, offloading risk to machines while adding depth, breath, and speed to our distribution capabilities. Reducing the demand and logistics footprint of all Army formations will also be critical to prolonging operational reach and endurance. Advancements in operational energy and alternative methods of generating and distributing power, as well as water purification and production of repair parts at or near the point of need, will help significantly reduce Army distribution requirements. Investments will be made in Army watercraft to enable movement and maneuver in maritime environments. Sustainment doctrine must also evolve to meet the challenges of the multidomain contested operating environment and describe how the Army executes sustainment operations.

Finally, success in operations requires leaders that understand and apply doctrine with judgement and discipline. FM 4-0 incorporates a chapter on leadership and training to emphasize the importance of building effective leaders and cohesive units. Now more than ever before, leaders must be innovative, adaptive, disciplined, and able to communicate at all levels.

This We'll Defend!

MICHELLE K. DONAHUE
MAJOR GENERAL, UNITED STATES ARMY
COMMANDING

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Field Manual
No. 4-0

Headquarters
Department of the Army
Washington, DC, 14 August 2024

SUSTAINMENT OPERATIONS

Contents

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Preface

FM 4-0, *Sustainment Operations* augments ADP 4-0, the Army's principal doctrine on providing sustainment in support of operations. It describes how Army sustainment forces, as part of the joint team, provide support to Army and other forces with an emphasis on support to operations. This manual serves as a companion manual to FM 3-0. FM 4-0 describes how the Army as part of a joint team is sustained during operations.

The principal audience for FM 4-0 is all members of the profession of arms. Commanders and staffs of Army headquarters serving as a joint task force or multinational headquarters should also refer to applicable joint or multinational doctrine concerning the range of military operations and joint or multinational forces. Trainers and educators throughout the Army will also use this publication.

Commanders, staffs, and subordinates must ensure that their decisions and actions comply with applicable United States, international, and in some cases host-nation laws and regulations. Commanders at all levels will ensure that their Soldiers operate in accordance with the law of armed conflict and the rules of engagement. (See FM 6-27/MCTP 11-10C.)

FM 4-0 uses joint terms where applicable. Selected joint and Army terms and definitions appear in both the glossary and the text. Terms for which FM 4-0 is the proponent publication (the authority) are boldfaced and italicized in the text and are marked with an asterisk (*) in the glossary. For other definitions shown in the text, the term is italicized, and the number of the proponent publication follows the definition.

FM 4-0 applies to the Active Army, Army National Guard/Army National Guard of the United States, and United States Army Reserve unless otherwise stated.

The proponent of FM 4-0 is the United States Army Combined Arms Support Command. The preparing agency is the G-3/5/7 Doctrine Division, United States Army Combined Arms Support Command. Send comments and recommendations on DA Form 2028 (*Recommended Changes to Publications and Blank Forms*) to Commander, United States Army Combined Arms Support Command, ATTN: ATCL-TD (FM 4-0), 2221 Adams Avenue, Fort Gregg-Adams, VA 23801-1809; by e-mail to usarmy.gregg-adams.tradoc.list.cascom-g3-5-7-tdid-doc@army.mil.

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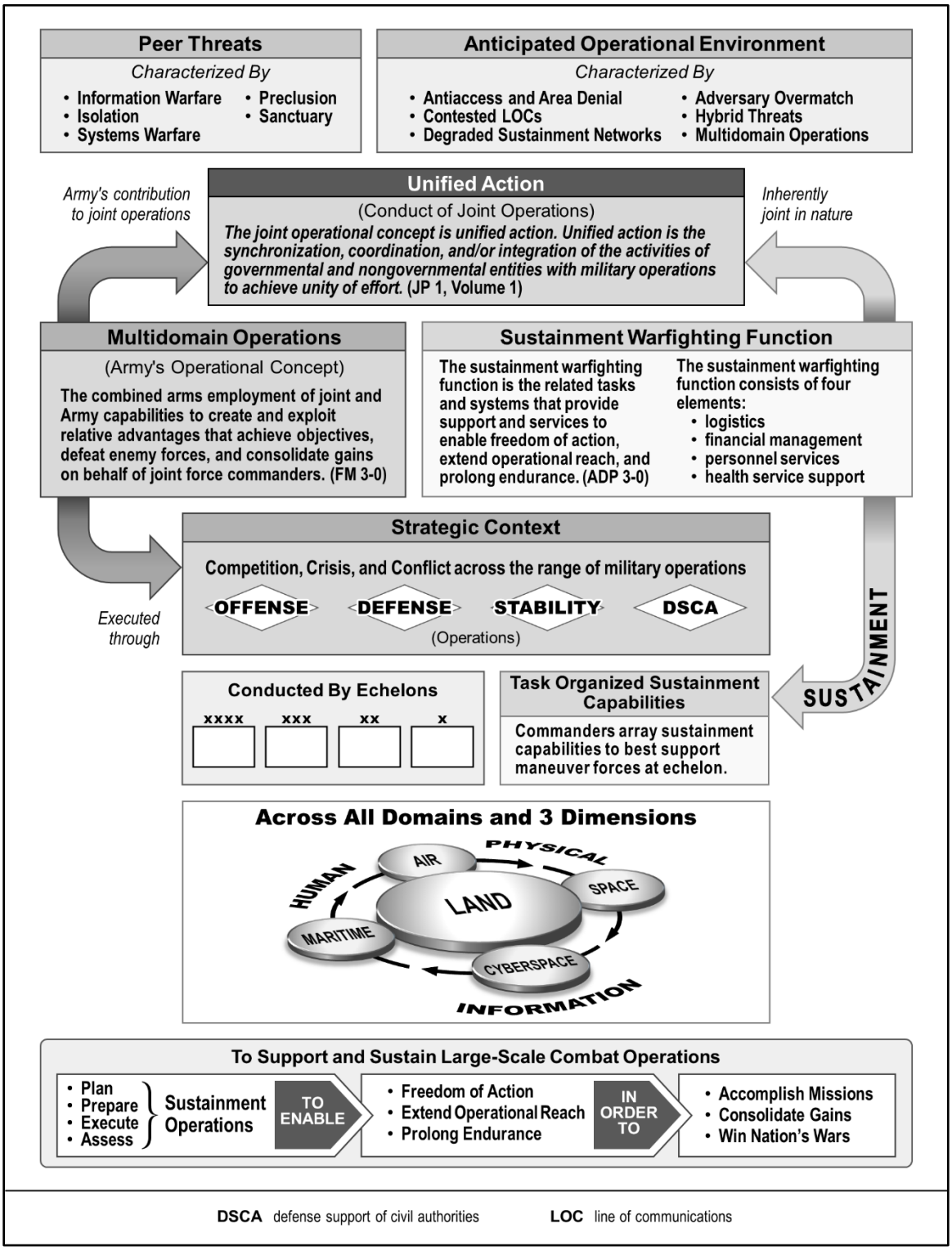
Introduction

The publication of FM 3-0 in October 2022 codified multidomain operations as the Army's operational concept. FM 4-0 describes sustainment operations in support of the Army's operational concept and how the Army supports the joint force in the execution of campaigns. It is the Army's doctrine for sustainment operations across the competition continuum at the theater strategic, operational, and tactical levels of warfare. This publication emphasizes sustainment fundamentals and tactics to provide all commanders, staffs, and Soldiers an understanding of sustainment operations. The contents of FM 4-0 are consistent with the principal sustainment doctrine contained in ADP 4-0 and serve as the doctrinal foundation for all Army sustainment operations. FM 4-0 describes how the Army and its organizations conduct sustainment operations and is the keystone Army doctrine reinforced in Army techniques publications including ATP 4-91, ATP 4-92, and ATP 4-93.

The doctrine discussed in this manual is nested with the FM 3-0 series doctrine. Sustainment is crucial to the success of operations. The endurance of Army forces is primarily a function of their sustainment (ADP 3-0). Sustainment determines the depth and duration of Army operations. It is essential to seizing, retaining, and exploiting the initiative. Sustainment is inherently joint and facilitates the joint force commander's ability to enable freedom of action, extend operational reach, and prolong endurance. Sustainment must be planned, integrated, and synchronized with operations at every level of warfare. Sustainment is dependent upon joint and strategic integration and should be coordinated to ensure resources are delivered to the point of employment. The Army's sustainment capabilities assist in providing crucial operational area opening functions enabling joint forces to achieve strategic and operational reach. Army sustainment capabilities provide the bulk of Army support to other Services, common-user logistics, and other common sustainment resources in support of the combatant commander.

The logic chart in the introductory figure on the next page is better understood if read from top to bottom. The chart depicts the peer threats and methods expected to be employed and the characteristics of the anticipated operational environment. The logic chart reflects the joint operational concept of unified action and defines multidomain operations as the Army's operational concept and how the sustainment warfighting function contributes to unified action. The logic chart displays the strategic context through which forces conduct operations and how sustainment capabilities are task organized to support operational forces at echelon across all domains. The chart concludes by portraying how sustainment of large-scale combat operations requires integration into the operations process to enable freedom of action, extend operational reach, and provide the prolonged endurance necessary to accomplish missions, consolidate gains, and win our nation's wars.



Introductory figure. FM 4-0 logic chart

FM 4-0 contains seven chapters and six appendices:

Chapter 1 provides an overview of Army sustainment operations, introduces the four elements of the sustainment warfighting function, and discusses the principles of sustainment. It also provides an overview of Army operations and sustainment challenges presented by the spectrum of violence. The chapter also describes the Army strategic context and the tenets of operations and imperatives in which sustainment forces must operate. It describes the operational environment and contested logistics environment. The chapter concludes describing sustainment of multidomain operations, the authorities and responsibilities vested in the combatant commander, and Title 10 sustainment requirements and various executive agent responsibilities.

Chapter 2 provides an overview of sustainment roles, capabilities, and a general discussion of sustainment organizations at the national strategic, theater strategic, operational, and tactical levels of warfare. This chapter concludes with a discussion of joint command relationships, Army command and support relationships, and command and support relationships by echelon.

Chapter 3 provides an overview of sustainment during competition below armed conflict. It also discusses sustainment planning considerations during competition and describes sustainment roles and responsibilities by echelon during competition.

Chapter 4 provides an overview of Army operations during crisis. It discusses sustainment planning considerations, considerations for forcible entry operations, and describes roles and responsibilities of organizations for sustainment operations by echelon during crisis.

Chapter 5 provides an overview of sustainment operations during armed conflict. It discusses the link between sustainment organizations and their associated tasks in the strategic, operational, and tactical levels of warfare. This chapter also discusses sustainment of large-scale combat operations, sustainment of defensive operations, and sustainment of offensive operations.

Chapter 6 describes sustainment operations in a maritime environment. It begins with a discussion on the characteristics of the maritime environment and the challenges they pose. It also discusses planning considerations for sustainment in a maritime environment.

Chapter 7 describes the operations process and the sustainment commander's importance in driving the operations process. It describes how sustainment commanders use operational art. The chapter also discusses how sustainment commanders can adapt their formations for missions and transitions. It concludes with training considerations for sustainment units and sustainment leader development.

Appendix A describes quartermaster operations and the functions of the Quartermaster Corps.

Appendix B describes transportation operations and the functions of the Transportation Corps.

Appendix C describes ordnance operations and the functions of the Ordnance Corps.

Appendix D discusses Army sustainment information systems and the importance of linking them to command and control systems.

Appendix E discusses and provides examples of logistics status reports and personnel status reports.

Appendix F describes the sustainment symbols within FM 4-0.

The introductory table outlines changes to Army terminology reflected in FM 4-0.

Introductory table. New, modified, and rescinded terms

Term	***Action***
precision sustainment	New term
predictive logistics	New term

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Chapter 1

Army Sustainment Operations

This chapter introduces Army sustainment operations, presenting the four elements of the sustainment warfighting function and examining the foundational principles underpinning sustainment. Moreover, it offers insights into Army operations and the challenges pertaining to sustainment that emerge within the competition continuum, a dynamic spectrum encompassing phases from peaceful competition to potential armed conflict. The chapter delves into Army sustainment forces operations and contributions within the strategic environment. The chapter culminates by delineating the provisions for sustaining multidomain operations, outlining the scope of authority and duties delegated to combatant commanders and explaining the requisites for Title 10 sustainment alongside the diverse responsibilities assumed by various executive agents.

SECTION I – OVERVIEW OF ARMY SUSTAINMENT

1-1. For the Army, *sustainment* is the provision of logistics, financial management, personnel services, and health service support necessary to maintain operations until successful mission completion (ADP 4-0). Sustainment is accomplished through the integration and synchronization of national and global resources and ensures Army forces are physically available and properly equipped, at the right place and time, to support the combatant commander (CCDR). The sustainment warfighting function leverages joint, interagency, intergovernmental, multinational, and other available capabilities to provide sustainment support to the force.

1-2. Sustainment improves force readiness and maintains Army forces by manning them with trained Soldiers and leaders; funding them with required resources; equipping them with materiel (individual and unit); maintaining Soldier and Family readiness; and enabling Army forces to conduct operations. Army sustainment is based on and enabled by an integrated process (people, systems, materiel, health service support [HSS], and other support), inextricably linking sustainment to operations. Sustainment operations focus on building an operationally ready Army, delivering it to the CCDR as part of the joint force, and sustaining its combat power across the depth of the operational area.

SUSTAINMENT WARFIGHTING FUNCTION

1-3. The *sustainment warfighting function* is the related tasks and systems that provide support and services to enable freedom of action, extend operational reach, and prolong endurance (ADP 3-0). A collection of select primary related tasks that are embedded in the sustainment warfighting function are described in chapter 2. Systems consist of personnel, networks, information systems, processes and procedures, and facilities and equipment that enable sustainment commanders to support operations. The sustainment warfighting function consists of four elements: logistics, financial management, personnel services, and HSS, each of which must be integrated and synchronized across all warfighting functions to ensure the appropriate level of support. For additional information see ADP 3-0, ADP 4-0, and FM 3-0.

LOGISTICS

1-4. The elements of logistics are maintenance, transportation, supply, field services, distribution, operational contract support (OCS), and general engineering. Appendix A, Quartermaster Operations, describes supply, field services, and liquid logistics. Appendix B, Transportation Operations, describes the transportation elements of logistics. Appendix C, Ordnance Operations, describes the maintenance element of logistics and discusses ammunition and explosive ordnance disposal (EOD).

FINANCIAL MANAGEMENT

1-5. Financial management provides support to the Army and its unified action partners through the execution of the two core competencies of finance operations and resource management. Finance operations consists

of the functions of disbursing, banking, payment support, accounting, internal controls, and financial data analytics. Resource management consists of the functions of programming, budget formulation, budget distribution, budget execution, accounting, internal controls, and financial data analytics. For detailed information on financial management, see FM 1-06.

PERSONNEL SERVICES

1-6. *Personnel services* are sustainment functions that man and fund the force, maintain Soldier and family readiness, promote the moral and ethical values of the nation, and enable the fighting qualities of the Army (ADP 4-0). Personnel services include planning, coordinating, and sustaining personnel efforts at the operational and tactical levels. Personnel services include human resources (HR) support, legal support, religious support, and band support. For detailed information see ADP 4-0, FM 1-0, FM 1-05, FM 3-84, and ATP 1-19.

HEALTH SERVICE SUPPORT

1-7. Army *health service support* is support and services performed, provided, and arranged by Army Medicine to promote, improve, conserve, or restore the behavioral and physical well-being of personnel by providing direct patient care that include medical treatment (organic and area support) and hospitalization, medical evacuation to include medical regulating, and medical logistics to include blood management (FM 4-02). Army HSS is a critical capability embedded within formations across all warfighting functions. For additional information, see FM 4-02.

1-8. The *Army Health System* (AHS) is a component of the Military Health System that is responsible for operational management of the health service support and force health protection missions for training, pre-deployment, deployment, and post-deployment operations. The Army Health System includes all mission support services performed, provided, or arranged by the Army Medicine to support health service support and force health protection mission requirements for the Army and as directed, for joint, intergovernmental agencies, coalition, and multinational forces (FM 4-02). The force health protection mission falls under the protection warfighting function and will not be covered in detail in this publication. For additional information on force health protection, see ADP 3-37. For a complete description of AHS see FM 4-02.

PRINCIPLES OF SUSTAINMENT

1-9. A *principle* is a comprehensive and fundamental rule or an assumption of central importance that guides how an organization approaches and thinks about the conduct of operations (ADP 1-01). Army sustainment operations are guided by fundamental principles that apply in large-scale combat operations as well as any other operation along the conflict continuum.

1-10. The eight principles of Army sustainment operations (integration, anticipation, responsiveness, simplicity, economy, survivability, continuity, and improvisation) are shown in figure 1-1. These principles are interdependent and must be synchronized in time, space, and purpose. The principles of sustainment are essential to enabling freedom of action, extending strategic and operational reach, and prolonging endurance. For additional information, see ADP 4-0. Army sustainment leaders should consider application of the principles using the following:

- **Integration.** Sustainment leaders must integrate sustainment with joint and multinational partners to maximize effects and resources.
- **Anticipation.** Sustainment leaders must visualize and prepare resources for future operations.
- **Responsiveness.** Sustainment leaders must be able to deliver capabilities and resources to meet a rapidly changing situation.
- **Simplicity.** Sustainment leaders must remove unnecessary complexity of processes and procedures to deliver effective support.
- **Economy.** Sustainment leaders must practice efficient management, discipline, prioritization, and allocation of resources.
- **Survivability.** Sustainment leaders must incorporate protective measures to increase survivability in all training and operations.
- **Continuity.** Sustainment leaders must strive to seek integrated and focused networks linking sustainment to operations.

- **Improvisation.** Sustainment leaders must be able to improvise operational and tactical actions to meet a changing operational environment (OE).

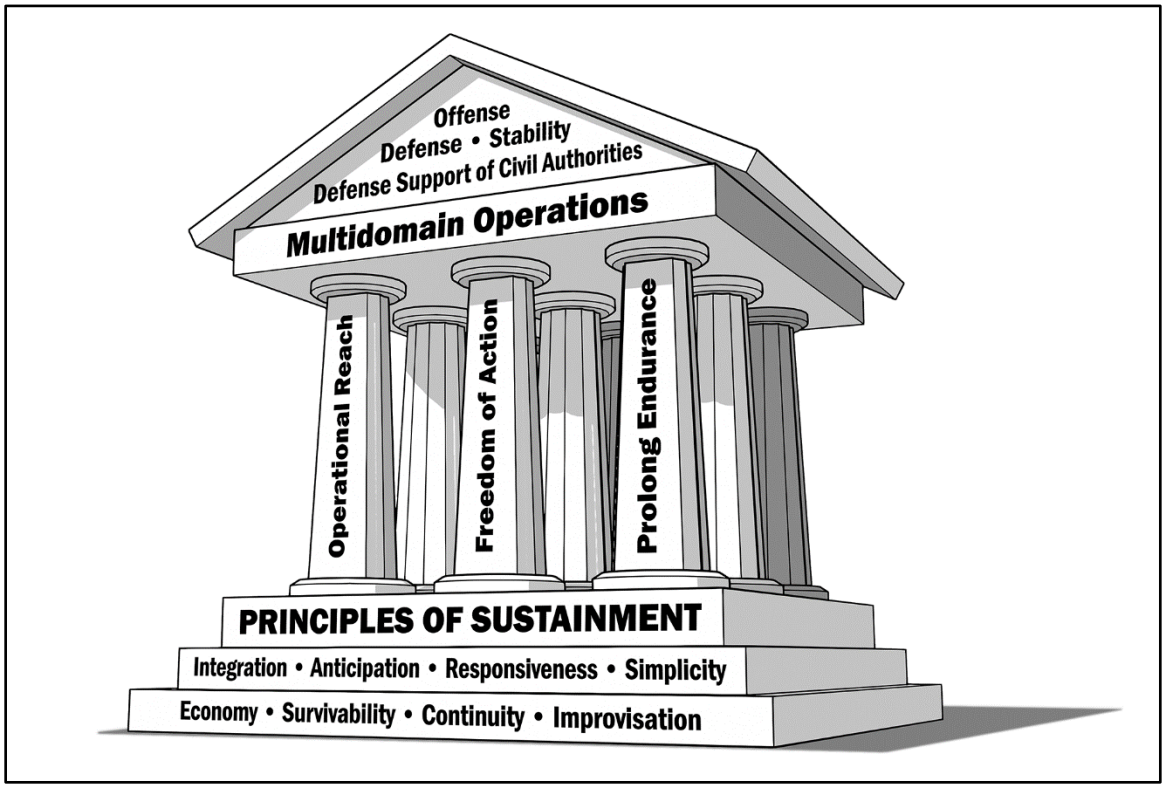

Figure 1-1. Principles of sustainment

SECTION II – OVERVIEW OF ARMY OPERATIONS

1-11. The Army's primary mission is to organize, train, and equip its forces to conduct prompt and sustained land combat to defeat enemy ground forces and seize, occupy, and defend land areas. It supports four strategic roles for the joint force. Army forces shape OEs, counter aggression during crisis, prevail during large-scale ground combat, and consolidate gains. The Army fulfills its strategic roles by providing forces for joint campaigns that enable integrated deterrence of adversaries outside of conflict and the defeat of enemies during conflict or war. Sustainment supports the Army in achieving its primary mission through the provision of logistics, financial management, personnel services, and HSS. The integration and synchronization of each element of the sustainment warfighting function is essential in enabling freedom of action, extending operational reach, and prolonging endurance. The integration and synchronization of the sustainment warfighting function with the other warfighting functions is key to success during operations.

1-12. *Multidomain operations* are the combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders (FM 3-0). Multidomain operations span the competition continuum and are the Army's contribution to joint campaigns. Sustainment supports the Army's execution of multidomain operations through the provision of task-organized sustainment capabilities that support maneuver forces at echelon. Task-organized sustainment capabilities conduct sustainment operations across all domains to support and sustain large-scale combat operations. Below the threshold of armed conflict, multidomain operations are how Army forces accrue relative advantages and demonstrate readiness for conflict, deterring adversaries while assuring allies and partners. During conflict, multidomain operations are how Army forces close with and destroy the enemy, defeat enemy formations, seize critical terrain, and control populations and resources to deliver sustainable political outcomes (FM 3-0).

1-13. Since Army forces conduct operations in support of joint campaigns, which for the most part occur as part of a larger coalition operation, leaders must understand the interdependencies between their own assigned forces and the forces or capabilities provided by others to generate the complementary and reinforcing effects of combined arms approaches. Army forces employ unified action partner capabilities to the degree they are available. Sustainment increases the effects of capabilities employed by unified action partners through efforts such as training exercises, agreements, and standard operating procedures (SOPs). However, because peer threats can contest the force in all domains, sustainment forces must be prepared to conduct operations when some or all unified action partner capabilities are unavailable to support mission accomplishment.

STRATEGIC CONTEXTS

1-14. Army forces must meet a diverse array of challenges and contribute to national objectives across a wide range of operational categories. Sustainment operations shape OEs and set conditions that are favorable for future operations. Employing sustainment capabilities during competition increases cooperation between coalitions and allies and builds partner capacity. Army forces build partnerships, capabilities, and mutual trust through combined training exercises, standardization, and increasing interoperability between coalitions and allied partners.

1-15. Figure 1-2 provides an illustration of the Army strategic contexts. Combatant commands (CCMDs) and theater Armies campaign across the competition continuum and Army tactical formations typically conduct operations within a context dominated by one strategic relationship at a time. The theater sustainment command (TSC) and task-organized elements can be simultaneously engaged in supporting sustainment operations during competition in one operational area within the area of responsibility (AOR) while providing sustainment support to crisis in another operational area and sustainment support to armed conflict in yet another operational area within the AOR. See JP 3-0 and FM 3-0 for additional information.

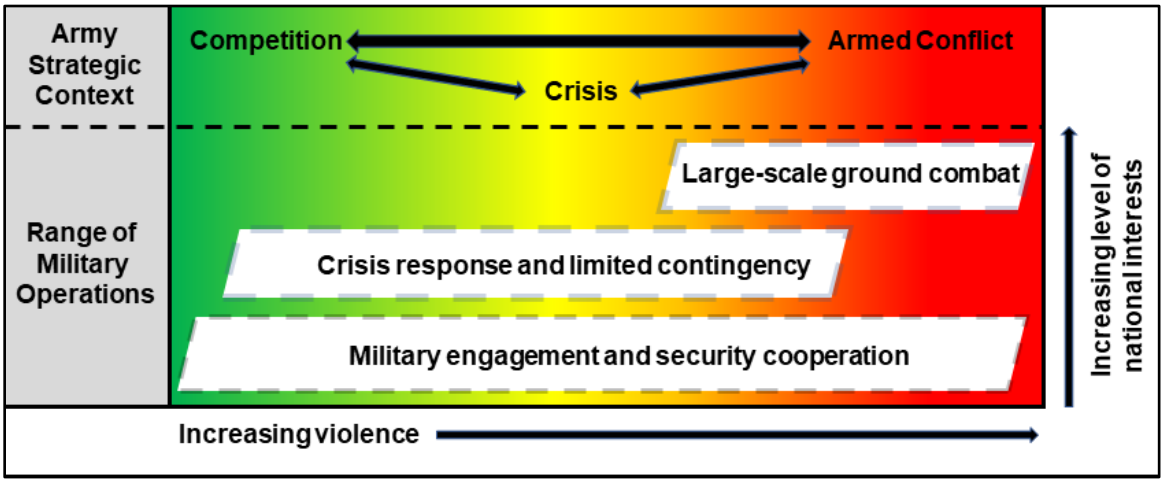

Figure 1-2. Army strategic context and operational categories

COMPETITION BELOW ARMED CONFLICT

1-16. Competition below armed conflict exists when two or more state or non-state adversaries have incompatible interests, but neither seeks armed conflict. Nation-states compete with each other using all instruments of national power to gain and maintain advantages that help them achieve their goals. Low levels of lethal force can be a part of competition below armed conflict. Sustainment operations in support of competition include support to CCDR daily operational requirements, Title 10 requirements, Army support to other Services, support to military engagement, security cooperation, and set-the-theater tasks. These operations build trust and confidence in our allies and partners while ensuring the United States is prepared for future operations. During these operations, sustainment forces invest in facilities and infrastructure development as well as civilian engagement to build partnerships for required capabilities, capacities, and support needed during operations. For additional information see FM 3-0, ATP 3-93, and ATP 4-93.

CRISIS

1-17. A *crisis* is an emerging incident or situation involving a possible threat to the United States, its citizens, military forces, or vital interests that develops rapidly and creates a condition of such diplomatic, economic, or military importance that commitment of military forces and resources is contemplated to achieve national and/or strategic objectives (JP 3-0). Sustainment forces must be prepared for a crisis that results from a military action of the adversary or crisis response that results from human or natural disasters. Sustainment is key to providing Army forces the freedom of action, operational reach, and endurance required to disrupt the enemy's decision cycle to deter further aggression and return to competition. Sustainment actions during crisis response can be key in stabilizing the situation and demonstrating to our adversary that our forces are prepared for any transition that may occur. For detailed information see JP 3-29, ADP 3-07, FM 3-0, ATP 4-92, and ATP 4-93.

ARMED CONFLICT

1-18. Armed conflict occurs when a state or non-state actor uses lethal force as the primary means to satisfy its interests. Armed conflict can range from irregular warfare to conventional warfare and combinations of both. Sustainment is key to Army forces entering armed conflict as it enables freedom of action, extends operational reach, and prolongs endurance for Army commanders conducting operations within armed conflict. Sustainment also provides the ability to deploy, employ, sustain, and redeploy required Army forces and materiel needed by a commander within an operational area to sustain armed conflict. For additional information see FM 3-0, ATP 4-91, ATP 4-92, and ATP 4-93.

CONSOLIDATING GAINS

1-19. Army commanders must exploit successful operations by continuously consolidating gains during competition, crisis, and armed conflict. *Consolidate gains* are activities to make enduring any temporary operational success and to set the conditions for a sustainable security environment, allowing for a transition of control to other legitimate authorities (ADP 3-0). Sustainment forces play a key role in supporting forces as they consolidate gains made during competition, crisis, and armed conflict. Sustainment forces can assist with regenerating combat power for continued operations, restoring infrastructure and key facilities, providing governance to local populations, and providing medical support. For additional information, see FM 3-0 and ATP 4-93.

LARGE-SCALE COMBAT OPERATIONS

1-20. The focus of Army readiness is on large-scale combat operations. *Large-scale combat operations* are extensive joint combat operations in terms of scope and size of forces committed, conducted as a campaign aimed at achieving operational and strategic objectives (ADP 3-0). During ground combat, they typically involve operations by multiple corps and divisions, and they typically include substantial forces from the joint and multinational team. Conflicts encompassing large-scale combat operations are more intense and destructive than limited contingencies, often rapidly amassing heavy casualties. Large-scale combat operations place a significant strain on sustainment operations and often include both conventional and irregular forces on both sides. For additional information on large-scale combat operations, see FM 3-0.

1-21. During large-scale combat operations, the enemy has a wide range of capabilities to detect, identify, interdict, and destroy sustainment forces. These enemy observation capabilities can be employed to monitor sustainment forces at home station in the United States, abroad, and while moving within the AOR. Sustainment forces must be prepared to counter these measures from the strategic support area through the tactical area. Sustainment forces use mitigation techniques such as dispersion and masking of electromagnetic signatures to mitigate adversary effects and act as sensors for targeting. Sustainment forces must also be prepared for the pace and intensity of combat operations and trained, manned, and equipped commensurate with the supported unit to match the pace of maneuver units and maintain freedom of action and operational reach. Sustainment units should be prepared for the increased casualties that can result from large-scale combat operations. The ability to deliver replacement personnel and materiel to maneuver units will be essential in large-scale combat operations in all environments.

TENETS OF OPERATIONS

1-22. Tenets of operations are desirable attributes that should be built into all plans and operations, and they are related to how operations should be conducted. Commanders use the tenets of operations to inform and assess courses of action throughout the operations process. The tenets of operations are:

- Agility.
- Convergence.
- Endurance.
- Depth.

AGILITY

1-23. *Agility* is the ability to move forces and adjust their dispositions and activities more rapidly than the enemy (FM 3-0). Agility is integral to survivability during large-scale combat operations. Sustainment forces will be able to rapidly displace to avoid enemy detection. Sustainment forces must train and master the ability to expediently disaggregate and aggregate to increase capabilities at echelon and facilitate greater freedom of action and endurance. Sustainment forces must also train and master the ability to quickly change direction, task, or focus and reorganize and reintegrate as the operational situation dictates. Changes may come due to a transition between phases of an operation or the requirement to adapt to a new opportunity or hazard.

CONVERGENCE

1-24. *Convergence* is an outcome created by the concerted employment of capabilities from multiple domains and echelons against combinations of decisive points in any domain to create effects against a system, formation, decision maker, or in a specific geographic area (FM 3-0). Convergence occurs when a higher echelon and its subordinate echelons create effects from and in multiple domains in ways that defeat or disrupt enemy forces long enough for friendly forces to effectively exploit the opportunity. Sustainment units support convergence by setting conditions that enable deterrence, provide options during crisis, and enable success at the outset of armed conflict. Sustainment units set the theater, position forces, and establish agreements with allies and partners that facilitate situational understanding, decision making, and integration and synchronization of capabilities during armed conflict. Sustainment commanders at all levels must understand the concept of operations to anticipate sustainment requirements on a dynamic battlefield where convergence creates exploitable opportunities that enable freedom of action and mission accomplishment. For additional information on convergence, see FM 3-0.

ENDURANCE

1-25. *Endurance* is the ability to persevere over time throughout the depth of an operational environment (FM 3-0). Endurance is key to sustaining operations for as long as necessary to achieve the desired outcome. Sustainment units must anticipate requirements and support the force for as long as necessary, regardless of distance. Sustainment units must train to continuously operate and deliver sustainment using land, maritime, and air capabilities while making the most effective and efficient use of resources. When possible, sustainment units employ a space and cyberspace-enabled communications network to transmit sustainment requirements and coordinate the delivery of materiel or services. However, leaders must anticipate degraded communications and combine analog systems for communication with predictive analysis and disciplined initiative to ensure commanders can maintain acceptable tempo for as long as necessary.

DEPTH

1-26. *Depth* is the extension of operations in time, space, or purpose to achieve definitive results (ADP 3-0). Sustainment units create depth by improving the infrastructure for force projection and by improving interoperability with multinational forces to the degree required by operation plans (OPLANs) and contingency operations. Leaders describe the depth they can achieve in terms of operational reach. *Operational reach* is the distance and duration across which a force can successfully employ military capabilities (JP 3-0). Sustainment leaders must ensure they clearly articulate their units' capabilities as sustainment determines the depth and limits on friendly operations.

IMPERATIVES

1-27. Imperatives are actions Army forces must take to defeat enemy forces and achieve objectives at acceptable cost. They are informed by the OE and the characteristics of the most capable threats Army forces can encounter. Imperatives include—

- See yourself, see the enemy, and understand the OE.
- Account for being under constant observation and all forms of enemy contact.
- Create and exploit relative physical, information, and human advantages in pursuit of decision dominance.
- Make initial contact with the smallest element possible.
- Impose multiple dilemmas on the enemy.
- Anticipate, plan, and execute transitions.
- Designate, weight, and sustain the main effort.
- Consolidate gains continuously.
- Understand and manage the effects of operations on units and Soldiers.

1-28. Sustainment leaders must be familiar with the tenets of operations and imperatives. They should consider how the tenets and imperatives impact their units and how they impact the units they support when planning and executing sustainment operations. Table 1-1 below lists the imperatives and provides select sustainment considerations intended to provoke thought for the elements of the sustainment warfighting function. For additional details on tenets of operations and imperatives, see FM 3-0.

Table 1-1. Sustainment considerations for imperatives

Imperatives	*Sustainment considerations*
See yourself, see the enemy, and understand the operational environment.	• Analyze the operating environment and refine or update the sustainment estimates. • Describe the environmental impacts to operations. • Evaluate the threat and evaluate and plan for dispersed operations. • Analyze personnel running estimates against operational requirements. • Determine sustainment funding requirements against available budget. • Plan for central funding banking, finance and operations plans, and finance system support. • Determine personnel projections and casualty estimates. • Analyze health service support across the formation in theater. • Analyze potential theater evacuation and hospitalization.
Account for being under constant observation and all forms of enemy contact.	• Modify combined obstacle overlay and deception plan. • Observe fields of fire, avenues of approach, key terrain, obstacles, and cover and concealment. • Consider all forms of contact, including influence. • Understand terrain, weather, and line of sight analysis. • Monitor potential electromagnetic and cyber reconnaissance. • Limit personnel movements that can indicate imminent action or intent. Use multiple dispersed staging locations and smaller footprint to avoid detection. • Synchronize and integrate protection capabilities to reduce risks and mitigate vulnerabilities from detection, threat effects, and hazards. • Understand and participate in the development of the scheme of protection. • Practice operations and physical security. • Alternate logistics routes to avoid predictability.
Create and exploit positions of physical, information, and human advantage in pursuit of decision dominance.	• Maintain situational understanding of domains and dimension interrelationships. • Identify the enemy's decision cycle. • Conduct collection management. • Continue to manage personnel tracking and reporting.

Table 1-1. Sustainment considerations for imperatives (*continued*)

Imperatives	*Sustainment considerations*
Create and exploit positions of physical, information, and human advantage in pursuit of decision dominance (*continued*).	• Continue development of plans for precision sustainment and predictive logistics capabilities. • Continue to predict required funding for banking; update finance and operations plans. • Continue development of plans for precision and predictive medical logistics capabilities. • Support displaced persons and detainee operations and support to host-nation civilians.
Make initial contact with the smallest element possible.	• Conduct course of action development. • Conduct collection management. • Understand enemy forces/dispositions. • Decisively engage on terms that are favorable. • Continue to manage personnel tracking and reporting. • Conduct detainee and displaced persons processing. • Provide operational reach to extend deep operations. • Anticipate rapid resupply operations to multiple small, dispersed elements for judicious employment of friendly forces. • Continue to provide predictive spending, funding, and banking in support of combatant commander initiatives. • Anticipate rapid Class VIII resupply operations to multiple small, dispersed elements while conducting casualty and medical evacuation.
Impose multiple dilemmas on the enemy.	• Maintain situational understanding of domains and dimension interrelationships. • Consider use of multiple supply nodes. • Identify/exploit enemy weaknesses. • Practice operations and physical security. • Conduct forcible entry operations. • Set favorable logistics conditions. • Plan, prepare, and support feints/deception operations. • Provide operational reach to extend deep operations. • Utilize multiple logistical nodes (ports of embarkation and ports of debarkation).
Anticipate, plan, and execute transitions.	• Plan and arrange operations for transitions. • Enable task organization that anticipates follow on phases of operations. • Rehearse critical transitions (defense to offense). • Ensure the force understands changes to rules of engagement during mission transitions. • Understand potential risks. Conduct collection management. • Continue to plan and execute non-unit related personnel replacement operations. • Plan and prepare for unit replacement. • Manage personnel tracking and reporting. • Continue development of plans for precision and predictive logistics capabilities. • Reprioritize resupply operations to maintain momentum. • Identify sustainment shortfalls/gaps against operational requirements. • Continue to provide predictive spending, funding, and banking in support of combatant commander's initiatives. • Anticipate rapid Class VIII resupply while conducting medical evacuation. • Analyze health service support across the formation in theater.

Table 1-1. Sustainment considerations for imperatives (*continued*)

Imperatives	*Sustainment considerations*
Designate, weight, and sustain the main effort.	• Designate main effort and prioritize resources. • Continue information collection. • Manage personnel replacement operations and personnel tracking. • Anticipate sustainment requirements of the main effort. • Position supplies and capabilities according to the commander's intent, allowing for freedom of maneuver. • Provide sustainment estimates and asset visibility. • Conduct estimates, track funding, and report costs to specific operations. • Provide medical materiel, blood, and medical device maintenance and repair necessary to sustain operations. • Position medical assets in proximity of supported forces while pushing medical evacuation capabilities as far forward as possible to decrease mortality.
Consolidate gains continuously.	• Assess resources in order to transition to the next phase. • Reconstitute the force to transition. • Exploit sustainment resources/infrastructure. • Establish and manage personnel tracking and reporting. • Support displaced persons, detainee operations, and host-nation civilians. • Establish, assess, and operate the theater distribution network. • Identify sustainment shortfalls/gaps against requirements. • Plan for and incorporate operational contract support. • Implement in-transit visibility. • Conduct estimates, track funding, and report costs to specific operations. • Conduct audits in order to make resource-informed decisions. • Assess casualty estimates and return to duty rates. • Resupply Class VIII medical materiel and blood products, ensure medical devices are operational, and that sufficient patient movement items are on hand.
Understand and manage the effects of operations on units and leaders.	• Maintain awareness of the human indicators of fatigue, fear, indiscipline, and reduced morale. • Maintain well-trained, physically fit Soldiers for cohesive units during extended operations. • Plan to match units against missions and rotate units through rest and recuperation periods. • Establish and manage personnel replacements, tracking, and reporting. Manage personnel and postal actions throughout the competition continuum. • Support morale, welfare, and recreation activities. • Plan and support field services. • Plan and execute religious support. • Provide predictive sustainment support vs reactive operations. • Distribute and control funds, provide status of funds, and monitor obligation rates. • Forecast upcoming funding requirements based on operational needs. • Provide Army Health System support to promote and improve, conserve, or restore behavioral and physical well-being.

SECTION III – THE OPERATIONAL ENVIRONMENT

1-29. An *operational environment* is the aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander (JP 3-0). For Army forces, an OE includes portions of the land, maritime, air, space, and cyberspace domains understood through three dimensions (human, physical, and information). The land, maritime, air, and space domains are defined by their physical characteristics. The cyberspace domain is a manmade network of networks that transits and connects the other domains. The cyberspace domain includes the internet, telecommunications networks, computer systems, embedded processors and controllers, and portions of the electromagnetic spectrum. For additional information on cyberspace, see FM 3-12. Sustainment operations are conducted through the land, air, and maritime domains, enabled by capabilities in the space and cyberspace domains, and cross each dimension. For additional information, see FM 3-0 and FM 2-0.

1-30. Analyzing operational and mission variables allows commanders and staffs to refine their situational understanding of the OE. Commanders and staffs analyze and describe an OE in terms of eight interrelated operational variables: political, military, economic, social, information, infrastructure, physical environment, and time. These variables help leaders understand the land domain and its interrelationships with relevant actors and capabilities in the other domains, as well as the information environment. Commanders analyze information categorized by the operational variables in the context of the missions they are assigned. They use mission variables, in combination with the operational variables, to refine their understanding of the situation and to visualize, describe, and direct operations. The mission variables are mission, enemy, terrain and weather, troops and support available, time available, and civil considerations, each of which have informational considerations. See FM 5-0 for additional information on operational and mission variables.

1-31. Understanding the specific OE in each situation is essential to the successful execution of deployment and sustainment operations conducted in support of CCDR objectives. Sustainers mitigate risks identified during OE analysis by conducting sustainment preparation of the OE. Geospatial engineering capabilities assist sustainers with coordination, integration, and synchronization of resources through a shared understanding and visualization of the OE. They analyze and identify lines of communications (LOCs) in support of force projection, identify terrain suitability for intermediate staging and forward operating base emplacement, emphasize restrictive terrain to assist planners with aerial and ground delivery considerations, and identify natural resources and infrastructure. For additional information on sustainment preparation of the OE, see Chapter 3 and ATP 4-93.

1-32. Units sustaining large-scale combat operations are affected by a range of factors in the OE. Sustainers must be prepared to support operations in a variety of vastly different OEs. Listed below are examples of specific OE factors that may impact sustainment operations:

- Contiguous and noncontiguous areas of operations where ill-defined or fluid boundaries impact task organizations, identification of supported units, command and support relationships, distribution plans, and execution.
- Simultaneous, geographically dispersed operations that may result in long LOCs and stress sustainment headquarters communications, command and support relationships, distribution plans, and execution.
- Joint, single-Service, and multinational force interactions with intergovernmental organizations, nongovernmental organizations, and contractors require more liaisons to and from sustainment headquarters and units, and longer planning time to ensure all organizations understand the plan. For more information on multinational, intergovernmental organization, and nongovernmental organization support, see ADP 4-0.
- Limited availability of, or high competition for, host-nation support (HNS), infrastructure, commercial services, commodities, and facilities to support setting the theater, rapid deployment and onward movement of combat forces, and sustainment of the joint security area during military operations.

CONTESTED LOGISTICS ENVIRONMENT

1-33. A *contested logistics environment* is an environment in which the armed forces engage in conflict with an adversary that presents challenges in all domains and directly targets logistics operations, facilities, and

activities in the United States, abroad, or in transit from one location to another (10 USC § 2926[h]). The following paragraphs describe considerations for conducting logistics operations when contested by a peer threat. It discusses an overview of peer threat capabilities that affect logistics, provides planning considerations for conducting operations in a contested logistics environment, and concludes with logistics considerations for reception, staging, onward movement, and integration (RSOI) in a contested logistics environment.

Logistics Threats

1-34. Sustainment commanders and staffs must therefore plan and execute logistics with the assumption that sustainment forces are always under observation, in contact, and contested. Sustainment forces must be prepared to operate in a contested logistics environment. Peer adversaries possess the capability and capacity to observe, disrupt, delay, and attack U.S. forces, infrastructure, and operations in all domains within the United States, abroad, and while in transit. Contested logistics involve planning, executing, and enabling the movement and support of military forces across multiple domains (air, land, sea, space, cyberspace, electromagnetic spectrum) in a contested environment.

1-35. Peer adversaries possess air, space, and cyberspace capabilities, increasing the likelihood that threat forces can gain and maintain continuous visual and electromagnetic contact with Army forces. Sustainment leaders must assume they are under constant observation from one or more domains and continuously ensure they are not providing lucrative targets for the enemy to attack. FM 3-0 describes nine forms of contact in multiple domains that sustainment forces may face: direct, indirect, non-hostile, obstacle, CBRN, aerial, visual, electromagnetic, and influence.

1-36. Sustainment forces must anticipate being under continuous visual, electromagnetic, and influence contact with adversaries during logistics operations. Peer adversaries will deploy persistent visual surveillance through space and other capabilities to detect and target logistics operations. Peer adversaries are capable of persistently probing and disrupting logistics operations through the deployment of space and cyberspace capabilities to maintain contact with logistics forces. Logistics operations are subject to adversary influence through disinformation and misinformation campaigns targeting Soldiers, their families, and their friends.

1-37. Sustainment forces must understand that a peer adversary can deploy capabilities that may impact logistics operations during competition. A peer adversary's capability to employ effects across multiple domains can disrupt critical infrastructure at home and locations abroad. This infrastructure includes civilian transportation infrastructure, power, communications, fuel, water, and other life support. Interdiction of these types of infrastructure can disrupt, delay, and potentially deny military operations.

1-38. During crisis and armed conflict, sustainment forces should expect an enemy that contests logistics activities in all domains by employing means to detect and rapidly target sustainment forces and resources. Forces and resources that are concentrated and static are easy for enemy forces to detect and destroy. Dispersing these assets has multiple survivability benefits. Sustainment forces must be prepared to operate dispersed, quickly mass, and then rapidly disperse again to increase survivability. Constant dispersion of sustainment forces and resources can be used as a form of deception and help to conceal intentions and capabilities. Dispersion also creates targeting dilemmas for the adversary by reducing the effect enemy strikes can have on U.S. forces. See ATP 3-37.34 for information on survivability positions and FM 3-13.4 for more information on deception.

1-39. Adversaries will employ predatory economics, economic coercion, economic warfare, misinformation, and other means to achieve their objectives short of conflict during competition and set conditions for their advantage in conflict. Although the Army does not have direct influence over this facet of competition, the Army and joint force are heavily reliant on contracted good and services, HNS, and access to host-nation infrastructure. Moreover, peer adversaries have vastly more ability in scope and scale to render contractors and vendors unable or unwilling to support the U.S. or deny them access to required materials.

CONTESTED LOGISTICS CHALLENGES AND PLANNING CONSIDERATIONS

SETTING THE THEATER

1-40. Adversary actions aim to deny U.S. forces the ability to set the theater by challenging access and movement, thereby limiting the ability to establish a relevant forward presence of resources and caches. Potential ways to overcome this include—

- **Tailoring regional posture (forward posturing):** Forward-postured regional resources reduce risk and mitigate the severity of loss and impact when adversary antiaccess and area denial efforts target and successfully impact the force at strategic maneuver distances. Increasing forward sustainment posture imposes targeting challenges on the adversary.
- **Increasing survivability of sustainment modes and nodes:** Protection requirements are increased with the expanded future OE. Protecting sustainment resources is achieved in part through increased organic lethality, communications redundancy, survivability, deception, and dispersion. Protection of sustainment nodes, capabilities, and capacities requires the integration and synchronization of sustainment and other forces.
- **Building partner capacity and leveraging regional resources:** Limited access and competition over regional resources poses a challenge for the joint force's ability to leverage the local area resources needed to support Army support to other Services and Title 10 missions. Adversaries are using diplomacy, economic power, and irregular warfare, weaponizing information, and posturing conventional forces to create stand-off to fracture U.S. alliances and partnerships. These actions can diminish and deny the U.S. the ability to contract the required sustainment functions and capabilities to support the joint force. Building regional partnerships while understanding the region's economic environment and infrastructure complexities is critical to gaining access to resources. During competition, Army forces must build relationships, agreements, and contracts to shape regional capabilities and security requirements. Army forces will not win a conflict alone and must shape the sustainment environment during competition to meet Army, joint, and unified action partner requirements.

ENABLING POWER PROJECTION

1-41. Peer adversaries will contest U.S. power projection capabilities to delay, disrupt, and interdict Army forces from rapidly transitioning to conflict. Army forces must develop and maintain a resilient supply support activity (SSA), balance sustainment force posture, and modernize rapid response capabilities, creating multiple dilemmas to counter adversary efforts. Ways to achieve this may include—

- **Ready a resilient SSA:** The Army must inform Department of Defense (DOD) prioritization regarding U.S. and partner infrastructure enhancements while increasing manned and unmanned lift assets capable of transporting supplies that require special handling (such as unique CL V missiles for long-range and air defense artillery). Augmentation provided through these relationships must not translate to overestimating their capabilities, thus leading to an unacceptable increase in strategic and operational risks. During competition, Army forces must work with commercial entities and unified action partners in potential operating theaters to understand their capacities and the duration of support that would be afforded to U.S. forces and incorporate these into planning.
- **Balanced total force sustainment:** The total force sustainment posture must be optimized globally to contribute to deterrence operations in competition and be responsive to sustain large-scale combat operations. The Army's contribution to power projection will rely heavily on policy, resourcing, and planning initiatives to balance the total force to meet rapid deployment timelines.

DEPLOYMENT

1-42. **Fort-to-Port:** As part of the strategic support area, home station installations, Reserve centers, National Guard armories, and other designated points of origin such as unit motor pools are where force projection begins. They present targets that enemy forces may attack to delay, disrupt, and degrade force flow into theater. Planning to mitigate deployment disruption requires partnerships between Army staffs, local governments and agencies, and Services to maximize lift assets and other resources. Fort-to-port operations require agile nodes, accurate and timely information, trained movement personnel at all levels, and the timely

arrival of throughput enablers. In addition, planners should consider maintaining unit integrity and delivering capabilities rather than entire formations and incorporating force tracking capabilities. Additional fort-to-port planning considerations include the following:

- Coordinate with local, state, and federal authorities to mitigate deployment disruptions.
- Ensure that units can provide combat-configured forces for worldwide deployment with limited notice within required times.
- Ensure that unit deployment plans and procedures adequately support limited no-notice deployment.
- Ensure that installation plans and procedures adequately support limited no-notice deployments.
- Ensure unit readiness and establishment of pre-positioned stocks.
- Identify and secure primary and alternate movement nodes to reach ports of embarkation.
- Plan to use alternate and multiple LOCs.
- Incorporate command and control and in-transit visibility capabilities.
- Establish specific cyber defenses for systems and associated data used to support movement.
- Conduct threat planning and mitigation.
- Maximize liaisons.

1-43. **Port-to-Port:** Port-to-port operations are likely targets of kinetic and non-kinetic attacks to reduce capabilities or capacity as U.S. forces deploy to the theater. Enemy forces may target ports or vessels while in-transit with long-range fires, special operations forces, cyberspace attacks, space capability degradation or denial, and other capabilities. Whether conducting operations at a port during competition, crisis, or armed conflict, Army forces coordinate with the relevant authorities to mitigate potential complications at or enroute to the port. This includes—

- Coordinating with host-nation and local authorities to mitigate deployment disruptions at the port of debarkation/embarkation.
- Establishing OCS and security cooperation for port operations.
- Assembling and organizing personnel into units and force packages to build combat power in anticipation of a contested environment.
- Understanding port authority structure and capabilities.
- Anticipating problems with frustrated cargo, efficient cargo handling, vessel turnaround, and reasonable utilization of port facilities.
- Conducting threat planning and mitigation.
- Identifying potential redundancies (for example, if power is lost, can port gantry cranes load containers).
- Anticipating performing logistics over-the-shore in austere environments or degraded ports.
- Incorporating command and control and in-transit visibility capabilities.
- Planning RSOI.

1-44. **RSOI:** The theater Army has primary responsibility for conducting RSOI for all joint land forces. Setting the theater for RSOI operations should not rely solely on organic capabilities, but also consider HNS, contractor support, and after initial entry, the Component 2 and 3 forces. This is meant to fill required gaps in mobility, both sequentially and simultaneously. Once hostilities begin, the risk posed to strategic lift by a peer adversary may degrade the ability of vessels to deliver equipment and forces very far into theater. This may result in the transition from intertheater to intratheater lift being farther away from the fight and necessitate reception and staging to take place outside the theater. This will cause onward movement to occur over extended, contested LOCs of operational and strategic distances. Further complicating the challenge could be operations that must occur in a largely maritime environment.

1-45. The need for dispersion and disaggregation of forces will cause Army equipment to arrive in numerous smaller ports. Because 80 percent of sustainment capabilities are in the Component 2 and 3 organizations, it is important for planners to understand the mobilization and time-phased force and deployment data (TPFDD) requirements to synchronize force flow into the theater. Additional acquisition and cross-servicing agreements (ACSAs) enable rapid deployment of combat forces to help bridge gaps of capabilities currently not in theater. As designated by the CCDR, the TSC transfers tactical control (TACON) of units to the gaining joint force commander (JFC) in preparation for onward movement. Additional planning considerations during RSOI include, but are not limited to—

- Planning for risks against velocity.

- Maintaining asset visibility of equipment and personnel.
- Identifying threat mitigations of antiaccess and area denial.
- Planning to utilize multiple geographically dispersed nodes (personnel and equipment).
- Understanding and planning for the synchronization of force flow (knowing the friction points).
- Anticipating use of Army pre-positioned stocks (APS) equipment, load reconfiguration, and integration of capabilities.
- Planning to mitigate Class III (bulk), maintenance, and transportation gaps that may impact transition from movement to maneuver.
- Conducting threat planning and mitigation required to support RSOI operations.
- Understanding critical infrastructure vulnerable to sabotage and unsuited for the movement of heavy equipment along surface LOCs (both road and rail).
- Establishing fuel, maintenance, and rest locations along LOCs.
- Establishing security for LOCs to achieve freedom of movement.
- Planning and integrating OCS and host-nation logistics infrastructure support.
- Planning for destroyed, delayed, frustrated, and non-mission capable equipment arriving in theater.
- Incorporating liaison and unit personnel at theater nodes to facilitate onward movement.

ECHELONED SUSTAINMENT FOR DISTRIBUTED OPERATIONS

1-46. The application and tactics of widely distributed operations will increase the demands on the sustainment enterprise at all echelons. As a result, sustainment forces must maintain effectiveness in supporting distributed operations at the cost of efficiency. Ways to achieve this may include—

- **Increased mobility:** Sustaining division-focused, widely distributed operations across domains requires modernized logistics capabilities operating over diverse, reliable, robust, and resilient transportation and distribution systems and networks that consist of multiple modes, multiple nodes, and multiple sources.
- **Demand management:** Demand management is an essential component of sustainment in the context of echeloned sustainment for distributed operations. Echeloned operations refer to the deployment of military forces in a series of phases or echelons, with each phase building on the previous one to create a layered interdependence towards a defined military outcome. It involves managing the flow of resources to ensure that they are available when and where they are needed. The goal being to balance or manage the frequency, volume, and responsiveness of supply, distribution, redistribution, and retrograde. This is the "art and science" of demand management during echeloned operations. This is the most essential component of echeloned sustainment to maneuver during large-scale combat operations. It reduces the risk to sustainment forces. Innovative measures must reduce reliance on the supply chain, enhance self-sufficiency, and extend operational reach as the requirements to conduct regular supply is reduced. Additionally, demand reduction applies to materiel design for reduced weight and energy efficiencies as well as commodities and lift. Sustainers must exploit technologies to meet requirements at the point of need to reduce delivery times and burdens on the distribution network.
- **Active and passive survivability measures:** Adversaries will target sustainment forces, units, nodes, and capabilities at all echelons. Army forces must adapt operational tactics, techniques, and procedures to support operations by improving active and passive measures of protection. At each echelon, sustainment forces must integrate with their respective commands' planning processes. To support this, logisticians must develop capabilities for smaller stockpiles, resupply on the move, and preposition caches for maneuvering formations. For a division-focused force, organic sustainment redundancy at echelon is necessary to meet increased support requirements, complicate the adversary's targeting calculus, preserve combat power, and facilitate persistent sustainment.

RESILIENT, INTEGRATED, AND INTEROPERABLE SUSTAINMENT INFORMATION SYSTEMS

1-47. Army sustainment command and control requires resilient information capabilities that are agile, integrated, predictive, near-real-time, and inform sustainment decisions to meet the operational tempo. Ways to achieve this may include—

- **Data automation, prognosis, and prediction:** Operations challenge the Army's ability to manage and exploit the massive amount of sustainment data from the point of need to the supply support

area and the defense industrial base with relevant speed. Management of the abundance of sustainment data relies on a common data repository and automation to perform predictive analysis and near-real-time assessments. Exploiting information through robotics and other tools will drive anticipatory sustainment decisions, with commensurate authorities at echelon to act upon timely and relevant information.

- **Accessible, protected, and interoperable sustainment information systems:** Army forces must integrate and synchronize sustainment information systems with those of joint Services, unified action partners, and allies to achieve better interoperability, visibility, and understanding of sustainment requirements. Critical sustainment information systems must be secure, protected, defensible within the Army communications network, and capable of withstanding or mitigating attacks and degradation. Future enterprise resource planning information, information management, and battle management systems must have the ability to connect to and be interoperable with the other Services as part of the overall joint logistics enterprise, along with unified action partners and allies through the mission partner environment.
- **Informed command and control:** Leaders base timely decisions on accurate and actionable information. Future Army forces achieve sustainment decision advantage on the battlefield by increasing the speed of the decision cycle for commanders at all echelons. Sustainment information (for example, location, consumption, quantity, current capacity, projected capacity, and availability) must be integrated and governed by command relationships, authorities, and regulations at echelon to enable decisions.

SECTION IV – SUSTAINMENT SUPPORT TO MULTIDOMAIN OPERATIONS

1-48. Joint interdependence is the purposeful reliance of all the Services upon each other's capabilities to maximize the complementary and reinforcing effects of all. The United States Air Force provides strategic airlift capabilities to move Army forces quickly across strategic LOCs. The United States Navy provides strategic sealift into deep draft ports and land capabilities to supplement Army theater opening forces entering areas where ports are austere, damaged, or non-existent. The joint force enables Army sustainment and provides the services and capabilities needed to sustain unified action. For additional information regarding joint logistics, see JP 4-0.

Strategic Framework consists of:
- Strategic support area.
- Joint security area.
- Extended deep area.
- Assigned operational area.

Operational Framework consists of:
- Assigned areas (area of operations, zone, and sector).
- Deep, close, and rear operations.
- Main effort, supporting effort, and reserve.

1-49. Army sustainment enables operations by providing the support required to keep the Army and its unified action partners engaged in operations across the strategic and operational frameworks. The strategic framework accounts for factors in the strategic environment and the connection of strategic capabilities to operational and tactical-level operations. The strategic framework includes four areas: strategic support area, joint security area, extended deep area, and assigned operational area. The sustainment warfighting function enables the freedom of action, extended operational reach, and prolonged endurance needed to conduct and sustain operations across the strategic and operational frameworks. The *operational framework* is a cognitive tool used to assist commanders and staffs in clearly visualizing and describing the application of combat power in time, space, purpose, and resources in the concept of operations (ADP 1-01). The operational framework consists of assigned areas; deep, close, and rear operations; and main effort, supporting effort, and reserve. Sustainment forces can be found throughout the operational framework, with the majority conducting operations from rear and close areas. Figure 1-3 on page 16 depicts the operational framework in the context of the strategic framework. For additional information on the operational framework in the context of the strategic framework, see FM 3-0.

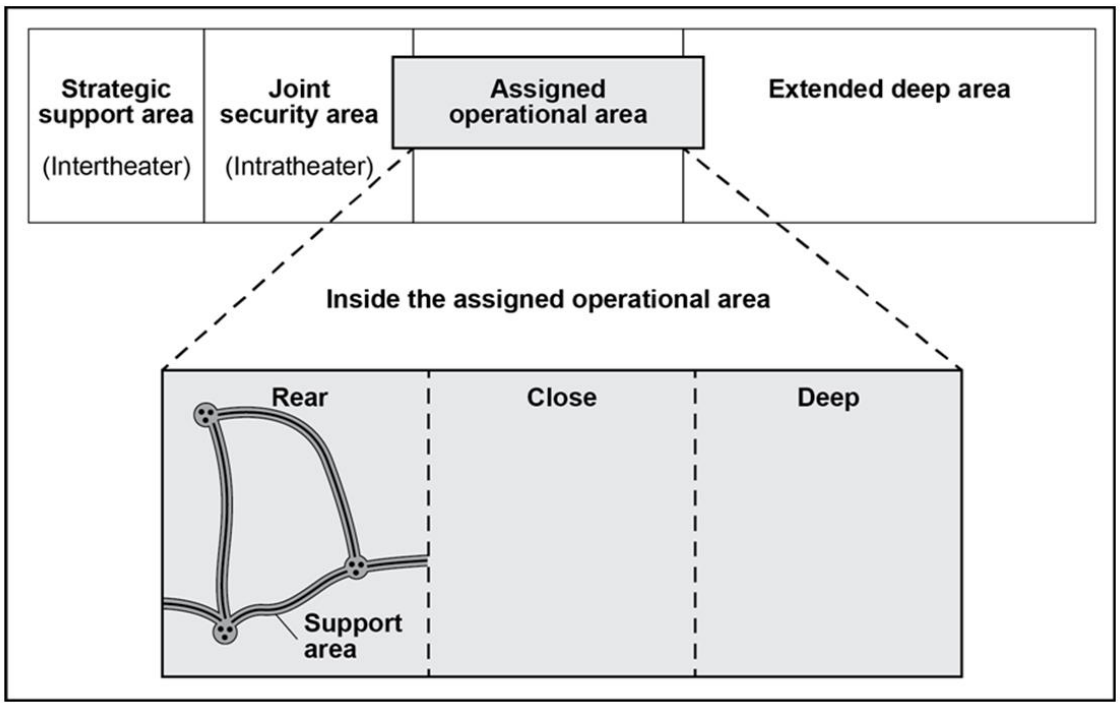

Figure 1-3. The operational framework in the context of the strategic framework

1-50. The interrelationship of the air, land, maritime, space, and cyberspace domains requires a shared understanding of an OE. Sustainment commanders and staffs must understand the friendly and enemy capabilities that reside in each domain and their potential impacts to sustainment operations. Space and cyberspace operations that degrade sustainment information system capabilities, as well as the peer threat employment of conventional, special operations, guerilla, and insurgent forces to interdict friendly air, land, and maritime operations, can all degrade sustainment operations. Since many friendly capabilities are not organic to sustainment formations, commanders and staffs plan, coordinate for, and integrate joint and other unified action partner capabilities in an approach to operations.

1-51. During operations against peer threats, all friendly forces must assume they are under observation and can potentially come into contact in all domains across both the strategic framework and operational framework. Understanding and visualizing the physical, information, and human dimensions within the context of each domain helps commanders and staffs assess and anticipate the impacts of operations. This includes the impact of peer threat capabilities to contest operations using space and cyberspace capabilities. Soldiers must be prepared to operate and communicate in denied, degraded, and disrupted environments. Soldiers and leaders must analyze informational considerations across the human, information, and physical dimensions from friendly, threat, and neutral perspectives to aid in developing ways to use, protect, and attack data, information, and capabilities related to sustainment operations. Sustainers at all levels should maintain the ability to operate in an environment where sustainment operations, data, and information are contested. (See ADP 3-13 for more information.)

1-52. In a contested logistics environment, distributed sustainment operations are challenged in every domain during operations. In such an environment, sustainment decisions must be made quickly and precisely. ***Precision sustainment*** **is the effective delivery of the right capabilities at the point of employment enabling commander's freedom of action, extending operational reach, and prolonging endurance**. Precision sustainment is enabled by predictive logistics. ***Predictive logistics*** **is a system of sensors, communications, and applications (data support tools and data visualization) that enables quicker and more accurate sustainment decision making at echelon from tactical to strategic**. Predictive logistics enables decision dominance and greater precision and speed with running estimates and course of action development. It provides options for commanders and planners to know precisely where and when to prioritize support to ensure the right commodities go to the unit that most needs them for success. Sustainers must become accustomed to making decisions at echelon using real-time data received via predictive logistics sensors and systems.

Peer adversaries in a contested logistics environment have the ability to—

- Challenge operations in all domains and directly target logistics operations, facilities, and activities.
- Contest distributed sustainment operations in all domains.
- Require that sustainment decisions and operations must be quick and precise.

1-53. Predictive logistics provides decision support using sensors, communications, and applications that blend logistics data with predictive algorithms to inform planning and decision making. For example, the information received from predictive logistics applications can be used to predict product replacement rates and request replacement products before the product is needed. Predictive logistics systems can also monitor Class III (Bulk), Class V, and water consumption rates, and request replenishment without manual input. Predictive logistics will also allow monitoring of transportation assets and enable redirection based on priorities or request replacement parts. Other examples of predictive logistics include the ability to redirect the Joint Tactical Autonomous Aerial Resupply System (unmanned aerial systems that have the ability to deliver supplies to the point of employment) to resupply widely dispersed forces, and an effective communication network that enables timely situational awareness. The continued development of predictive logistics capabilities will allow precision sustainment to gain efficiencies in—

Predictive logistics supports greater precision and speed through enabling—

- Sustainment decision-making using artificial intelligence and machine learning.
- Predictive algorithms that inform course of action development and running estimates.
- Decisions at echelon using real-time data received via predictive logistics sensors and systems.

- Decision dominance.
- Autonomous distribution.
- Demand reduction.
- Advanced power.
- Maritime operations.

1-54. Precision sustainment is the goal for optimizing resources during operations in a contested logistics environment. Precision sustainment integrates sustainment data and information that can be used at all echelons. It also provides anticipation and responsiveness for sustainment and operational planners to react to supply and maintenance trends. Precision sustainment also employs the principle of economy and ensures sustainment resources are provided in the most efficient manner to enable employment of assets to the greatest effect possible. Precision sustainment is enabled by predictive logistics, which provides sustainment and operational planners with capabilities and decision

Precision sustainment is enabled by a sustainment enterprise resource planning and decision support system with predictive logistics that enables—

- The ability to resupply without request and/or redirect supplies based on priority.
- A real-time common operational picture viewable by commanders and logisticians at echelon.
- Significant demand reduction across the total force to lessen delivery requirements.

support tools required to provide operational readiness rates, near real-time total asset visibility, and in-transit visibility of assets.

ENABLE FREEDOM OF ACTION, EXTEND OPERATIONAL REACH, AND PROLONG ENDURANCE

1-55. The sustainment warfighting function, guided by the sustainment principles, is essential for generating combat power and conducting operations as the Army performs its strategic roles. Sustainment provides the operational commander the freedom of action, extended operational reach, and prolonged endurance necessary to shape OEs, counter aggression on land during crisis, prevail during large-scale ground combat, and consolidate gains.

ENABLE FREEDOM OF ACTION

1-56. Freedom of action enables commanders to achieve operational initiative and maintain tempo. Successful sustainment commanders facilitate freedom of action by planning and executing sustainment activities able to support the greatest possible number of courses of action for the supported commander in a particular situation. Effective sustainment execution employs the principles of continuity and responsiveness needed by supported commanders to operate freely.

1-57. Sustainers enable freedom of action by conducting sustainment preparation of the OE, synchronizing the sustainment plan with the scheme of maneuver and scheme of protection, and maintaining flexibility and disciplined initiative while supporting maneuver commanders. The proper application of mission command to sustainment operations encourages the greatest possible freedom of action for subordinates. Appropriate sustainment unit command and support relationships equip subordinate commanders with the authority and flexibility to act boldly and create desired support effects in the absence of continuous direction from higher headquarters.

EXTEND OPERATIONAL REACH

1-58. *Operational reach* is the distance and duration across which a force can successfully employ military capabilities (JP 3-0). Army forces require significant sustainment support and capabilities to strike, disrupt, or destroy enemy forces throughout their depth, preventing the effective employment of enemy reserves, enemy command and control nodes, enemy sustainment, and other enemy capabilities not in direct contact with friendly forces. Operations in depth disrupt the enemy's decision cycle and contribute to protecting the force by destroying enemy capabilities before the enemy can use them.

1-59. Sustainment operations are critical to extending operational reach. The Army's sustainment capability assists in providing crucial theater and port opening functions that further enable the strategic and operational reach of the joint force. Extended operational reach requires gaining and maintaining operational access in the face of enemy antiaccess and area denial capabilities and actions. The sustainment principles of continuity, survivability, and integration are integral in extending operational reach and preventing culmination.

PROLONG ENDURANCE

1-60. Endurance refers to the ability to employ combat power anywhere for protracted periods. It stems from the ability to organize, protect, and sustain a force, regardless of the distance from its base and the austerity of the environment. Endurance involves the principles of anticipation, improvisation, and economy. Anticipating requirements and making the most effective, efficient use of available resources provides endurance and gives Army forces their campaign quality. Sustainment leaders use improvisation to adapt operations to situations and circumstances to maintain endurance.

1-61. Sustainment provides the support necessary to ensure operations continue until mission accomplishment. Sustainment also provides the capabilities necessary for maintaining the personnel and materiel replacements essential to maintaining combat power. Sustainment support that prolongs endurance requires the synchronization of the elements of sustainment with the concept of operations.

AUTHORITIES AND RESPONSIBILITIES

1-62. The remainder of this chapter discusses the command authority of the CCDR, Army Title 10 sustainment requirements, and Army assigned executive agent (EA) responsibilities. Army command and support relationships are discussed in detail in chapter 2.

COMMAND AUTHORITY OF COMBATANT COMMANDERS

1-63. Title 10, United States Code (USC), Section 162 specifies the force structure prescribed for each CCMD as follows: "*(a) Assignment of Forces.- (1) As directed by the Secretary of Defense, the Secretaries of the military departments shall assign specified forces under their jurisdiction to unified and specified combatant commands or to the United States element of the North American Aerospace Defense Command to perform missions assigned to those commands. The Secretary of Defense shall ensure that such assignments are consistent with the force structure prescribed by the President for each combatant command. (2) A force not assigned to a combatant command or to the United States element of the North American Aerospace Defense Command under paragraph (1) shall remain assigned to the military department concerned for carrying out the responsibilities of the Secretary of the military department concerned as specified in section 7013, 8013, or 9013 of this title, as applicable. (3) A force assigned to a combatant command or to the United States element of the North American Aerospace Defense Command under this section may be transferred from the command to which it is assigned only- (A) by authority of the Secretary of Defense; and (B) under procedures prescribed by the Secretary and approved by the President. (4) Except as otherwise directed by the Secretary of Defense, all forces assigned to a unified combatant command shall be under the command of the commander of that command. The preceding sentence applies to forces assigned to a specified combatant command only as prescribed by the Secretary of Defense. (b) Chain of Command- Unless otherwise directed by the President, the chain of command to a unified or specified combatant command runs- (1) from the President to the Secretary of Defense; and (2) from the Secretary of Defense to the commander of the combatant command."*

1-64. Title 10, USC, Section 164 specifies the CCDR's responsibility for authoritative direction for logistics (doctrinally referred to as directive authority for logistics [DAFL]). Paragraph C1 states: "*Unless otherwise directed by the President or the Secretary of Defense, the authority, direction, and control of the commander of a combatant command with respect to the commands and forces assigned to that command include the command functions of -(A) giving authoritative direction to subordinate commands and forces necessary to carry out missions assigned to the command, including authoritative direction over all aspects of military operations, joint training, and logistics; (B) prescribing the chain of command to the commands and forces within the command; (C) organizing commands and forces within that command as he considers necessary to carry out missions assigned to the command;(D) employing forces within that command as he considers necessary to carry out missions assigned to the command; (E) assigning command functions to subordinate commanders; (F) coordinating and approving those aspects of administration and support (including control of resources and equipment, internal organization, and training) and discipline necessary to carry out missions assigned to the command; and (G) exercising the authority with respect to selecting subordinate commanders, selecting combatant command staff, suspending subordinates, and convening courts-martial, as provided in subsections (e), (f), and (g) of this section and section 822(a) of this title, respectively."*

1-65. Combatant command (command authority) (COCOM) over assigned forces is vested only in the commanders of CCMDs by Title 10, USC and cannot be delegated or transferred. This authority over assigned forces includes DAFL, which gives the CCDR the authority to organize logistics resources within theater according to operational needs. The President or Secretary of Defense may extend this authority to attached forces when transferring forces for a specific mission and should specify this authority in the establishing directive or order.

Directive Authority for Logistics

1-66. The CCDR uses DAFL to assign responsibility for execution of EA and lead Service responsibilities, and to make other special arrangements such as assigning common-user support or common-user logistics (CUL) to a Service or agency. *Directive authority for logistics* is the combatant commander authority to issue directives to subordinate commanders to ensure the effective execution of approved operation plans, optimize

the use or reallocation of available resources, and prevent or eliminate redundant facilities and/or overlapping functions among the Service component commands (JP 1, Volume 2).

1-67. DAFL, like other CCMD authorities, cannot be delegated or transferred. However, the CCDR may assign the responsibility for the planning and execution and/or management of as many common support capabilities to a subordinate JFC or Service component commander as required to accomplish the subordinate JFC's or Service component commander's mission. The Secretary of Defense or the Deputy Secretary of Defense may designate one provider as the EA for some commodities, support, or services common to two or more Services.

1-68. The CCDR must formally delineate assigned responsibilities by function and scope to the subordinate JFC or Service component commander. When exercising this option, the CCDR must specify the control and tasking authorities being bestowed upon the subordinate joint command for logistics as well as the command relationships it will have with the Service components.

Coordinating Authority

1-69. *Coordinating authority* is a commander or individual who has the authority to require consultation between the specific functions or activities involving forces of two or more Services, joint force components, or forces of the same Service or agencies but does not have the authority to compel agreement (JP 1, Volume 2). In the event that essential agreement cannot be obtained, the matter shall be referred to the appointing authority. Coordinating authority is a consultation relationship, not an authority through which command may be exercised. Coordinating authority is more applicable to planning and similar activities than to operations. For example, a joint security commander exercises coordinating authority over area security operations within the joint security area. Commanders or leaders at any echelon at or below CCMD may be delegated coordinating authority. These individuals may be assigned responsibilities established through a memorandum of agreement between military and nonmilitary organizations. For additional information, see JP 1, Volume 2.

Direct Liaison Authorized

1-70. *Direct liaison authorized* is that authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command (JP 1, Volume 2). Direct liaison authorized is more applicable to planning than operations and always carries with it the requirement of keeping the authorizing commander informed. It is a coordination relationship, not an authority through which command may be exercised.

Lead Service

1-71. The CCDR may choose to assign specific CUL functions, to include planning and execution, to a lead Service. A *lead Service or agency for common-user logistics* is a Service component or Department of Defense agency that is responsible for execution of common-user item and service support in a specific combatant command or multinational operation as defined in the combatant or subordinate joint force commander’s operation plan, operation order, and/or directives (JP 4-0).

1-72. Lead Service assignments can be for single or multiple common-user functions and may also be based on phases and/or locations within the AOR. The CCDR may augment the lead Service's logistics organization with capabilities from another component's logistics organizations as appropriate. The lead Service must issue procedures and sustainment funding for all items issued to other Services as well as a method for collecting items from other Services.

Common-User Logistics

1-73. *Common-user logistics* is materiel or service support shared with or provided by two or more Services, Department of Defense agencies, or multinational partners to another Service, Department of Defense agency, non-Department of Defense agency, and/or multinational partner in an operation (JP 4-09). It is usually restricted to a particular type of supply or service and may be further restricted to specific units or types of units, times, missions, and/or geographic areas.

1-74. While normal Service channels may be an effective means of supporting a joint operation, the Services will often be precluded from deploying the capabilities necessary to provide 100 percent dedicated Service support. More often than not, the operational situation will require CUL support to provide effective and efficient support of one or more major services or supplies. In fact, CUL support occurs in almost all joint operations, especially in the form of standing inter-Service support relationships. For example, the Army provides inland petroleum distribution to the joint force.

1-75. When properly executed, CUL can produce significant efficiencies by eliminating duplication among Service components, DOD agencies, multinational partners, and contractors in theater. By utilizing common-item and common-service support, the CCDR may be able to produce significant savings in equipment, personnel, and supplies deployed to a particular joint operations area (JOA). These savings may further reduce the requirement for strategic lift, the logistics footprint within a JOA, and possibly the overall cost of an operation. Figure 1-4 displays the CCDR's authorities and sample processes used to execute those authorities.

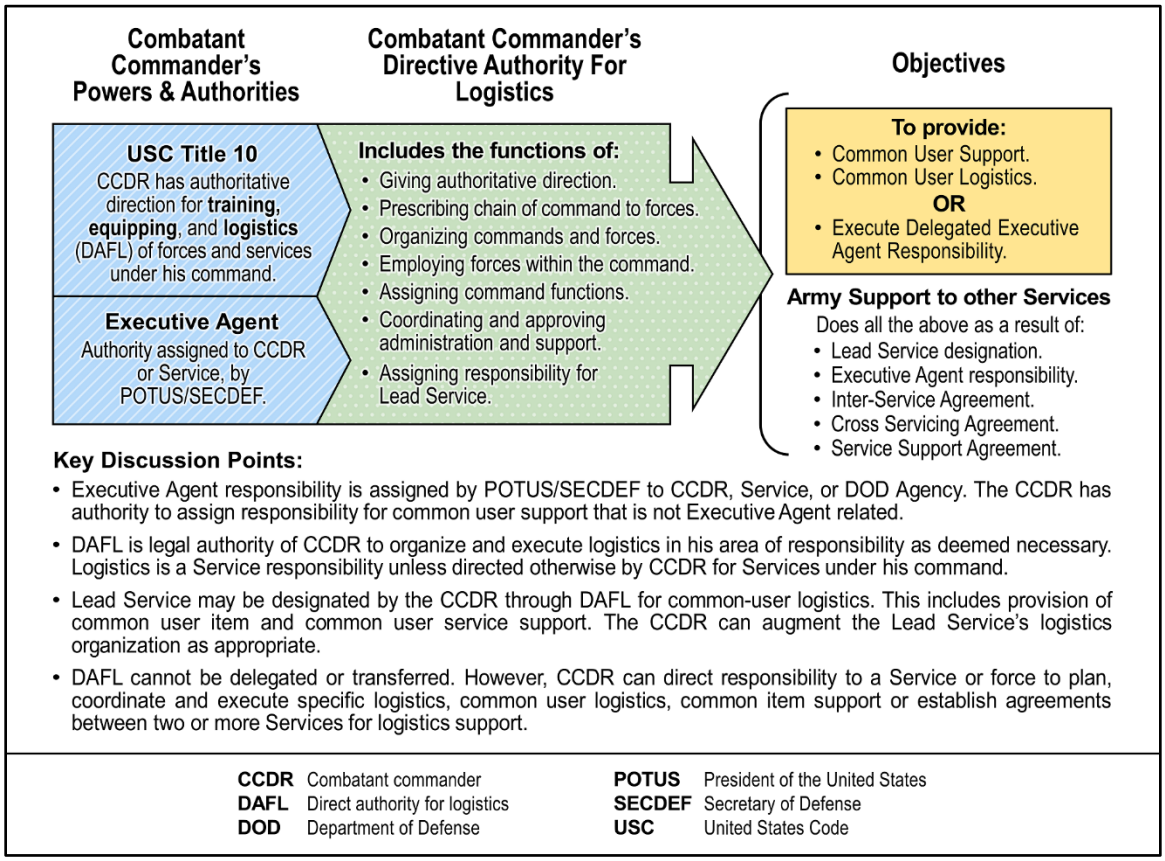

Figure 1-4. Combatant commander's authorities

JOINT COMMAND FOR LOGISTICS

1-76. The CCDR, through exercising DAFL, may assign joint logistics responsibilities to a Service component to establish a joint command for logistics (JP 4-0). The assignment as a joint command for logistics is clearly designated by orders and establishes the organization as a joint command. This command authority is not to be confused with EA, CUL, or any other type of Army support to other Services. Generally, the CCDR will designate the Service with the preponderance of forces or the most capable logistics structure to fill the joint command for logistics requirement. The designated joint command for logistics requires staff augmentation from other Services to meet joint force requirements. See JP 1 Vol 2, JP 3-33, and JP 4-0 for more information on establishing a joint command. In the event the Army Service component command (ASCC) is assigned responsibility for establishing a joint command for logistics, the TSC or expeditionary

sustainment command (ESC) with staff augmentation from other Service components is designed to fulfill that mission.

ARMY TITLE 10 SUSTAINMENT REQUIREMENTS

1-77. Title 10, USC and Department of Defense Directive (DODD) 5100.1 describe the organization, roles, and responsibilities for the elements of the DOD to include the statutory requirements for each military department. In accordance with Title 10, each Service retains responsibility for the sustainment support of forces it allocates to a joint force. The Secretary of the Army exercises this responsibility through the United States Army Chief of Staff and the ASCC assigned to each CCMD. For conventional forces not assigned to CCMDs, the Secretary of the Army established the commanding general of United States Army Forces Command (FORSCOM) as the Army's Service force provider. The ASCC is responsible for the preparation and administrative support of Army forces assigned or attached to the CCMD. Theater ASCCs also support Army special operations forces (ARSOF). United States Army Special Operations Command (USASOC) provides ARSOF to CCMDs to perform theater special operations missions.

1-78. Support provided to other Services while executing assigned EA or lead Service responsibilities is commonly referred to as Army support to other Services. In both instances, the ASCC supports sustainment requirements through its designated TSC, ESC, and theater medical command (TMC).

1-79. The Army has twelve Title 10 responsibilities; nine (bold lettering) are sustainment related:

- Recruiting.
- Organizing.
- **Supplying.**
- **Equipping (including research and development).**
- Training.
- **Servicing.**
- **Mobilizing.**
- **Demobilizing.**
- **Administering (including the morale and welfare of personnel).**
- **Maintaining.**
- **Construction, outfitting, and repair of military equipment.**
- **Construction, maintenance, repairs of building and structures, utilities, acquisition of real property and interests in real property necessary to carry out the responsibilities.**

1-80. The purposeful combination of complementary Service capabilities to create joint interdependent forces is often the most effective and efficient means by which to sustain a joint force. Therefore, additional authorities to Title 10 have been developed to provide for interservice and interagency mutual support.

ARMY EXECUTIVE AGENT RESPONSIBILITIES

1-81. *Executive agent* is a term used to indicate a delegation of authority by the Secretary of Defense or Deputy Secretary of Defense to a subordinate to act on behalf of the Secretary of Defense (JP 1, Volume 2). EA refers to Secretary of Defense directives and instructions to the head of a DOD component (such as Chief of a Service, CCDR, or director of a combat support agency) to provide specific categories of support to other agencies or Service components. The Secretary of Defense designates and funds the Army as the EA for numerous DOD common support requirements. Examples of the Army's sustainment-related responsibilities and support to other services as provided in DOD directives and joint publications are shown in table 1-2. These DOD-level EA requirements relate to lead Service responsibilities. EA reduces redundancy of common support requirements across the DOD. However, in many cases, lead Service requirements will be closely related to the DOD EA requirements. The CCDR has the authority to assign lead Service responsibilities for support to a Service that are not EA related.

Table 1-2. Examples of Army sustainment-related responsibilities

Army Executive Agent	
Source	**Support Responsibility**
Deputy Secretary of Defense Memorandum	Coordination of Contracting Activities in the U.S. Central Command Area of Responsibility
Deputy Secretary of Defense Memorandum	Financial Disclosure Management - Ethics Reporting System
DODD 3235.02E	DOD Combat Feeding Research and Engineering Program
DODD 4705.01E	Management of Land-Based Water Resources in Support of Joint Contingency Operations
DODD 5100.01	Functions of the Department of Defense and its Major Components
DODD 5101.11E	DOD Executive Agent for Military Postal Service and Official Mail Program
DODD 6025.21E	Medical Research for Prevention, Mitigation, and Treatment of Blast Injuries
Army Support to Other Services	
Source	**Support Responsibility**
JP 3-34	Joint Engineer Operations
JP 3-80	Resource Management
JP 4-18	Joint Terminal and Joint Logistics Over-the-Shore Operations
JP 4-03	Joint Bulk Petroleum and Water Doctrine
JP 4-0	Provide Logistics Support to Enemy Prisoners of War
DODD 1300.22	Mortuary Affairs Policy
LEGEND: DOD Department of Defense	DODD Department of Defense Directive JP Joint Publication

1-82. The Secretary of Defense or the Deputy Secretary of Defense may designate an EA for specific responsibilities, functions, and authorities to provide defined levels of support for operational missions, or administrative or other designated activities that involve two or more DOD components. By definition, the designation as an EA makes that organization responsible for a joint capability.

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Chapter 2

Army Sustainment at Echelon

This chapter provides an overview of sustainment roles, capabilities, and a general discussion of sustainment organizations at the national strategic, theater strategic, operational, and tactical levels of warfare. This chapter concludes with a discussion of joint command relationships, Army command and support relationships, and command and support relationships by echelon.

SECTION I – LEVELS OF WARFARE

2-1. The *levels of warfare* are a framework for defining and clarifying the relationship among national objectives, the operational approach, and tactical tasks (ADP 1-01). While the various methods of warfare are ultimately expressed in concrete military action, the four levels of warfare (national strategic, theater strategic, operational, and tactical) link tactical actions to achievement of national objectives. For additional information on the levels of warfare see JP 3-0 and FM 3-0.

2-2. The levels of warfare distinguish four broad overlapping activities: providing national direction and creating national strategy (national strategic); conducting continuous theater campaigning (theater strategic); planning and conducting campaigns and major operations (operational); or planning and executing operations, battles, engagements, and actions (tactical).

2-3. Sustainment organizations execute a series of tasks within the sustainment warfighting function that enable the continuous provision of sustainment across the levels of warfare throughout all domains. These tasks are executed across the competition continuum. Figure 2-1 on page 26 provides an overview of select tasks within each element of the sustainment warfighting function. These tasks are collectively linked to support operational objectives and unified action partners by enabling freedom of action, extending operational reach, and prolonging endurance during operations.

2-4. U.S. leaders employ the Armed Forces of the United States, the military instrument of national power, in coordination with diplomatic, informational, and economic instruments to advance and defend U.S. values and interests, achieve objectives consistent with national strategy, and conclude operations on terms favorable to the United States. The Armed Forces of the United States achieve these objectives through unified action. *Unified action* is the synchronization, coordination, or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort (JP 1, Volume 2).

2-5. In order to effectively support large-scale combat operations, sustainment leaders must understand strategic-level sustainment forces and the capabilities each provides. Joint and Army forces receive support from the strategic support area. The strategic support area describes the area extending from a theater of operations to a base in the United States or another CCDR's AOR. It includes the air and sea ports supporting the flow of forces and sustainment into the theater. The strategic base in the strategic support area includes a vast array of DOD, government, and private sector agencies that participate in the sustainment enterprise. The support provided includes strategic lift, materiel integration, financial management support, HR support, and medical services. This support often includes the ability of strategic providers to integrate and synchronize support while reaching from the strategic base directly to the end user and integrates with support received from the operational and tactical levels. An example of this is United States Army Materiel Command (USAMC) conducting force generation and executing materiel readiness in the strategic support area, and simultaneously integrating and synchronizing OCS at the theater strategic, operational, and tactical levels of warfare. Another example of this is United States Transportation Command (USTRANSCOM) integrating and synchronizing force deployment in the strategic support area and conducting reception, staging and onward movement of forces at the theater strategic level of warfare. The following paragraphs describe sustainment providers at the national strategic level of warfare. Sections II through IV of this chapter describe sustainment capabilities at the theater strategic level, operational level, and tactical levels of warfare.

LEVEL OF WARFARE ▶ / SUSTAINMENT ELEMENTS ▼	National Strategic	Theater Strategic	Operational	Tactical
Logistics	– Conduct force generation and mobilization – Establish the industrial base – Execute materiel readiness – Conduct force deployment	– Establish and operate the theater distribution network – Conduct sustainment mission command and control – Conduct reception, staging and onward movement – Manage host nation support and operational contract support – Establish and operate forward and intermediate basing	– Conduct maintenance – Conduct transportation – Conduct supply and resupply – Conduct field services – Establish and manage operational distribution network – Conduct operational contract support – Conduct general engineering	
Financial Management	– Execute Title 10 functions related to finance	– Establish and manage banking operations – Establish and conduct central funding operations – Establish theater financial management policy – Establish and conduct internal control operations – Conduct accounting operations – Conduct budget distribution and execution	– Conduct disbursing operations – Conduct payment support – Conduct internal controls – Conduct budget distribution and execution	
Personnel Services	Raise and maintain the force	– Establish and manage theater personnel tracking and reporting – Manage personnel replacement operations – Establish and conduct theater personnel support operations	– Conduct personnel tracking and reporting – Conduct replacement operations – Conduct essential personnel services	
Health Service Support	– Execute Title 10 function related to health service support – Provide Role 4 hospitalization	– Conduct medical command and control – Provide health service support to other Services – Conduct theater hospitalization – Establish and manage theater medical evacuation (to include medical regulation) – Execute theater lead agent for medical materiel – Serve as the single integrated medical logistics manager	– Provide medical treatment – Provide hospitalization – Conduct medical evacuation – Conduct medical logistics – Establish and manage area joint blood program	

Figure 2-1. Sustainment tasks

SECTION II – OVERVIEW OF NATIONAL STRATEGIC LEVEL OF WARFARE

2-6. The *national strategic level of warfare* is the level of warfare at which the U.S. government formulates policy goals and ways to achieve them by synchronizing action across government and unified action partners and employing the instruments of national power (FM 3-0). The instruments of national power are all of the means available to the government in its pursuit of national objectives, expressed as diplomatic, economic, informational, and military. The national strategic level of warfare focuses on developing global strategy and providing global strategic direction. Strategic direction provides context, tasks, and purpose for the employment of the instruments of national power. The specifics of strategic direction address long-term, emerging, and anticipatory issues or concerns that may quickly evolve due to rapidly changing circumstances. Strategic direction is always evolving and adapting. These organizations have the ability to create and deliver effects and support from the strategic base to forces in theater.

UNITED STATES TRANSPORTATION COMMAND

2-7. USTRANSCOM is a CCMD responsible for providing and managing strategic common-user airlift, sealift, and terminal services worldwide. USTRANSCOM is responsible for integrating and synchronizing strategic and theater deployment execution and intertheater distribution operations into each CCDR's AOR. It ensures that military deployment and redeployment, as well as DOD global patient movement requirements, are met using both military and commercial transportation assets based on supported commander business rules and best business practices. USTRANSCOM determines when commercial channels can meet requirements and relieve stress on limited military assets. USTRANSCOM's major subordinate commands include Air Mobility Command as the Air Force component command, Military

Sealift Command as the Navy component command, and the Military Surface Deployment and Distribution Command (SDDC) as the ASCC. See JP 4-09 and ATP 3-35 for additional information on USTRANSCOM.

2-8. The USTRANSCOM commander is the DOD single manager for global bulk fuel management and delivery in support of CCDR requirements. As the single manager, USTRANSCOM synchronizes bulk fuel posture, planning, and execution and advocates for resources, capabilities, and process improvements in coordination with CCMDs, the Services, and the Defense Logistics Agency (DLA).

2-9. The USTRANSCOM commander exercises coordinating authority for joint deployment and distribution enterprise operations and planning across all domains and collaborates with other CCMDs, the Services, and, as directed, United States Government departments and agencies. The joint deployment and distribution enterprise includes equipment, procedures, doctrine, leaders, technical connectivity, information, organizations, facilities, training, and materiel necessary to conduct joint distribution operations. As such, it provides JFCs with the ability to move and sustain forces across the range of military operations rapidly and effectively. The USTRANSCOM commander also serves as the Joint Deployment and Distribution Coordinator. USTRANSCOM coordinates planning across global deployment and distribution operations with other CCMDs, Services, and, as directed, the combat support agencies. See JP 4-09 for additional information on the joint deployment and distribution enterprise and figure 2-2 for a depiction of USTRANSCOM's components in it.

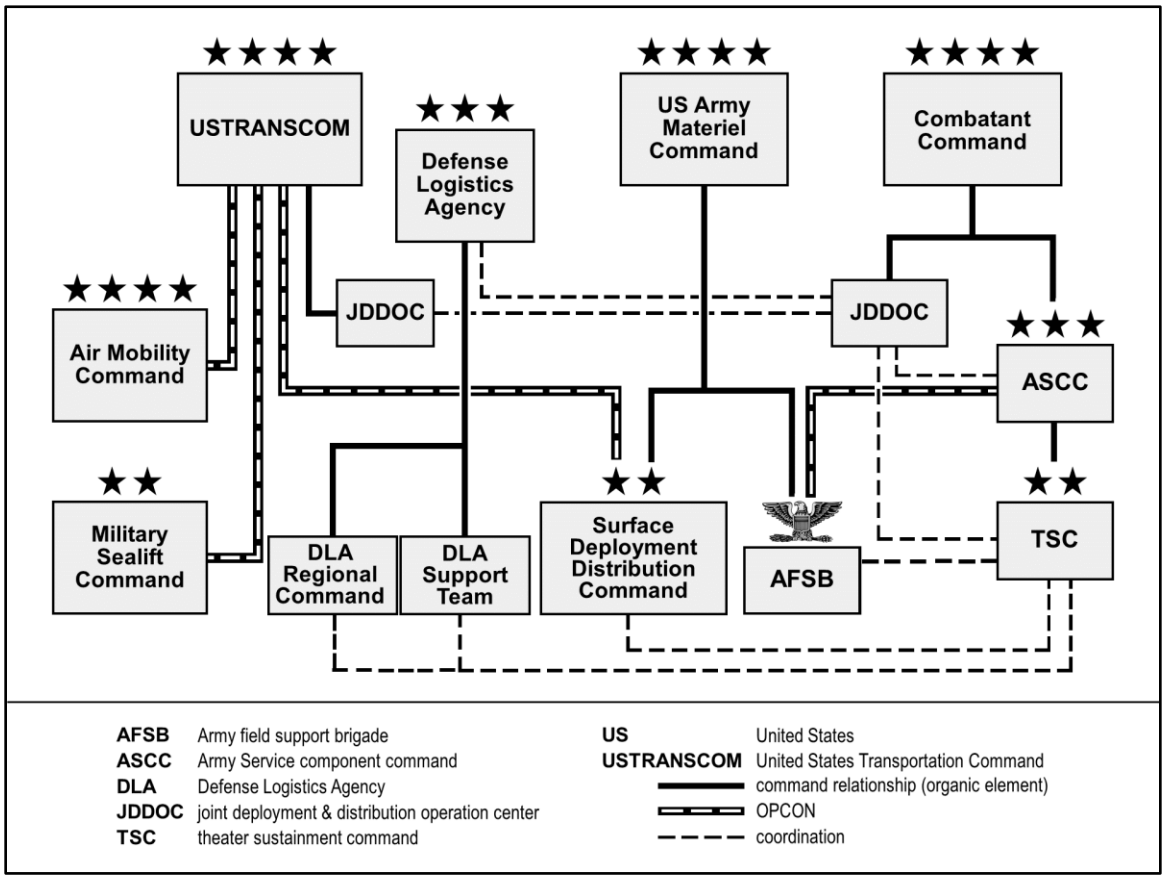

Figure 2-2. Joint Deployment and Distribution Enterprise

AIR MOBILITY COMMAND

2-10. Air Mobility Command is the United States Air Force airlift component command of USTRANSCOM and serves as the single port manager for air mobility. Air Mobility Command aircraft provide the capability to deploy the Army's forces worldwide and help sustain them across the range of military operations. USTRANSCOM, through Air Mobility Command, executes its single port manager role for aerial ports of embarkation and aerial ports of debarkation (APODs), performing functions necessary to support the strategic

flow of the deploying forces' equipment and supplies from the aerial ports of embarkation to the theater. For additional information see ATP 3-35.

MILITARY SEALIFT COMMAND

2-11. Military Sealift Command is the Navy's sealift component command of USTRANSCOM. The mission of Military Sealift Command is to provide common-user and exclusive-use sealift transportation services to include ocean transportation of equipment, fuel, supplies, and Army prepositioned stocks and ammunition to sustain U.S. forces worldwide during peacetime and in war for as long as operational requirements dictate.

MILITARY SURFACE DEPLOYMENT AND DISTRIBUTION COMMAND

2-12. SDDC is an operational-level Army force designated by the Secretary of the Army as the ASCC of USTRANSCOM and a major subordinate command of USAMC. SDDC exercises administrative control (ADCON) authority and responsibility on behalf of the USAMC commander over Army forces assigned to USTRANSCOM and exercises operational control (OPCON) over Army forces as delegated by the USTRANSCOM commander. SDDC is also the surface transportation service provider as part of USTRANSCOM's Joint Deployment and Distribution Enterprise ATP 3-35 and ATP 4-93 provide additional detail on SDDC.

SDDC FUNCTIONS AND STAFF RELATIONSHIPS

2-13. SDDC performs single-port management functions necessary to support the strategic flow of the deploying forces' equipment and sustainment supply in the seaport of embarkation and hand-off to the CCDR in the seaport of debarkation (SPOD). SDDC executes its single-port management function from the national strategic level of warfare through the theater strategic level of warfare. SDDC has port management responsibility through all phases of the theater port operations continuum. It conducts strategic port site surveys, coordinates with Army and Navy operational forces for support to enable strategic ship download and throughput at common-user commercial ports, and commercial contract fixed-port support for deployment. SDDC's subordinate brigades are postured across CCMD AORs in order to ensure flexibility and responsiveness based on the unique needs of the various regions.

2-14. As the single port manager for seaports, SDDC provides strategic deployment status information to the CCDRs and manages the workload of the SPOD port operator based on the CCDR's priorities and guidance. SDDC transportation brigades and other SDDC units operate ports that use stevedores. If United States Army stevedores are used, transportation brigades are assigned to the CCMD to operate the port. As an ASCC to USTRANSCOM, SDDC executes the following functions:

- Plans, coordinates, and synchronizes surface transportation movements to move, deploy, and sustain DOD forces and build operational readiness and lethality.
- Provides surface and multimodal transportation services to DOD and designated multinational and interagency entities.
- Plans and executes oversight of command acquisitions for transportation services to support CCMD requirements for enduring and contingency operations and infrastructure.
- Books freight on commercial vessels in accordance with contractual agreements and provides appropriate support to movements occurring on government and chartered vessels in coordination with Military Sealift Command.
- Performs water terminal clearance authority functions as required.
- Conducts port surveys, inspections, and certifications via the Transportation Engineering Agency report.

2-15. SDDC executes assigned Title 10 responsibilities on behalf of USAMC, which has ADCON of SDDC. SDDC is OPCON to USTRANSCOM for operational and joint training, and other matters for which USTRANSCOM is responsible.

DEFENSE LOGISTICS AGENCY

2-16. DLA is the nation's combat logistics support agency, providing nearly 100 percent of the military's consumable items, and is the DOD EA for subsistence, construction/barrier material, medical materiel, and Defense Logistics Management Standards. It also provides distribution and disposal support as appropriate,

including the disposal of hazardous waste. DLA supports United States Indo-Pacific Command, United States Central Command/ United States Special Operations Command, and United States European Command/ United States Africa Command through an established regional command as its focal point. United States Northern Command, United States Southern Command, United States Strategic Command, and USTRANSCOM have dedicated liaison officers. DLA participates fully in adaptive planning and execution across the range of military operations, and when requested through a Global Force Management Request for Forces or Secretary of Defense-approved standing executive order, establishes and deploys expeditionary capabilities to support CCMD mission execution. DLA's deployable capabilities can include personnel to provide logistics planning and operations support, commodity and logistics services support (Rapid Deployment Teams that deploy to form a DLA Support Team and Liaison Teams), material disposition and retrograde (DLA Disposition Services Expeditionary Operations), and material processing centers with shipping consolidation functions via DLA Distribution Expeditionary. See DODD 5105.22 and JP 4-0 for additional information.

DEFENSE HEALTH AGENCY

2-17. The Defense Health Agency is a combat support agency that enables the Army, Navy, and Air Force medical services to provide a medically ready force and ready medical force to CCMDs. Defense Health Agency supports the delivery of integrated health services to Military Health System beneficiaries and is responsible for driving greater integration of clinical and business processes across the Military Health System. The Defense Health Agency manages the Armed Services Blood Program and is responsible for coordinating support to CCMD requirements. For more information, see DODD 5136.13 and DODI 6480.04.

DEFENSE CONTRACT MANAGEMENT AGENCY

2-18. The Defense Contract Management Agency is the combat support agency responsible for providing contract administration services to the DOD acquisition enterprise and its partners to ensure delivery of quality products and services to the operating force. Defense Contract Management Agency, along with the Services, may also serve as an OCS force provider in major contingency and expeditionary operations when requested by the supported CCDR and as directed by the Under Secretary of Defense (Acquisition and Sustainment). See DODD 5105.64 and JP 4-0 for additional information.

DEFENSE FINANCE AND ACCOUNTING SERVICE

2-19. The Defense Finance and Accounting Service is responsible for the delivery and responsive accounting and financial management services for DOD. It provides timely and useful information to decision makers, allowing them to manage their resources more effectively. It is an agency supporting the Office of the Under Secretary of Defense, Comptroller—the principal advisor to the Secretary of Defense for fiscal matters. As such, it is the responsibility of Defense Finance and Accounting Service to coordinate and collaborate with all defense agencies, the military Services, and CCMDs to assist in the establishment and monitor compliance of theater financial management standards and policy. See JP 3-80 for additional information.

UNITED STATES ARMY MATERIEL COMMAND

2-20. USAMC is the Army's lead materiel integrator providing national-level sustainment, acquisition integration support, contracting support, and selected logistics support to Army forces. It also provides related common support to other Services and multinational and interagency partners. The capabilities of USAMC are diverse and are employed through its various major subordinate commands and other subordinate organizations. Some of USAMC's subordinate commands provide capabilities from the national strategic level of warfare to the operational level of warfare. See ATP 4-98 and AR 10-87 for additional information.

2-21. USAMC plans and coordinates expeditionary force contracting support operations, providing contracting support for deployed units and installation-level services, supplies, minor military construction, the Army organic industrial base, and common-use information technology hardware and software. For additional information on USAMC contracting, see ATP 4-71.

2-22. USAMC major commands are Installation Management Command (IMCOM), United States Army Financial Management Command, Army Sustainment Command (ASC), United States Army Contracting Command (ACC), United States Army Security Assistance Command, the USAMC lifecycle management

commands (LCMCs), and SDDC. Discussion of the major USAMC commands and their subordinate commands follows.

INSTALLATION MANAGEMENT COMMAND

2-23. IMCOM integrates and delivers base support to enable readiness for a globally responsive Army. IMCOM's broad range of responsibilities enable installation readiness by providing infrastructure management, sustainment, installation protection, and training support services. These responsibilities also provide resilient Soldier and Family programs. Full employment of IMCOM's capabilities facilitate execution of pre-deployment activities, deployment, and pre-redeployment activities in support of large-scale combat operations.

UNITED STATES ARMY FINANCIAL MANAGEMENT COMMAND

2-24. The United States Army Financial Management Command is responsible for the delivery of Army-wide, headquarters-level financial management functions, including systems support, audit and compliance support, financial operations support, and Army Enterprise Resource Planning systems business process standardization support. United States Army Financial Management Command oversees enterprise-wide finance and comptroller support to Army expeditionary and garrison organizations by providing financial management and systems technical training, evaluations of financial management units, and technical and integrated oversight of Army field financial management activities. Additionally, United States Army Financial Management Command develops, fields, trains, and sustains electronic commerce capabilities in cooperation with the United States Treasury, Federal Reserve Banks, credit unions, and banks. See JP 3-80 for additional information.

ARMY SUSTAINMENT COMMAND

2-25. ASC integrates and synchronizes the delivery of USAMC and materiel enterprise capabilities at echelon from the theater strategic level of warfare to the operational level of warfare. ASC delivers materiel readiness, force generation, and power projection and sets the conditions for future readiness at home station. ASC forward-stationed capabilities provide command and control to all USAMC assets in theater, shape the logistics environment, and help set the theater to accelerate force reception into theater. Deployable logistics support elements (LSEs) provide expeditionary corps and divisions the ability to rapidly integrate into the theater delivery of USAMC capabilities at echelon for responsive support to Soldier priorities. ASC serves as the Army's lead materiel integrator, identifying excess and obsolete major end items and providing disposition instructions to units. It is responsible for integrating logistics support with strategic partners and links the national sustainment base with the expeditionary Army. Major mission areas include logistics synchronization in support of the Regionally Aligned Readiness and Modernization Model, APS, materiel management, and the Logistics Civil Augmentation Program (LOGCAP). Mission execution is through a global network of organizations to include the ASC staff, Army field support brigades (AFSBs), Army field support battalions (AFSBns), logistics readiness centers (LRCs), and LSEs embedded at the division and corps levels. For additional information on ASC subordinate units see ATP 4-98, and for additional information on how ASC supports theater operations see ATP 4-93.

Logistics Civil Augmentation Program

2-26. LOGCAP is a performance-based program that provides broad, contracted sustainment support to joint operations, coalition partners, and other federal agencies to address ASCC regional and country planning requirements where a military capability is not readily available to support setting the theater and theater sustainment. Pre-awarded task orders are regionally aligned for rapid response to emerging events. Planning elements are embedded within the AFSB to coordinate annex W (Operational Contract Support) development and integrate and synchronize LOGCAP capabilities into OPLANs and concept plans, with focus on OCS-related analysis of the OE, APS, Army power projection platforms, mobilization force generation installations, theater opening, sustainment, theater distribution, stability operations, noncombatant evacuation operations, and defense support of civil authorities. LOGCAP is designed to support shaping OEs and sustainment preparation of the OE. LOGCAP is designated as a preferred source for logistics support and must be considered by requiring activities as part of OCS market research before establishing a new contract. See ATP 4-10.1 and AR 700-137 for additional information.

Army Field Support Brigades

2-27. The AFSB integrates and synchronizes delivery of USAMC strategic capabilities and enablers to the operational points of need in support of ASCCs and corps during large-scale combat operations. The AFSB also synchronizes acquisition, logistics, and technology systems contracted support with sustainment maintenance support for the theater Army. Senior command representatives from each USAMC LCMC are OPCON to each AFSB and enable integrated delivery of USAMC capabilities. The representatives provide a built-in forward technical presence in the tactical environment and anticipate requirements for logistics assistance representatives throughout each Army strategic role. Logistics assistance representatives provide expert technical advice and help identify and mitigate systemic readiness issues. Theater AFSBs are OPCON to the ASCC and are normally permanently stationed forward in their assigned region with their ASCC and TSC. In certain situations, the AFSB maybe OPCON to the TSC to enhance integration and synchronization of theater sustainment. The corps-aligned AFSBs deploy an LSE (corps) that is OPCON to the theater AFSB and operates in direct support of their supported corps during large-scale combat operations. AFSBs are augmented with additional staff or capabilities to meet expanded or unique operational requirements, particularly where redistribution property assistance teams may be used to facilitate the turn-in of equipment for redistribution or retrograde.

2-28. The AFSB is responsible for coordinating acquisition, logistics, and technology support within the theater. The AFSB synchronizes and coordinates with the Army Medical Logistics Command for strategic-level medical logistics acquisition and technology support. See ATP 4-98 for additional information.

Army Field Support Battalion

2-29. AFSBns are scalable and tailored Table of Distribution and Allowances organizations. The direct support-readiness AFSBns integrate and synchronize materiel enterprise capabilities in direct support to division and tenant units. Theater AFSBns provide general support to units within their designated support area. APS AFSBns provide the physical management of APS.

2-30. AFSBns conduct three types of mission: provide readiness support, provide technical expertise, and provide maintenance. Designated AFSBns have habitual support relationships with their supported divisions and serve as USAMC's lead materiel integrator for the division and divisional units. The AFSBn employs logistic assistance representatives to provide equipment technical expertise to assist in identifying and resolving systemic maintenance and sustaining combat power. AFSBns that have responsibility for logistics readiness center functions that provide installations support and power projection capability. See ATP 4-98 for additional information on AFSBns.

ARMY CONTRACTING COMMAND

2-31. ACC is a major subordinate command within USAMC. ACC provides its capabilities from the national strategic level of warfare through the operational level of warfare. ACC provides expeditionary contracting and contract administration to deployed Army forces through its subordinate contracting support brigades (CSBs). It provides systems contracting support to Army program executive officers and program managers, the Head of the Contracting Activity, Senior Contracting Official, and contracting officers for LOGCAP. ACC, through its subordinate Mission and Installation Contracting Command, also provides installation and power projection support to the strategic support area, IMCOM, and the AFSB LRCs. The Mission and Installation Contracting Command is a key enabler for homeland defense and defense support to civil authorities operations. In addition, ACC provides OCONUS reach-back contracting support from its CONUS-based contracting centers. ACC CSBs and contracting battalions also perform the contingency contract administration services mission during expeditionary force operations. See ATP 4-71 for additional information.

Contracting Support Brigade

2-32. The CSB serves as the Army's primary theater support and contingency contract administration services contracting headquarters. The brigade executes theater support contracting actions and contract administration of external support contracts (for example, LOGCAP in support of Army forces). The CSB commander also serves as the primary contracting support advisor to the ASCC. Allocation of CSBs is one aligned to an ASCC and one aligned to a corps. CSBs provide command and control over a number of

contracting battalions as determined during the mission planning process. See ATP 4-71 for additional information.

Contracting Battalions

2-33. The contracting battalion provides command and control over two organic detachments which write, award, and administer contracts to include contingency contract administration services of external support contracts. Contracting battalions are normally placed under the direct command of the deploying CSB, but they may deploy separately from the CSB headquarters in small-scale operations. In major sustained operations, the contracting battalion may be combined with contracting elements from other Services to form a regional contracting center. See ATP 4-71 for additional information.

UNITED STATES ARMY SECURITY ASSISTANCE COMMAND

2-34. The United States Army Security Assistance Command leads the USAMC Security Assistance Enterprise. It enables security cooperation, military engagement, and other activities conducted to build partner capacity and support and strengthen U.S. global partnerships. The command acts as the primary entry point for Army materiel, service-related, and non-institutional foreign military sales and security assistance requirements as requested by partner nations to enable CCMD strategic priorities for the region.

LIFECYCLE MANAGEMENT COMMANDS

2-35. USAMC provides logistics, technology, acquisition support, and selected logistics support to Army forces as well as USAMC-related common support to other Services and multinational and interagency partners. This is accomplished principally through national-level maintenance and supply programs managed and executed by the LCMCs, which are OPCON to AFSBs when deployed. LCMCs are the USAMC organizations that have the responsibility to mobilize and deploy sustainment-level maintenance forward repair activities from CONUS LCMC depots and arsenals. LCMCs conduct theater-level contingency planning with USAMC, ASC, and TSCs during set the theater deliberate planning. The LCMCs include USAMC staff as well as related Assistant Secretary of the Army, Acquisition, Logistics and Technology program executive office and program management offices. Together, these elements work to ensure support for fielded weapon systems and equipment for their entire life cycle. Program executive office and program management staffs often work in the same office or on the ground in the field along with LCMC item managers and other technical support personnel. The LCMCs are—

- United States Army Communications-Electronics Command: This command develops, acquires, fields, and sustains Army communications systems. It provides significant technical support capabilities to deploying and deployed Army forces.
- United States Army Tank-Automotive and Armaments Command: This command develops, acquires, fields, and sustains Soldier and ground systems for the operational Army through the integration of effective and timely acquisition, logistics, and cutting-edge technology.
- United States Aviation and Missile Command: This command supports Army aviation and missile systems acquisition with field and sustainment-level logistics development, execution, and management; industrial base operations; and delivers responsive aviation, missile and calibration materiel readiness to optimize joint warfighting capabilities at the point of need.
- The Joint Munitions and Lethality Command: This command develops, acquires, fields, and sustains ammunition for the joint force. Core competencies include: research, development, and engineering; acquisition and program management; logistics management; industrial operations; serving as the single manager for conventional ammunition executor and field operating activity; performing demilitarization and disposal of unserviceable stocks; conducting industrial base management and executing transformation; providing real time munitions readiness reporting; maintaining worldwide asset visibility; centrally managing ammunition; and providing integrated lethality solutions.
- United States Army Medical Logistics Command: This command is the LCMC for medical materiel and provides strategic-level medical logistics support and executes the medical materiel management functions in support of ASCCs and, as directed, for CCMDs to sustain operational medical capabilities. Core capabilities include: integrated logistics support center/medical materiel transition to sustainment, medical materiel supply chain management, and central management of

medical equipping contingency programs and APS; sustainment-level medical maintenance; industrial base partnerships; vaccine and medication storage and distribution; medical foreign military sales; and optical fabrication.

DEFENSE SECURITY COOPERATION AGENCY

2-36. The Defense Security Cooperation Agency plays a critical role in competition. Its mission is to advance U.S. national security and foreign policy interests by building the capacity of foreign security forces to respond to shared challenges. The Defense Security Cooperation Agency leads the broader U.S. security cooperation enterprise in its efforts to train, educate, advise, and equip foreign partners. It administers security cooperation programs that support U.S. policy interests and objectives identified by the White House, DOD, and Department of State. These objectives include developing specific partner capabilities, building alliances and partnerships, and facilitating U.S. access. The Defense Security Cooperation Agency integrates security cooperation activities in support of a whole-of-government approach, provides execution guidance to DOD entities that implement security cooperation programs, exercises financial and program management for the foreign military sales system and many other security cooperation programs, and assists in the long-term development of the security cooperation workforces. It also provides guidance the United States Army Security Assistance Command on executing foreign military sales and security assistance requirements as requested by partner nations. Sustainers can leverage the Defense Security Cooperation Agency operation to facilitate partnerships and agreements.

UNITED STATES ARMY MEDICAL RESEARCH AND DEVELOPMENT COMMAND

2-37. The United States Army Medical Research and Development Command provides Army acquisition and technology support for medical materiel. This command manages and executes research in five basic areas—infectious disease, combat casualty care, military operational medicine, chemical biological defense, and clinical and rehabilitative medicine. The command works closely with the United States Army Medical Logistics Command to ensure the delivery of lifesaving medical products to the deployed force.

UNITED STATES ARMY FORCES COMMAND

2-38. Most Army conventional operating forces are designated as Service-retained forces in the Global Force Management Implementation Guidance assignment tables and are primarily based in CONUS. FORSCOM commands Active Component conventional forces (Regular Army, mobilized Army National Guard, and mobilized Army Reserve), executes training and readiness oversight of Army National Guard forces under state command, and does the same for non-mobilized Army Reserve units. FORSCOM is the command responsible for mobilization and demobilization. Based upon the landpower requirements developed by the CCMDs and validated by the Joint Staff, the Department of the Army and FORSCOM develop task-organized force packages to facilitate strategic deployment and support the gaining JFC's operational requirements.

UNITED STATES SPECIAL OPERATIONS COMMAND

2-39. USASOC is the ASCC of United States Special Operations Command and a force provider of ARSOF to the CCMDs. USASOC’s mission is to man, train, equip, educate, organize, sustain, and support forces to conduct special operations across the full range of military operations and spectrum of conflict in support of JFCs and interagency partners to meet theater and national objectives. USASOC major subordinate operational commands and units include 1st Special Forces Command (Airborne), special forces groups, 75th Ranger Regiment (Airborne), Army Special Operations Aviation Command (Airborne), 160th Special Operations Aviation Regiment (Airborne), 4th and 8th Psychological Operations Groups (Airborne), and 95th Civil Affairs Brigade (Airborne).

2-40. ARSOF sustainment organizations include the 528th Sustainment Brigade Special Operations Airborne, Special Forces group support battalions (GSBs), and Ranger support companies. Each special forces group has a support battalion, and each Ranger battalion has an organic support company. The remaining USASOC major subordinate operational commands possess minimal organic sustainment assets. ARSOF units rely on conventional Army organizations for sustainment support that exceeds the organic

capabilities of the supported ARSOF unit. The JFC may assign a command relationship between the conventional supporting force and the ARSOF supported unit, or the JFC may determine a support relationship (general support or direct support) is more appropriate. For additional information on special operations sustainment, see ATP 3-05.40.

SECTION III – OVERVIEW OF THEATER STRATEGIC LEVEL OF WARFARE

2-41. The *theater strategic level of warfare* is the level of warfare at which combatant commanders synchronize with unified action partners and employ all elements of national power to fulfill policy aims within the assigned theater in support of the national strategy (FM 3-0). Based on strategic guidance, CCDRs with assigned AORs and staffs update their strategic estimates and develop theater strategies with input from subordinate commands, including theater Armies and supporting commands and agencies. The theater strategy serves as the basis for development of the CCMD campaign plan.

2-42. Army echelons and sustainment units operate across the strategic, operational, and tactical levels; many are affiliated with either supported or supporting commands and operate under a variety of command relationships. Knowing the roles, responsibilities, and authorities of unified action partners is essential to planning, preparing, executing, and assessing sustainment operations.

THEATER ARMY

2-43. The theater Army is the senior Army headquarters in an AOR and consists of the commander, staff, and all Army forces assigned to a CCMD. Each theater Army (United States Army Central, United States Army Europe and Africa, United States Army North, United States Army Pacific, and United States Army South) has operational and administrative responsibilities. The operational responsibilities include command of forces, direction of operations, and control of assigned operational areas. The administrative responsibilities encompass the Service-specific Title 10 requirements for equipping, sustaining, and training forces; unit readiness; discipline; and personnel matters.

2-44. The theater Army serves as the ASCC of the CCMD. It is organized, manned, and equipped to perform that role. The ASCC is the command responsible for recommendations to the JFC on the allocation and employment of Army forces within an AOR. Figure 2-3 depicts the notional AOR for the command and control of Army forces by the theater Army. See ATP 3-93, ATP 4-93, and FM 3-94 for additional information on the theater Army. Theater Army tasks and functions include—

- Executing the CCDR's daily operational requirements.
- Opening the operational area (for example: JOA, area of operations [AO], and theater of operations).
- Serving as a joint task force (JTF) or joint force land component for crisis response and limited contingency operations.
- Serving as the primary interface between the Department of the Army, Army commands, and other ASCCs.
- Exercising OPCON of deployed Army forces not subordinated to a JFC.
- Exercising ADCON of all Army forces operating within the AOR.
- Exercising OPCON of all joint forces attached to it as either a joint force land component headquarters or JTF headquarters as required by the CCDR.

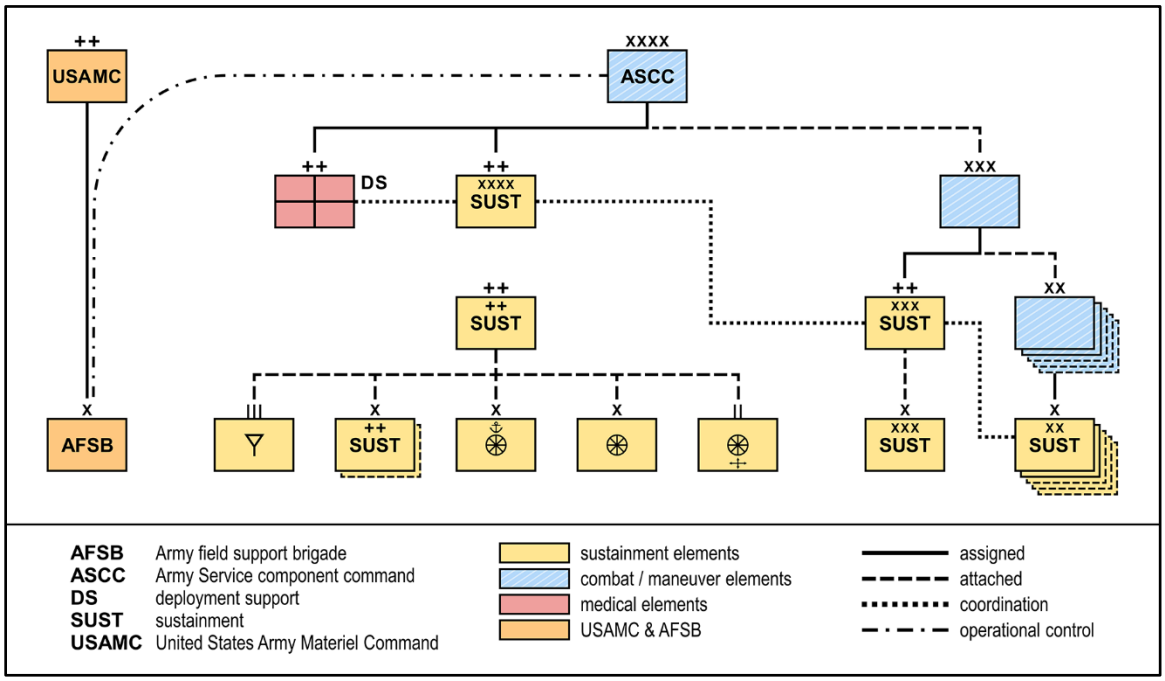

Figure 2-3. Notional area of responsibility command and control of sustainment forces

THEATER SUSTAINMENT COMMAND

2-45. The TSC is the Army's command for the integration and synchronization of sustainment in an AOR. The TSC integrates strategic enablers at the operational level. The TSC is assigned to an ASCC and provides Title 10 support of Army forces. The TSC manages requirements for sustainment and the physical flow of forces, equipment, and cargo to meet the daily operational requirements of the ASCC. Working in conjunction with the joint deployment and distribution operations center (JDDOC) and other strategic enablers, the TSC establishes priorities, monitors intertheater movements, and identifies and resolves problems to reduce interference in the intratheater distribution network. The TSC provides guidance to strategic partners when conflicting priorities exist between operational areas. The command ensures the information flow from strategic deployment, distribution, and sustainment partners is accurate, timely, and adequate to support the actions of theater sustainment forces. The TSC has four operational responsibilities to forces in theater:

- Theater opening.
- Theater distribution.
- Sustainment.
- Theater closing.

2-46. In the event that the ASCC is assigned responsibility for establishing a joint command for logistics, the TSC or its attached ESC with staff augmentation from other Service components is designed to fulfill that mission. The JTF's Service component augmentation must follow joint doctrine and, in addition to personnel, may also include joint command and control equipment and regional language and cultural experts. Once the joint command for logistics is established, it takes time to receive, train, and integrate new members and then begin functioning as a cohesive headquarters with common processes, standards, and procedures. For additional information on the TSC, see ATP 4-93.

THEATER PERSONNEL OPERATIONS CENTER

2-47. The theater personnel operations center (TPOC) is a multifunctional organization assigned to a TSC. The TPOC consists of a headquarters section and three divisions: the personnel accountability and systems division, the synchronization and integration division, and the postal operations division. In coordination with the TSC, the TPOC plans, integrates, and sustains HR and Soldier support systems for the ASCC

headquarters, and other echelons as directed by the ASCC G-1/AG. The TPOC is responsible for planning, coordinating, and synchronizing HR operations with the senior sustainment headquarters and the ASCC. The TPOC supports the TSC during early entry reception operations. The TPOC establishes and ensures functionality of the theater personnel database and the Postal Directory Address Database and provides theater-wide assistance for HR systems issues. The TPOC is responsible for synchronizing theater-level replacement priorities with the sustainment community. It monitors the execution of the theater gateway personnel accountability team (TG PAT) and military mail terminal missions at the theater gateway. Refer to FM 1-0 and ATP 4-93 for additional information on the TPOC.

ARMY FINANCIAL MANAGEMENT CENTER

2-48. The Army Financial Management Center is United States Army Financial Management Command's operational element to conduct theater opening and the continuation of setting the theater. It enables joint, interagency, intergovernmental, and multinational operations; provides timely procurement and theater disbursing support through central funding; establishes, coordinates, and maintains finance systems used in theater; enforces Headquarters, Department of the Army (HQDA) policies and guidelines; and establishes finance policies. The Army Financial Management Center also supports reconciliation activities, audit support, and synchronizes theater finance operations. The director of the Army Financial Management Center is the senior Army disbursing officer and primary liaison with the Defense Finance and Accounting Service and United States Treasury. Army Financial Management Center teams are attached forward to each TSC to link strategic banking and disbursing resources to theater sustainment, manage theater finance systems, and enforce internal controls. The Finance Support Center replaces the Army Financial Management Center team during transition from crisis to conflict based on mission variables. For additional information on the Army Financial Management Center, see FM 1-06.

FINANCE SUPPORT CENTER

2-49. The finance support center is an Army Reserve Component staff element that provides theater finance operations technical coordination. It is mobilized during crisis or armed conflict and OPCON to the TSC. The director serves as the principal finance operations advisor to the TSC commander. The finance support center integrates, synchronizes, and sustains finance support operations by coordinating with partner nations, national strategic providers, other Services, and United States Army Financial Management Command. Upon arrival to theater, the finance support center assumes primary responsibility from the Army Financial Management Center team for theater banking operations, central funding, and disbursing. It has responsibility to conduct economic analysis, payment systems analysis, illicit activity analysis, finance operations planning and policy, and internal controls oversight.

2-50. During transition to post-conflict competition, the finance support center may coordinate with unified action partners to assist host-nation or provisional authorities with banking administration, currency issues, and ecommerce systems. Upon close of the JOA and a return to competition, the finance support center transitions banking and disbursing operations to the Army Financial Management Center and redeploys.

FINANCE OPERATIONS CENTER

2-51. The finance operations center serves as the TSC's primary financial management integrator for current operations, future operations, and plans. It is assigned to the TSC as part of the distribution management center (DMC). It prepares applicable portions of operation orders (OPORDs), running estimates in support of orders and plans, forecasts requirements for physical currency, recommends financial management force structure requirements, monitors finance unit force flow, and recommends allocation and employment of finance units in theater.

THEATER FINANCE BATTALION

2-52. The theater finance battalion is a Reserve Component battalion OPCON to an ESC or sustainment brigade in the joint security area that conducts disbursing, payment support, and internal controls during theater opening and theater distribution when mobilized. The commander is the theater finance battalion's primary account holder to the United States Treasury.

THEATER MOVEMENT CONTROL ELEMENT

2-53. The theater movement control element (TMCE) is a multifunctional theater-level center allocated to a TSC. The TMCE provides movement management, container management, highway regulation, and coordination for personnel and materiel movements. It provides staff augmentation to establish and refine distribution networks during operations, manage containers (commercial, unit, and DOD), and develop movement programs for the distribution of sustainment stocks within the AO or JOA as required. The TMCE coordinates with strategic partners to locate and identify strategic ports of entry into the AOR. It plans, monitors, and coordinates the intertheater movement program to facilitate military forces moving during crisis below armed conflict, and it supports large-scale combat operations by committing air and ground transportation assets in the support of reception, staging, and onward movement of forces entering into theater. The TMCE also plans, monitors, and implements the intratheater movement program in accordance with CCDR priorities. For additional information on the TMCE, see ATP 4-93.

THEATER PETROLEUM AND WATER GROUP

2-54. The theater petroleum and water group is normally attached to a TSC. It supports a theater Army in establishing, managing, and conducting petroleum and water operations. The petroleum and water group is responsible for planning and providing command and control of the theater petroleum and water units assigned to build theater stocks, distribution systems, and quality surveillance support structure. It has a SPO section that coordinates, manages, and synchronizes all bulk petroleum in the theater or corps. For additional information see ATP 4-43.

THEATER PETROLEUM CENTER

2-55. The theater petroleum center serves as the operational Army link to strategic petroleum partners, providing liaison between DLA Energy, host/partner nations, the ASCC, Army Petroleum Center, CCMD, and TSC as needed. It serves as the senior theater Army petroleum advisor to the CCMD through operational planning support to the TSC petroleum and water branch or ASCC petroleum and water branch staffs. The theater petroleum and water group operates as a sub-unit of the theater petroleum center and provides the same capabilities of the theater petroleum center on a smaller scale. Both the theater petroleum center and the theater petroleum and water group are normally attached to an ASCC, TSC, or ESC as mission dictates. See ATP 4-43 for additional information.

TRANSPORTATION BRIGADE EXPEDITIONARY

2-56. The transportation brigade expeditionary (TBX) is normally attached to a TSC or ESC. It provides command and control of Army watercraft and water terminal organizations for port opening and operations at inland waterway, bare beach, degraded, and improved sea terminals. Water terminal and watercraft units assigned to the TBX conduct deployment, distribution support, and redeployment in accordance with theater Army operational requirements. The TBX commander and staff serve as the TSC or ESC commander's primary experts on port operations. Watercraft assigned to the TBX can also be used to support the movement and sustainment of maneuver forces and their equipment when required. The TBX also serves as the ARFOR component of any JTF for joint logistics over-the-shore (JLOTS) operations. As the primary Army headquarters element with assigned terminal and watercraft units, the TBX provides the Army's organic capability to conduct specific functions of the Army in support of amphibious operations, riverine operations, wet-gap operations, JLOTS operations, and intratheater transport of time-sensitive, mission-critical personnel and materiel. See ATP 4-13 for additional information.

EXPLOSIVE ORDNANCE DISPOSAL GROUP

2-57. The EOD group conducts mission command, planning, and control for all EOD assets in a theater and provides EOD liaison to the theater Army. The EOD group can conduct EOD command and control for two to six EOD battalions. It is attached or placed OPCON to coordinate EOD and weapons technical intelligence operations to a theater Army, corps, or JTF in support of a specific operation, OPORD, OPLAN, or concept plan. The group may also form the core of a specialized combined JTF with mission command of various enablers. If augmented, the group can provide command and control functions to execute missions such as facilitating collection of technical intelligence or management of captured enemy ammunition. See JP 3-42, ATP 4-32, ATP 4-32.1, ATP 4-32.2, and ATP 4-32.3 for additional information.

EXPEDITIONARY SUSTAINMENT COMMAND

2-58. At the theater echelon, one or more ESCs can be attached to a TSC. The ESC is attached to a TSC and provides command and control over all assigned and attached units in an operational area as directed by the TSC. The ESC is capable of planning, coordinating, integrating, and synchronizing sustainment in support of Army forces and, when directed, joint and multi-national forces. It may perform the function of a forward command post for the TSC.

2-59. The ESC may form the nucleus of an expeditionary joint command for logistics when provided with joint force augmentation. The ESC performing as a joint command for logistics will normally locate within a JOA while another ESC or sustainment brigade assumes the responsibilities for supporting Army forces. For more information on the ESC, see ATP 4-93.

THEATER MEDICAL COMMAND

2-60. The TMC is the senior medical command in support of the ASCC. The TMC is responsible for command and control, integration, synchronization, and execution of AHS support within the AOR. The TMC commander is responsible for maintaining a regional focus in support of the CCDR and ASCC theater engagement plan, while providing effective and timely direct HSS and force health protection to tactical commanders and general support to theater forces at echelons above brigade (EAB). The enduring regional focus of the ASCC drives organizational specialization in the supporting TMC to address unique health threats, specific needs of the local populace, availability of other Service medical capabilities, and geographic factors that are distinctly related to a particular region. See FM 4-02 for additional information.

2-61. The TMC integrates and synchronizes all AHS operations and provides command and control of medical brigades (support) (MEDBDEs [SPT]), multifunctional medical battalion (MMBs), and other AHS units providing force health protection and HSS to tactical commanders. The TMC employs an operational command post and a main command post that can deploy autonomously into an operational area and is employed based on the size and complexity of operations, or the support required. Key tasks of a TMC include—

- Providing command and control of MEDBDE (SPT) and subordinate medical units assigned and attached.
- Task-organizing medical elements based on specific medical requirements.
- Monitoring health threats within each operational area and ensuring the availability of required medical capabilities to mitigate those threats.
- Maintaining situational understanding of medical infrastructure, treatment, and evacuation capabilities.
- Accomplishing Title 10, USC responsibilities and Army support to other Services for the operational area.
- Partnering and training with host-nation and multinational health system units.
- Establishing a command relationship with the theater Army and the CCDR.
- Collocating the medical logistics management center (MLMC) with the TSC for coordination and planning.
- Conducting EA for medical research for prevention, mitigation, and treatment of blast injuries.

MEDICAL LOGISTICS MANAGEMENT CENTER

2-62. The MLMC provides centralized management of Class VIII materiel from the tactical to strategic level. When deployed, the MLMC forward support team is assigned to the TMC and collocates with the TSC/ESC DMC. When collocated with the TSC or ESC, the forward support team coordinates with the TMC for medical materiel requirements in support of theater AHS operations and may be further task-organized based on mission orders. The forward support team serves as the primary link between national strategic-level medical logistics capabilities and theater-level distribution.

MEDICAL BRIGADE (SUPPORT)

2-63. The MEDBDE (SPT) provides the command and control and planning capabilities necessary to deliver responsive and effective AHS support across the range of military operations. The MEDBDE (SPT) ensures

the right mix of medical forces and expertise (operational, technical, and clinical) to synchronize AHS support to operations.

2-64. The MEDBDE (SPT) consists of an early entry module, expansion module, and campaign module. The design and flexibility of the MEDBDE (SPT) facilitates the AHS's ability to tailor the unit to meet expeditionary health system support and force health protection requirements in support of early entry operations and transition to provide greater capability and capacity based on the size, composition, and location of supported forces. The MEDBDE (SPT) is assigned to the TMC and may be further task-organized based on mission orders. See FM 4-02 for additional information.

MEDICAL BATTALION (MULTIFUNCTIONAL)

2-65. The MMB is an EAB headquarters. The unit provides command and control, administrative assistance, logistics support, and technical supervision for assigned and attached medical functional organizations (companies, detachments, and teams) task-organized for support to deployed forces operating within the AO. The MMB can be deployed to provide command and control of medical forces during early entry operations and facilitate the RSOI of theater medical forces. It is under the command and control of the MEDBDE (SPT) and/or TMC. All EAB medical companies, detachments, and teams in theater may be assigned, attached, or placed OPCON to an MMB and may be further task organized based on mission orders. See FM 4-02 for additional information.

HOSPITAL CENTER

2-66. The hospital center is a modular Role 3 medical treatment facility (MTF) tailored to provide hospitalization support to operations. It provides essential care within the theater evacuation policy to either return patients to duty or stabilize them for further evacuation to a Role 4 MTF in CONUS or another safe haven. The hospital center consists of five modular elements capable of providing mission-specific medical and surgical support. It may be augmented by one or more medical detachments, hospital augmentation teams, or medical teams designed to enhance its capabilities to provide AHS support.

CLASS VIII MANAGEMENT AND DISTRIBUTION PROCESS IN THEATER

2-67. The TMC controls and supervises medical logistics support within the theater in coordination with the TSC, which provides distribution. An MLMC forward team collocates with the DMC of the TSC or ESC to coordinate medical materiel management and distribution and may be further task organized based on mission orders. Army Medical Logistics Command subordinate units United States Army Medical Materiel Center-Europe or United States Army Medical Materiel Center-Korea, and the United States Army Medical Materiel Center-Southwest Asia (assigned to Army Central Command) execute the theater lead agent for medical materiel mission. They provide theater-level medical materiel management, medical device maintenance and repair, optical fabrication, and medical set assembly and reconstitution. The United States Army Medical Materiel Agency, a subordinate of the United States Army Medical Logistics Command, integrates with ASC LSEs and issues medical APS unit sets and/or Class VIII contingency program to supported medical units.

2-68. CCDRs often assign the ASCC (or Army component of a JTF) as the single integrated medical logistics manager with responsibility to plan and execute medical logistics support to all Services and multinational partners operating in the theater. The TMC or ASCC designated senior medical commander executes the single integrated medical logistics manager responsibility. The MLMC forward team provides information management and distribution coordination support for the single integrated medical logistics manager mission.

2-69. The MEDBDE (SPT) coordinates with the corps sustainment brigade to plan and synchronize Class VIII supply and distribution operations at corps and below supply support activities and can serve as the single integrated medical logistics manager if designated by the CCDR.

2-70. The MMB coordinates with the corps and division sustainment brigades to plan and synchronize Class VIII supply and distribution operations within the unit's AO. This battalion can also serve as the single integrated medical logistics manager if designated by the CCDR. The medical logistics company provides direct support for medical materiel, medical device maintenance, and single and multi-vision optical lens fabrication and repair to supported units, including joint forces. The brigade medical supply office in the

brigade support medical company (BSMC) provides organic Class VIII and medical maintenance support to medical elements of the maneuver brigade. For additional information, see ATP 4-02.1.

2-71. At each echelon, sustainment unit support operations (SPO) sections plan and supervise Class VIIIA resupply to their supported units. This synchronization is critical to ensure that Class VIII is distributed through routine channels and ambulance backhaul through the corps and division areas forward to the Role 1 providers.

ARMY SPECIAL OPERATIONS FORCES SUSTAINMENT ORGANIZATIONS

2-72. ARSOF operating and logistics structures differ vastly from Army conventional forces. The GSB within the special forces group provides direct support to the special forces group or to joint special operations task force elements when directed by the theater special operations command. The Ranger regiment and special operations aviation regiment possess organic support assets at the battalion level. Civil affairs and psychological operations units do not possess organic direct support assets. The special operations aviation regiment is typically task organized under a joint special operations air component and will be provided direct support by the joint special operations air component's direct support elements and the designated CUL provider. ARSOF elements that do not have organic support elements are sustained by the command they are attached to for the duration of the operation.

2-73. USASOC serves as the ASCC for ARSOF, but functions similarly to the Army's generating force and serves as a global resourcing command in support of United States Special Operations Command. ASCCs provide sustainment support to ARSOF elements within an AOR through TSCs, ESCs, and sustainment brigades.

528TH SUSTAINMENT BRIGADE (SPECIAL OPERATIONS) (AIRBORNE)

2-74. The 528th Sustainment Brigade (Special Operations) (Airborne) sets operational-level logistics conditions (enduring relationships, forward posture, and speed) to enable ARSOF and joint element missions by providing tailored logistics, signal, medical, and intelligence support to the global SOF network. The 528th enables ARSOF with purpose-built teams of expert sustainers, communicators, and intelligence specialists; delivers SOF-unique sustainment resources; and on-order, rapidly deploys globally to enable sustainment for ARSOF.

2-75. The unit consists of a brigade staff, a support operations unit, and three battalions: a special troops battalion (containing a special troops support company and a forward support company [FSC]), a special operations signal battalion, and a military intelligence battalion. It leverages small units of action that rapidly configure and deploy responsive, flexible, and modular teams known as ARSOF support operations teams to support global special operations requirements. The brigade also benefits from forward-positioned ARSOF liaison elements. These elements serve as the special operations logistics liaisons to the ASCC and theater special operations command and are geographically aligned to CCMDs. They are responsible for coordinating and synchronizing logistics plans and Army common sustainment in support of theater special operations commands.

2-76. The 528th Sustainment Brigade (Special Operations) (Airborne) provides intelligence processing, exploitation, and dissemination and signal, logistics, and medical support through individual subject matter experts, teams, and echelons up to the brigade level. It integrates into ARSOF and the joint force to provide SOF-specific support capabilities during transitions and within competition, crisis, and conflict.

2-77. The brigade has three special operations resuscitation teams capable of providing damage control resuscitation and prolonged field care for 2-4 patients for 48 hours. Capable of integrating with joint surgical assets (Army forward resuscitative and surgical detachment, Air Force special operations surgical team, Navy forward resuscitative surgical system, Air Force mobile field surgical team), each team can conduct split-based operations for a limited period to support forces operating in multiple locations. See ATP 3-05.40 for additional information.

SPECIAL FORCES – GROUP SUPPORT BATTALION

2-78. The GSB is the primary sustainment provider in a special forces group. Its mission is to plan, coordinate, synchronize, and execute sustainment operations such as the SSA, weapons and electronics maintenance, strategic mobility, and consolidated aerial delivery and rigging operations in support of a special forces group when it is acting as the joint special operations task force. Due to the unique employment characteristics of ARSOF units, the GSB habitually does not deploy in its entirety as there is only one in each special forces group. The GSB must simultaneously support the operations of each battalion, receiving support from conventional forces as required.

2-79. When ASCC logistics support is unavailable or not established in an operational area, the GSB will be the primary CUL provider. The GSB can function as a combined and joint headquarters, integrating partner-nation and sister-Service elements. However, no single support battalion can cover the geographical dispersion without conventional force logistics support. The GSB coordinates with conventional force sustainment brigades, division sustainment brigades (DSBs), the ESC, and the TSC to enable an area support concept for each special operations task force, advanced operations base, and special forces operational detachment alpha. Area support enables SOF elements in the vicinity of conventional force bases to receive general sustainment support. See FM 3-05 for additional information.

RANGER SUPPORT COMPANY

2-80. The Ranger support companies are reliant on the Ranger Regiment S-4 section and Ranger support operations detachment for planning and coordination. The Ranger support company is multifunctional and organic to each battalion within the Ranger Regiment. Ranger support companies provide field maintenance, supply support, water production (with limited distribution), transportation, aerial delivery, property management, limited chemical, biological, radiological, and nuclear (CBRN) decontamination and reconnaissance, and food service. See ATP 3-05.40 for additional information.

SECTION IV – OVERVIEW OF OPERATIONAL LEVEL OF WARFARE

2-81. The *operational level of warfare* is the level of warfare in which campaigns and operations are planned, conducted, and sustained to achieve operational objectives to support achievement of strategic objectives (JP 3-0). The operational level links the employment of tactical forces to the achievement of strategic objectives.

2-82. The operational level of warfare is generally the realm of CCMDs and their Service or functional components, and subordinate JTF headquarters and their Service or functional components. This includes the theater Army headquarters as the Army Service component to a CCMD and any other echelon operating as an ARFOR, JTF headquarters, or land component command.

FIELD ARMY

2-83. When constituted, the field army's role is to serve as the ARFOR in a subordinate AO. Army doctrine distinguishes between the ARFOR of a CCMD and that of a joint force formed by the CCDR. The ASCC of the CCMD is the ARFOR for the theater and the Army component of the subordinate joint force, the field army is the ARFOR for multi-corps operations in the subordinate AO. The ASCC maintains control of all Army units in an AOR until such time that control is passed to the field army. As part of controlling Army forces, the ARFOR maintains ADCON of Army forces and addresses Service responsibilities such as coordinating Army support to other Services. An ESC may be attached to a field army to control the integration and synchronization of sustainment to support field army operations. When attached to the field army, the ESC provides sustainment support to units identified in the field army task organization in accordance with the priorities established by the field army commander. See FM 3-94 and ATP 4-92 for additional information on field armies.

SUSTAINMENT BRIGADE

2-84. The sustainment brigade plans, synchronizes, and executes sustainment operations across the theater Army, corps, and division echelons. The sustainment brigade is the Army's primary brigade-level sustainment headquarters providing command and control for assigned, attached, and OPCON sustainment units. Sustainment brigades are typically assigned or attached to a TSC, ESC, or division and have a span of

control of three to six battalions. At the field army and corps echelons, there are task-organized sustainment brigades attached to the ESC to provide sustainment support to Army forces and unified action partners conducting operations in the operational area. For additional information, see ATP 4-92.

COMBAT SUSTAINMENT SUPPORT BATTALION

2-85. The combat sustainment support battalion (CSSB) executes logistics operations within the theater Army, corps, and division echelons. It is task organized with up to six functional companies, teams, and detachments that execute transportation operations (mode, terminal, and movement control), maintenance operations, supply, and field services. CSSBs are normally attached to sustainment brigades and may be attached to DSBs to support division operations.

SECTION V – OVERVIEW OF TACTICAL LEVEL OF WARFARE

2-86. The *tactical level of warfare* is the level of warfare at which forces plan and execute battles and engagements to achieve military objectives (JP 3-0). Activities at this level focus on tactics—the employment, ordered arrangement, and directed actions of forces in relation to each other (ADP 3-90). Operational-level headquarters determine objectives and provide resources for tactical operations. Tactical-level commanders plan and execute operations to include battles, engagements, and small-unit actions.

CORPS

2-87. The corps is the Army's most versatile headquarters. The corps functions as one of the principal integrators of land power into campaigns. When a field army is not present, a corps is the primary link between the operational and tactical levels of war. The corps is organized, manned, and equipped to serve in four roles:

- Senior Army tactical formation in large-scale combat, commanding two to five Army divisions together with supporting brigades and commands. This is its primary role.
- ARFOR (with augmentation) within a joint force for campaigns and major operations when a field army is not present.
- JTF headquarters (with significant augmentation) for crisis response and limited contingency operations.
- Joint force land component (with significant augmentation) commanding Marine Corps and multinational divisions together with supporting brigades and commands.

2-88. Each corps has an assigned corps sustainment command (CSC). The CSC is the corps' command for the integration and synchronization of sustainment in an operational area. The CSC headquarters is normally task-organized with sustainment brigades, a petroleum group, finance center, and movement control battalion. The CSC executes logistics support, HR, financial management, and distribution management operations at the operational and tactical levels of war. The CSC integrates HSS and medical logistics operations into the overall sustainment support concept. The CSC manages requirements through the coordination and synchronization of the physical flow of forces, equipment, and cargo to meet the daily operational needs of the tactical units. It also monitors movements throughout the assigned JOA or AO and identifies and resolves problems to reduce interference to distribution networks. For additional information on the corps and its capabilities, see FM 3-94 and ATP 4-92.

2-89. The corps finance battalion is assigned to the corps CSC, provides command and control of two to six subordinate finance companies, and is responsible for conducting tactical finance operations. It has the flexibility to push forward tailored support packages and provide physical currency for early entry operations. The corps finance battalion's primary functions include disbursing, payment support, and internal controls. The commander is the corps finance battalion's primary account holder to the United States Treasury.

DIVISION

2-90. The division is the Army's principal tactical warfighting formation during large-scale combat operations. Its primary role is to serve as a tactical headquarters commanding brigades. The division is typically the lowest tactical echelon that employs capabilities from multiple domains to achieve convergence during large-scale combat operations. A division conducts operations in an AO assigned by its higher

headquarters—normally a corps. A division typically commands between two and five maneuver brigades, a combat aviation brigade (CAB), division artillery, and a DSB. It task organizes its assigned and provided units to accomplish its mission according to mission variables. See FM 3-94 and ATP 4-91 for additional information on the division.

2-91. The division's primary purpose is winning battles and engagements. During limited contingencies, it can organize itself to serve in multiple competencies. When the division is uncommitted to a specific operation, it focuses on building and sustaining readiness to prevail in large-scale combat operations. A division may also serve in the following roles:

- Tactical headquarters.
- ARFOR headquarters.
- Joint force land component headquarters.
- JTF headquarters.

DIVISION SUSTAINMENT BRIGADE

2-92. The DSB is assigned to a division. The DSB synchronizes and integrates sustainment for the division. It can provide command and control for up to seven battalions with two organic and optional space for five additional battalions. The role of the DSB is to provide command and control to all subordinate units and plan, synchronize, and integrate all sustainment support (including organic Role 1 medical support) for the division. The DSB performs the following functions: distribution management and operations, transportation, supply support, field maintenance, personnel services, and OCS requirements determination in coordination with subordinate units and the division staff. For additional information on the DSB and its organic capabilities, see ATP 4-91.

DIVISION SUSTAINMENT SUPPORT BATTALION

2-93. The division sustainment support battalion (DSSB) is a multifunctional battalion that is organic to the DSB and provides logistics support to a division. Its organizational design includes three organic companies. The DSSB has the capability to command and control up to four additional companies, detachments, or teams and synchronizes, integrates, and controls the execution of logistics operations for the division. For additional information, see ATP 4-91.

DIVISION SUSTAINMENT TROOPS BATTALION

2-94. The DSB also includes an organic division sustainment troops battalion to support tactical-level sustainment operations. It may command and control up to seven companies or teams based on mission requirements. This battalion's role is to provide command and control for organic, assigned, and attached units and integrate, synchronize, and control the execution of operations for HR, financial management, and field services (field feeding and mortuary affairs) units supporting division operations.

ADDITIONAL ECHELONS ABOVE BRIGADE SUSTAINMENT CAPABILITIES

2-95. The Army has other organizations that assist with executing sustainment operations in addition to those discussed above. The motor transport, petroleum support, movement control, EOD, and terminal battalions provide logistics support to division and corps formations as well as enabling units operating throughout the AOR. These battalions can be task organized to sustainment brigades and DSBs to provide critical logistics capabilities in an operational area. The modular ammunition, support maintenance, composite and functional transportation, composite and functional supply, HR, and watercraft companies and detachments provide specific capabilities and execute complex operations. These companies can be task organized into DSSBs, CSSBs, and functional battalions to meet specific requirements.

BRIGADE

2-96. Brigade types include maneuver brigades, multifunctional brigades, and functional brigades. Maneuver brigades are the Army's primary combined arms, close-operations force, and principal ground maneuver units of the division. They have organic capabilities including battalion-sized maneuver, field artillery, reconnaissance, and sustainment units. Each BCT has organic medical support for Role 1 and 2 medical operations. The three types of maneuver brigades are armored, infantry, and Stryker. Maneuver brigades normally operate as part of a division.

2-97. There is a wide range of multifunctional support brigades. These brigades provide a variety of functions in support of operations. Normally attached to a corps or division, these brigades may be under the command of a joint or multinational headquarters. Multifunctional support brigades include the CAB, division artillery, TBX, and maneuver enhancement brigade (MEB).

2-98. Functional brigades or groups provide a single function or capability. These brigades can provide support for a theater, corps, or division, depending on how each is tailored. Functional brigades include the air and missile defense brigade, division artillery, civil affairs brigade, engineer brigade, expeditionary military intelligence brigade, signal brigade, military police brigade, MEDBDE (SPT), and theater tactical signal brigade.

BRIGADE SUPPORT BATTALION

2-99. Sustainment at the brigade echelon is centered on the brigade support battalion (BSB). The BSB is an organic component of a maneuver brigade. It provides supply, maintenance, motor transport, and Role 2 medical support to the supported maneuver brigade or brigade. It is tailored to support the brigade to which it is assigned. For example, the BSB of an armored brigade has more fuel distribution and maintenance capabilities than an infantry brigade BSB. The following paragraphs summarize the BSB's companies. See ATP 4-90 for additional information.

2-100. The BSB distribution company role is to provide supply (to include Class VIII) and transportation support to a brigade. The company provides distribution capability for all classes of supply but does not have the capability to conduct troop transport missions. It provides munitions support to the maneuver brigade with the modular ammunition transfer point.

2-101. The BSB field maintenance company role is to provide field-level maintenance support to the BSB and maneuver brigade. The field maintenance company provides repair capability for automotive and ground support equipment, and limited support for low-density equipment such as communications, electronics, and armament.

2-102. The BSMC provides AHS support to a maneuver brigade. The BSMC provides Role 1 and 2 medical care in support of a maneuver brigade and area medical support to units in the maneuver brigade AO that do not have organic medical assets. BSMCs are organic to maneuver brigades. The BSMC consists of a company headquarters, preventive medicine section, behavioral health section, medical treatment platoon, medical evacuation platoon, and a brigade medical supply office. The brigade medical supply office is responsible for providing Class VIII to the Role 2 medical company and forward resuscitative and surgical detachment (when attached). It also provides field-level medical maintenance and repair for medical devices in the maneuver brigade.

2-103. The FSC provides logistics in direct support or general support to its specific supported battalion with dedicated logistics assets organized specifically to meet the battalion's requirements. An FSC provides field feeding, bulk fuel, general supply, ammunition, and field-level maintenance to its supported maneuver battalion. FSCs are organic to the BSB and attached, as required, to supported battalions.

MULTI-DOMAIN TASK FORCE

2-104. The muti-domain task force may have a BSB in select configurations. If the multi-domain task force does not have a BSB, then the staff of the is responsible for logistics planning. The multi-domain task force BSB synchronizes and integrates logistics and AHS support throughout the multi-domain task force AO. The BSB is designed with a headquarters and headquarters company, distribution company, field maintenance company, a multi-domain medical company, and FSCs. The multi-domain medical company provides Role 1 and 2 medical support for the multi-domain task force and area medical support for units in the brigade support area (BSA) in addition to providing a trauma quick reaction force. The trauma quick reaction force provides damage control resuscitation, which includes initial burn management and trauma resuscitation (such as blood products, parenteral fluids, advanced airway management, intravenous/intraosseous/central line placement). The trauma quick reaction force can also provide limited ancillary services with point of care lab assay measurement and imaging (such as ultrasound) to assist with initial assessment and ongoing patient treatment and management. Refer to ATP 4-02.6 for additional information on the multi-domain medical company and ATP 4-90 for additional information on the multi-domain task force BSB.

AVIATION SUPPORT BATTALION

2-105. The aviation support battalion (ASB) is organic to a CAB, an expeditionary CAB, and a theater aviation brigade. There are primary differences between a BSB and an ASB:

- The ASB is only assigned a medical section and a maintenance platoon. These elements are assigned to the headquarters and support company and have significantly less capability than a BSMC and a field maintenance company.
- An aviation support company replaces the field maintenance company and provides aviation maintenance and recovery support to the brigade.
- The forward support companies are organic to helicopter battalions in the brigade.
- A signal company is added, similar to a MEB.
- The CAB has an ammunition transfer and holding point that supplies munitions to its forward arming and refueling points (FARPs).

2-106. The ASB performs the following tasks:

- Ground vehicle and aviation maintenance and recovery operations.
- Signal and network security to the CAB for command and control.
- Aviation and ground sustainment operations for the aviation brigade.
- Distribution management operations within the aviation brigade.
- Role 1 medical care for the ASB.

2-107. Additional sustainment support for aviation battalions and squadrons is provided by an organic aviation maintenance company and FSC. For more information on aviation sustainment, see FM 3-04.

SECTION VI – COMMAND AND SUPPORT RELATIONSHIPS

2-108. As operations continue and theater sustainment matures, leaders should continually re-assess and make recommendations to their supported headquarters regarding task organization changes necessary to keep pace with operational requirements. Determining the optimal command and support relationships between maneuver commanders and sustainment units is critical for both sustainment leaders and those supported. Command and support relationships directly influence the ability to meet maneuver commander requirements. Understanding the practical effects of a particular command or support relationship in the context of a specific operation is critically important. Striking the most effective balance between centralized and decentralized control of sustainment units requires a clear understanding of the supported commander's intent and the tactical situation, as well as the ability to anticipate the various possible outcomes of the combat operations being supported. Knowing the inherent responsibilities of each command and support relationship allows commanders to organize their forces effectively and helps supporting commanders understand their unit's role in the organizational structure.

2-109. The flexibility to adjust command and control structure and employ different command and support relationships in an AO gives both maneuver and sustainment commanders the ability to effectively balance sustainment capabilities across the AOR. Sustainment staff estimates should account for available sustainment forces, assigned missions, commander priorities, and the validity of previous assumptions. Doing so effectively requires continuous dialogue between sustainment and maneuver commanders.

JOINT COMMAND RELATIONSHIPS

2-110. JP 1, Volume 2 specifies and details four types of joint command relationships:

- COCOM.
- OPCON.
- TACON.
- Support.

COMBATANT COMMAND (COMMAND AUTHORITY)

2-111. COCOM is the command authority over assigned and allocated forces vested only in commanders of CCMDs or as directed by the President or the Secretary of Defense in the Unified Command Plan and cannot be delegated or transferred. COCOM only extends to those forces assigned or allocated to the CCMD by the

Secretary of Defense. COCOM is established in federal law by Section 164, Title 10, USC. Normally, the CCDR exercises this authority through subordinate JFCs, Service components, and functional component commanders. COCOM includes DAFL.

OPERATIONAL CONTROL

2-112. The authority to exercise OPCON is exclusively derived from COCOM authority. Forces provided by the Services and attached to a CCMD are typically in an OPCON command relationship. OPCON is the authority to perform those functions of command over subordinate forces involving—

- Organizing and employing commands and forces.
- Assigning tasks.
- Designating objectives.
- Giving authoritative direction necessary to accomplish missions.

2-113. OPCON normally includes authority over all aspects of operations and joint training necessary to accomplish missions. It does not include DAFL or matters of administration, discipline, internal organization, or unit training. OPCON does include the authority to delineate functional responsibilities and operational areas of subordinate JFCs. In two instances, the Secretary of Defense may specify adjustments to accommodate authorities beyond OPCON in an establishing directive: when transferring forces between CCDRs, or when transferring members or organizations from the military departments to a CCMD. Adjustments will be coordinated with the participating CCDRs.

TACTICAL CONTROL

2-114. TACON is inherent in OPCON. TACON may be delegated to and exercised by commanders at any echelon at or below the level of CCMD. TACON provides sufficient authority for controlling and directing the application of force or tactical use of combat support assets within the assigned mission or task. TACON does not provide organizational authority or authoritative direction for administrative and logistics support; the commander of the parent unit continues to exercise these authorities unless otherwise specified in the establishing directive.

JOINT SUPPORT RELATIONSHIPS

2-115. Support is a command authority in joint doctrine. A superior commander establishes a supported and supporting relationship between subordinate commanders when one organization should aid, protect, complement, or sustain another force. Designating supporting relationships is important. It conveys priorities to commanders and staffs planning or executing joint operations. Designating a support relationship does not provide authority to organize and employ commands and forces, nor does it include authoritative direction for administrative and logistical support. See figure 2-4 for a depiction of joint command relationships.

Note. The joint command relationship of "Support" is distinct from Army support relationships.

2-116. Support is, by design, somewhat vague but very flexible. Establishing authorities ensure both supported and supporting commanders understand the authority of supported commanders. JFCs often establish supported and supporting relationships among components. An Army headquarters designated as the land component may be the supporting force during some campaign phases and the supported force in other phases. A joint support relationship is not used when an Army commander task organizes Army forces in a supporting role. When task-organized to support another Army force, Army forces use one of four Army support relationships. See table 2-1 for a listing of joint support categories.

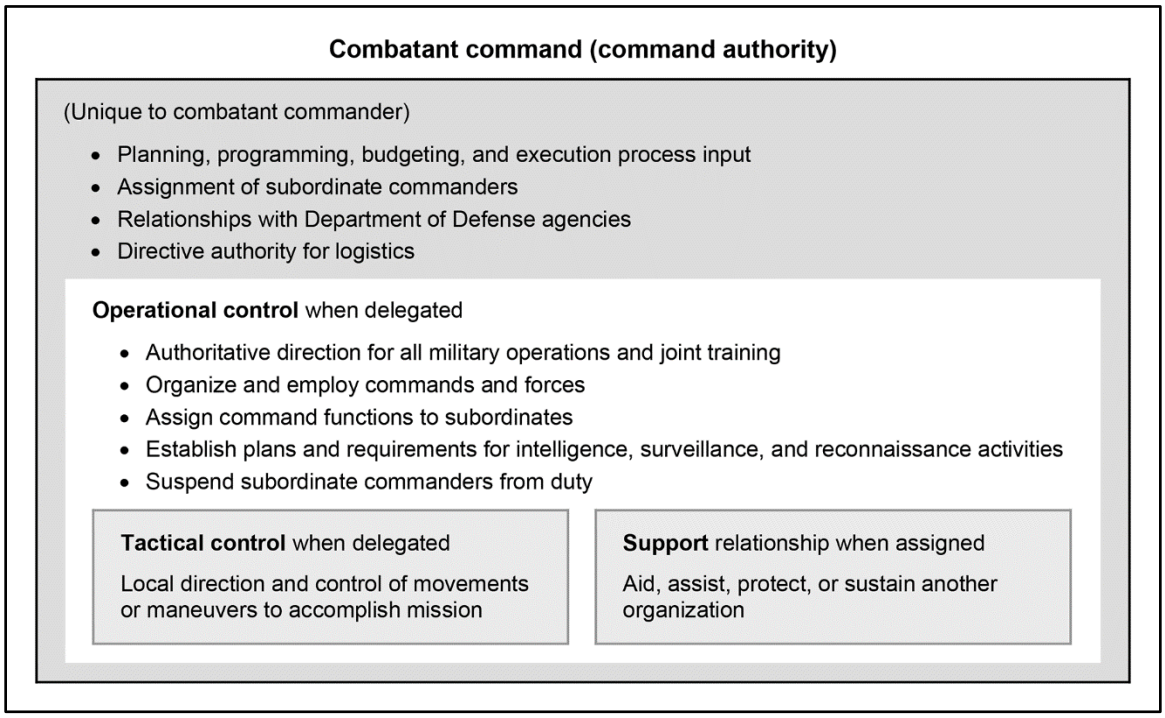

Figure 2-4. Joint command relationships

Table 2-1. Joint support categories

Category	*Definition*
General support	Support given to the supported force as a whole and not to any particular subdivision thereof (JP 3-09.3).
Mutual support	That support which units render each other throughout joint operations, because of their assigned tasks, their position relative to each other and to the enemy, or their inherent capabilities (JP 3-31).
Direct support	A mission requiring a force to support another specific force and authorizing it to answer directly to the supported force's request for assistance (JP 3-09.3).
Close support	The action of the supporting force against targets or objectives that are sufficiently near the support force as to require detailed integration or coordination of the supporting action with fire, movement, or other actions of the supported force (JP 3-31).

ARMY COMMAND AND SUPPORT RELATIONSHIPS

2-117. Command and control of Army sustainment units can pose unique challenges for both sustainment leaders and those supported. It is important that leaders understand all aspects of command and support relationships and their effects on the ability to meet the operational requirements. For example, attaching sustainment units to their supported formations allows them to better anticipate and integrate with their supported command, but with an adverse effect on economy. This may result in idle assets that cannot be redirected easily to support elsewhere. Conversely, pooling resources at higher levels can allow planners to maximize the use of scarce assets such as fuel tankers and heavy equipment transporter systems, but responsiveness may suffer as a result.

2-118. Sustainment leaders must strive to strike the right balance, considering the supported commander's intent and the possible outcomes of combat operations. If a commander expects an attack to turn into a pursuit of enemy forces, it may be prudent to assign additional Class III and V assets to a unit in order to extend its operational reach and give the commander the freedom of action to maintain momentum. On the other hand, if resources are scarce, such a course of action may negatively impact the rest of the formation. The risks to

both the operation and the sustainment assets must be weighed carefully and reassessed as the situation develops.

2-119. Command and support relationships provide the basis for unity of command and unity of effort in operations. Within planning, commanders are responsible for task organizing the force and prioritizing efforts as part of the operations process. Task organizing is the act of configuring an operating force, support staff, or sustainment package to meet a unique task or mission. This allows commanders to allocate resources to weight the main effort.

2-120. Commanders recognize that effectiveness is built on mutual trust and confidence between superior, subordinate, supporting, and supported organizations. This trust and confidence is developed through relationships. Generally, the longer a relationship lasts, a greater degree of trust and confidence results. Authorities and responsibilities are typically well known between organizations that have had a long-term habitual relationship. However, the nature of the sustainment structure at EAB forces commanders to place organizations in unfamiliar situations. In this instance, where trust and confidence between organizations is limited, command and support relationships establish baseline doctrinal authorities and responsibilities upon which unfamiliar organizations can operate.

2-121. Command and support relationships vary between different units and echelons. The types of command and support relationships established are dependent on the mission and the degree of authority a commander wishes to establish between subordinate units.

ARMY COMMAND RELATIONSHIPS

2-122. The five Army command relationships are: organic, assigned, attached, OPCON, and TACON. Each relationship has specific authorities and responsibilities. Army command relationships identify the degree of control of the gaining Army commander. Command relationships unify effort and enable maximum flexibility for commanders to use subordinate forces. The expected duration of a command relationship normally dictates the type of command relationship between the headquarters involved and identifies the degree of support the gaining and losing Army commanders provide.

2-123. Commanders designate command relationships to subordinate units in OPORDs. The designation must indicate the headquarters under which a subordinate unit is placed, the specific command relationship designated, and the duration of the relationship. The duration may be based on time, duration of a phase, or on achieving an objective. This information is included in the "Task Organization" paragraph of the OPORD. If the task organization is long or complicated, commanders may place it in annex A of the order. Table 2-2 displays the Army command inherent responsibilities. JP 3-0 discusses command relationships for the joint force.

Table 2-2. Army command relationships

If relationship is—	*Then inherent responsibilities—*							
	Have command relationship with—	**May be task – organized by—**	**Unless modified, ADCON responsibility goes through —**	**Are assigned position or AO by—**	**Provided liaison to—**	**Establish/ maintain communications with—**	**Have priorities established by—**	**Authorities CDR can impose gaining unit further command or support relationship of—**
Organic	Organic HQ	Organic HQ	Organic HQ	Organic HQ	N/A	N/A	Organic HQ	Attached; OPCON; TACON; GS; GSR; R; DS
Assigned	Gaining HQ	Gaining HQ	Gaining HQ	Gaining HQ	N/A	N/A	Gaining HQ	Attached; OPCON; TACON; GS; GSR; R; DS
Attached	Gaining HQ	Gaining HQ	Gaining HQ	Gaining HQ	As required by gaining HQ	Unit to which attached	Gaining HQ	Attached; OPCON; TACON; GS; GSR; R; DS
OPCON	Gaining HQ	Parent unit and gaining unit; gaining unit may pass OPCON to lower HQ	Parent HQ	Gaining HQ	As required by gaining HQ	As required by gaining HQ and parent HQ	Gaining HQ	OPCON; TACON; GS; GSR; R; DS
TACON	Gaining HQ	Parent HQ	Parent HQ	Gaining HQ	As required by gaining HQ	As required by gaining unit and parent HQ	Gaining HQ	TACON; GS GSR; R; DS

Note: In NATO, the gaining unit may not task organize a multinational force. (See TACON.)

ADCON	administrative control	HQ	headquarters
AO	area of operations	N/A	not applicable
ASCC	Army Service component command	NATO	North Atlantic Treaty Organization
CDR	commander	OPCON	operational control
DS	direct support	R	reinforcing
GS	general support	TACON	tactical control
GSR	general support–reinforcing		

Organic

2-124. Organic forces are those assigned to and forming an essential part of a military organization. Organic parts of a unit are those listed in its table of organization for the Army, Air Force, and Marine Corps, and are assigned to the administrative organizations of the operating forces for the Navy. Joint command relationships do not include the term organic because a JFC is not responsible for the organizational structure of units. The organic command relationship is unique in that the relationship is inherent in unit force structure; units that have an organic command relationship with a parent unit are an integral part of the parent unit's table of organization and equipment. As a result, the organic command relationship cannot be further delegated. Commanders with organic subordinate units may designate any of the other four command relationships to the subordinate unit. Commanders with organic subordinate units have ADCON authority and responsibility for the subordinate units.

2-125. The Army establishes organic command relationships through organizational documents such as tables of organization and equipment and tables of distribution and allowance. If temporarily task organized to another headquarters, organic units return to the control of their organic headquarters after completing the mission. To illustrate, within a maneuver brigade, the BSB and all other units within the brigade are organic to the headquarters. In contrast, within most support brigades, there is a base of organic battalions and companies (or sometimes just a headquarters) and a variable mix of assigned and attached battalions and companies.

Assigned and Attached

2-126. Commanders establish the assigned and attached command relationships by placing a subordinate unit under the command of another organization for a specified period of time. An assigned command relationship is relatively permanent. The gaining organization controls and administers the units or personnel for the primary function, or greater portion of the functions, of the unit or personnel. An attached command relationship is relatively temporary. The attachment may be for a specific mission or phase of an operation. The commander establishes these command relationships in an OPORD issued to the subordinate commander and specifies the duration of the relationship in the order. Unless specifically stated in the OPORD, these command relationships include ADCON authority and responsibility for the gaining command.

OPCON and TACON

2-127. Commanders establish the OPCON and TACON command relationships by placing a subordinate unit under the command of another organization for a specified period of time. OPCON is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. TACON is a command authority over units made available for tasking that is limited to the detailed direction and control of movements or maneuvers within the operational area necessary to accomplish missions or tasks assigned. The commander establishes these command relationships in an OPORD issued to the subordinate commander and specifies the duration of the relationship in the order. Unless specifically stated in the OPORD, these command relationships do not include ADCON authority and responsibility for the gaining command. Once the duration of the relationship has lapsed, the unit returns to its parent unit.

Command Relationship Authorities and Responsibilities

2-128. Inherent authorities and responsibilities associated with each command relationship are shown below. Commanders use these responsibilities to identify and establish the appropriate command relationship based on the mission requirements.

2-129. Task organization authority:

- Units with an organic command relationship may only be task organized by the organic headquarters.
- Units with assigned, attached, or OPCON command relationships may be task organized by the gaining unit.
- Units with a TACON command relationship may only be task organized by the parent unit.

2-130. ADCON authority: Organic, assigned, and attached command relationships incur ADCON authority on the organic or gaining unit.

2-131. Position/AO assignment: Units with an organic command relationship are assigned a position or AO by the organic headquarters. In all other command relationships, the gaining unit assigns positions/AO.

2-132. Provide liaison: This is not applicable to units with organic command relationships. For all other command relationships, a liaison is provided as required by the gaining unit.

2-133. Establish/maintain communications: This is not applicable to units with organic command relationships. For assigned and attached command relationships, communication is established and maintained as required by the gaining unit. For OPCON and TACON command relationships, communication is established and maintained as required by the parent and gaining unit.

2-134. Priority establishment: Units with an organic command relationship have priorities established by the organic headquarters. In all other command relationships, the gaining unit establishes priorities.

2-135. Designation of command or support relationships:

- Units with an organic, assigned, and attached command relationship may be further attached, OPCON, or TACON to another organization by the parent/gaining unit. The parent/gaining unit may also impose any support relationship on the unit.
- Units with an OPCON command relationship may be further OPCON or TACON to another organization by the gaining unit. The gaining unit may also impose any support relationship on the unit.
- Units with a TACON command relationship may be further TACON to another organization by the gaining unit. The gaining unit may also impose any support relationship on the unit.

ARMY SUPPORT RELATIONSHIPS

2-136. Army support relationships are direct support, reinforcing, general support-reinforcing, and general support. Army support relationships are not command authorities and are more specific than joint support relationships.

2-137. Direct support is a support relationship requiring a force to support another specific force and authorizing it to answer directly to the supported force's request for assistance (joint doctrine considers direct support as a mission rather than a support relationship). A unit assigned a direct support relationship retains its command relationship with its parent unit but is positioned by and has priorities of support established by the supported unit.

2-138. Reinforcing support is a support relationship requiring a force to support another supporting unit. Only like units can be given a reinforcing mission. A unit assigned a reinforcing support relationship retains its command relationship with its parent unit but is positioned by the reinforced unit. A unit that is reinforcing has priorities of support established by the reinforced unit first, and then by the parent unit.

2-139. General support-reinforcing is a support relationship assigned to a unit to support the force as a whole and to reinforce another similar-type unit. A unit assigned a general support-reinforcing support relationship is positioned and has priorities established by its parent unit and secondly by the reinforced unit.

2-140. General support is that support which is given to the supported force as a whole and not to any particular subdivision thereof. Units assigned a general support relationship are positioned and have priorities established by their parent unit.

2-141. Commanders establish support relationships when subordination of one unit to another is inappropriate. Assigning support relationships is one aspect of command and control. Commanders assign a support relationship when:

- The echelon of the supporting unit is the same as or higher than that of the supported unit. For example, the supporting unit may be a brigade, and the supported unit may be a battalion. It would be inappropriate for the brigade to be subordinated to the battalion; hence, the echelon uses an Army support relationship.
- The supporting unit supports several units simultaneously. The requirement to set support priorities to allocate resources to supported units exists.

2-142. Units that have a command relationship with a unit are not designated a support relationship with the same unit. Since a command relationship is established, it provides adequate authority for the gaining unit to direct support efforts. Support relationships do not alter ADCON.

2-143. Army support relationships allow supporting commanders to employ their units' capabilities to achieve results required by supported commanders. Supporting commanders clearly designate support relationships to subordinate units in OPORDs. The designation must identify the supported unit, the specific support relationship designated, and the duration of the relationship. The duration may be based on time, duration of a phase, or based on achieving an objective. This information is included in the "Task Organization" paragraph of the OPORD. Supported commanders must also identify supporting units to subordinates in the same paragraph. Commanders may place this information in annex A of the order. The

support is more effective if a commander with the requisite technical and tactical expertise controls the supporting unit rather than the supported commander.

2-144. Support relationships can be an exclusive relationship between two units (direct support), or a broad level of support extended to all units under the control of the higher headquarters (general support). While reinforcing and general support-reinforcing relationships are not commonly used by sustainment units, these relationships are valid for sustainment units and may be designated based on support requirements.

2-145. Although all support relationships are applicable to sustainment units, direct support and general support are the most commonly used. Direct support requires a unit to support another specific unit and authorizes it to answer directly to the supported unit's request for assistance. A unit assigned a direct support relationship retains its command relationship with its parent unit, but it is positioned by and has priorities of support established by the supported unit. The parent unit may end or redirect the direct support relationship at any time if directed to do so by its higher headquarters.

2-146. General support requires a unit to support multiple units simultaneously and not any specific subdivision of the unit. A unit assigned a general support relationship retains its command relationship with its parent unit and is positioned and has priorities established by the parent unit. The parent unit may end or redirect the general support relationship at any time if directed to do so by its higher headquarters. Table 2-3 lists Army support relationships.

Table 2-3. Army support relationships

If relationship is—	*Then inherent responsibilities—*							
	Have command relationship with—	May be task-organized by—	Receives sustainment from—	Are assigned position or an area of operations by—	Provide liaison to—	Establish and maintain communications with—	Have priorities established by—	Authorities a commander can impose on gaining unit further command or support relationship by—
Direct support[1]	Parent unit	Parent unit	Parent unit	Supported unit	Supported unit	Parent unit, supported unit	Supported unit	See note 1
Reinforcing	Parent unit	Parent unit	Parent unit	Reinforced unit	Reinforced unit	Parent unit, reinforced unit	Reinforced unit, then parent unit	Not applicable
General support-reinforcing	Parent unit	Parent unit	Parent unit	Parent unit	Reinforced unit and as required by parent unit	Reinforced unit and as required by parent unit	Parent unit, then reinforced unit	Not applicable
General support	Parent unit	Parent unit	Parent unit	Parent unit	As required by parent unit	As required by parent unit	Parent unit	Not applicable

Note: [1] Commanders of units in direct support may further assign support relationships between their subordinate units and elements of the supported unit after coordination with the supported commander.

COMMAND AND SUPPORT RELATIONSHIPS BY ECHELON

2-147. The command and support relationships most commonly used vary by echelon. The relationships described below are typical examples. However, relationships may vary based on commander's intent and mission and operational variables.

STRATEGIC SUPPORT AREA

2-148. The strategic support area contains the organizations and agencies required to integrate and synchronize mobilization, deployment (strategic power projection), employment, sustainment, and redeployment of forces. It also includes the air and sea ports that support the flow of forces and sustainment into a theater. Command authority originating from the strategic support area is described in JP 1, Volume 1, JP 1, Volume 2, JP 3-0, and JP 4-0. Support originating from the strategic support area can be either direct

support or general support. Section I of this chapter described in greater detail the organizations responsible for integrating and synchronizing support in the strategic support area.

JOINT SECURITY AREA

2-149. Discussion of each type of Army headquarters assumes employment in the joint security area. All units may or may not be employed. Within the joint security area, sustainment command relationships will normally be the following:

- The TSC is assigned to the theater Army.
- The ESC is attached to the TSC.
- Sustainment brigades are attached to the ESC. The sustainment brigades will have the same relationship with the TSC if an ESC is not employed in the joint security area.
- CSSBs are attached to the sustainment brigade.
- Functional logistics and HR companies are attached to the CSSB or special troops battalion.
- Theater finance battalions are attached to ESCs or sustainment brigades.

2-150. Operational medical units also operate in the joint security area. Within the joint security area, medical command relationships are normally the following:

- The TMC is assigned to the theater Army.
- Task-organized medical formations in the joint security area are assigned to the MEDBDE (SPT) or TMC.
- The MLMC forward team is assigned to the TMC and collocates with the DMC of the TSC or ESC to coordinate medical materiel management and distribution. The MLMC forward team may be further task-organized based on mission orders.
- Elements of the global medical field laboratory may be in general support of the theater Army and may be assigned to the TMC or MEDBDE (SPT).

CORPS AREA

2-151. The task organization of sustainment units in the corps area may be complex. Multiple sustainment headquarters may be operating in the area. In addition to the CSC, there could be other ESCs and sustainment brigades operating in the corps area. An example of this is an ESC operating in the corps area that supports the TSC and theater level sustainment operations.

2-152. A CSC is assigned to the corps. The theater Army may also attach one or more sustainment brigades to the CSC. Furthermore, CSSBs, functional logistics battalions, and functional companies will be attached to the sustainment brigades as required to support the corps mission. All command and support relationships will be designated in an OPORD issued by the theater Army. The units attached to the corps receive mission orders from the corps headquarters, normally in support of specific corps operations. The normal support relationship for all sustainment units in the corps area is general support. However, other support relationships may be designated based on mission requirements.

2-153. Other ESCs operating in the corps area will remain attached to the TSC and will also have sustainment brigades, CSSBs, functional logistics battalions, and functional logistics companies attached. Sustainment units not attached to the corps receive mission orders from the TSC to support broader theater operations.

2-154. The task organization of medical units in the corps area is also complex. Multiple medical command and control headquarters may be operating in the area. Medical command and control headquarters are generally in a general support relationship with the corps. However, medical units may be further task-organized and other support relationships may be designated to ensure that medical commanders have freedom of action to adjust their units as needed due to changes in mission requirements. Within the corps, medical command relationships will normally be the following:

- The TMC is assigned to the ASCC and provides direct or general support to the corps through the MEDBDE (SPT).
- MEDBDEs (SPT) provide direct or general support to the corps and may have hospital centers, medical battalions (multifunctional), and separate medical and dental companies or veterinary detachments assigned.
- MMBs may have medical companies, detachments, and teams assigned.
- Role 3 hospital centers may have field hospitals and hospital detachments and teams assigned.

- Elements of the global medical field laboratory may be in general support of the corps.

DIVISION AREA

2-155. The task organization of sustainment units in the division area is subject to the same complexities as the corps area. Multiple echelons above division sustainment units may be operating in the area alongside the DSB.

2-156. Other sustainment brigades operating in the division area will remain attached to an CSC in the corps area. Sustainment brigades attached to the CSC will have CSSBs, functional logistics battalions, and functional logistics companies attached. The CSSBs attached to the sustainment brigade will have functional companies attached. Sustainment units not assigned to the division receive mission orders from the CSC to support broader theater operations.

2-157. The DSB and its organic division sustainment troops battalion and DSSB are assigned to the division and may have additional CSSBs attached as required. The division's task-organized DSB provides direct support to the division and general support for all units in or passing through their geographic area. The DSB commander remains responsible for integration and synchronization of sustainment in the division area.

2-158. The task organization of medical units in the division area is subject to the same complexities as the corps area. Elements of the MEDBDE (SPT), MMB, and hospital center may be operating in the division area. The MEDBDE (SPT) and its subordinate units are normally in a general support relationship with the division commander. Within the division, medical command relationships will normally be the following:

- MEDBDEs (SPT) provide direct or general support to the division and may have hospital centers and medical battalions (multifunctional) assigned.
- MMBs may have medical companies, detachments, and teams assigned.
- Role 3 hospital centers may have field hospitals and hospital detachments and teams assigned.

BRIGADE COMBAT TEAM AREA

2-159. The BSB is organic to the maneuver brigade headquarters; it is an integral part of the maneuver brigade table of organization and equipment. The distribution, field maintenance, medical, and forward support companies are organic to the BSB and have a direct support relationship with the maneuver brigade. The forward support companies and elements of the medical company may be OPCON to the supported maneuver battalion for limited periods of time based on mission requirements. This OPCON is normally limited to the duration of a specific mission or phase of an operation.

Chapter 3

Sustainment Operations During Competition Below Armed Conflict

This chapter provides an overview of sustainment operations during competition below armed conflict. This chapter includes an overview of Army operations during competition and discusses sustainment planning and describes sustainment roles and responsibilities at each echelon.

SECTION I – OVERVIEW OF ARMY OPERATIONS DURING COMPETITION

3-1. Competition below armed conflict occurs when an adversary's national interests are incompatible with U.S. interests, and that adversary is willing to actively pursue them short of open armed conflict. While neither side desires, at least initially, to use military force as the primary method to achieve its goal, the adversary is willing to employ national instruments of power, including military force below the threshold of actual armed conflict, to achieve its aims. The resulting tension between the two sides creates potential for violent escalation when one side challenges the status quo. Situations during competition, in which U.S. joint forces take actions outside of armed conflict against an adversary, are typically nonviolent and conducted under greater legal or policy constraints than in armed conflict. However, these may include violent action by U.S. joint forces with allies and partners.

PREPARATION FOR LARGE-SCALE COMBAT OPERATIONS

3-2. Army forces that cannot credibly execute operations during conflict neither deter adversaries nor assure allies and other unified action partners. Preparation for large-scale combat operations is therefore the primary focus of Army conventional forces during competition. Some of the activities Army forces execute to prepare for armed conflict with sustainment implications include—

- Setting the theater, resetting the theater, and conducting RSOI.
- Building allied and partner capabilities and capacity.
- Improving joint and multinational interoperability.
- Preparing to transition and execute OPLANs.

INTERAGENCY COOPERATION

3-3. During competition, it is critical that sustainers work with other agencies to achieve integrated whole-of-government operations and synchronization of interagency activities such as information sharing, security cooperation, and foreign assistance. This requires Army sustainers to develop and share detailed time-phased logistics requirements/estimates with interagency partners. During competition, the Department of State will play a large role in maintaining or establishing a path toward greater stability, with elements from the intelligence community and DOD in support. Other agencies that may provide crucial logistics support during shaping operations are DLA, Department of Treasury, Federal Reserve Bank, and USAMC. Liaison officers are often the first sustainment planners on ground. Liaison officers begin sustainment preparations and discussions with the ASCC, TSC, State Department officials, and country teams. The liaison officers may assist with expediting movement of equipment and logistics planning. USTRANSCOM may also send liaison officers to facilitate transportation operations.

COMPETITION ACTIVITIES

3-4. Competition involves activities conducted under numerous programs within a CCMD. The CCDR uses these activities to improve security within partner nations, enhance international legitimacy, gain multinational cooperation, and influence adversary decision making. Competition activities include obtaining access for U.S. forces, maintaining sufficient forward-based presence within a theater to influence conditions in the strategic environment, and mitigating conditions that could lead to a crisis or armed conflict. At any time during competition, but especially during times of heightened tension, leaders must take great care to

ensure Army forces avoid activities that inadvertently provoke crisis or armed conflict. Army forces, as directed by the theater Army, must stay within an activity level that meets the CCDR's intent for readiness without unintentionally increasing tensions.

MILITARY ENGAGEMENT

3-5. *Military engagement* is the contact and interaction between individuals or elements of the Armed Forces of the United States and those of another nation's armed forces, or foreign and domestic civilian authorities or agencies, to build trust and confidence, share information, coordinate mutual activities, and maintain influence (JP 3-0). A military-to-military engagement requires less sustainment support than large-scale combat operations. Host-nation support is civil and/or military assistance rendered by a nation to foreign forces within its territory during peacetime, crises or emergencies, or war based on agreements mutually concluded between nations. Military engagements can reduce tensions and may preclude conflict; if conflict is unavoidable, these engagements may allow the United States to enter into it with stronger alliances or coalitions. Sustainers are involved in all these engagements primarily to facilitate sustainment agreements and coordinate planning for future operations.

SECURITY COOPERATION

3-6. *Security cooperation* encompasses all Department of Defense interactions with foreign security establishments to build relationships that promote specific United States security interests, develop allied and partner military and security capabilities for self-defense and multinational operations, and provide United States forces with peacetime and contingency access to allies and partners (JP 3-20). The Department of State leads and provides oversight for security cooperation efforts.

3-7. Sustainment commands conduct parallel and collaborative planning in order to synchronize sustainment operations for theater security cooperation activities. The Army approach to supporting the larger DOD security cooperation effort is either indirect or direct.

3-8. Indirect approach activities involve the United States supporting a nation with security cooperation programs, given legitimate authorities, designed to enhance its capability and capacity. The sustainment command supports the following programs and activities typical of the indirect approach:

- International military education and training.
- Multinational and joint exercises and exchange programs.

3-9. Direct approach activities involve U.S. forces assisting the host nation by conducting operations for the mutual benefit of the host nation and U.S. interests. These operations either provide a capability the host nation does not possess or increase the capacity of the host nation to conduct the operation.

3-10. *Security assistance* is a group of programs authorized by federal statutes by which the United States provides defense articles, military training, and other defense-related services by grant, lease, loan, credit, or cash sales in furtherance of national policies and objectives, and those that are funded and authorized through the Department of State to be administered by Department of Defense/Defense Security Cooperation Agency, which are considered part of security cooperation (JP 3-20). Security assistance programs are typically focused on the transfer of defense articles and services to eligible foreign governments, the provision of training and education to foreign military personnel, and the sale of construction services in support of partner nation military establishments. Sustainers are frequently required to provide support and logistics training to support these activities.

3-11. *Security force assistance* includes the Department of Defense activities that support the development of capacity and capability of foreign security forces and their supporting institutions (JP 3-20). Army sustainers interact with sustainers of partner countries in these operations. These partnerships assist in future interoperability and enhance partner nation militaries logistics capabilities.

3-12. *Foreign internal defense* is participation by civilian agencies and military forces of a government or international organizations in any of the programs and activities undertaken by a host nation government to free and protect its society from subversion, lawlessness, insurgency, terrorism, and other threats to its security (JP 3-22). Sustainment support operations are limited by applicable U.S. law without an ACSA. Such support usually consists of transportation or limited maintenance support, although an ACSA can allow additional support. Sustainment of combat operations in foreign internal defense is similar to sustainment for

other types of operations. However, the political sensitivities and concern for host-nation legitimacy and minimum U.S. presence change the complexion of sustainment operations in foreign internal defense. As in security force assistance, sustainers are critical for developing well-established sustainment foundations. SOF play a critical role in executing foreign internal defense operations.

3-13. In security cooperation, support considerations include support to U.S. forces and support to host-nation forces based on a variety of authorizations. Support to host or partner nations is primarily driven by already established ACSAs. If ACSAs are not in place, local State Department officials act as lead for determining what support can be granted to host nations.

DEPARTMENT OF STATE

3-14. The Department of State leads and provides oversight for security cooperation efforts through its bureaus, offices, and overseas missions. Security cooperation activities are conducted and coordinated throughout the AOR by, with, or through the ASCC to—

- Build defense relationships that promote specific U.S. security interests.
- Develop multinational and friendly military capabilities for self-defense and multinational operations.
- Provide U.S. forces with peacetime and contingency access to a host nation.

3-15. The TSC supports all DOD operations during competition. Since the boundaries for Department of State are different from the boundaries of the CCDRs, the TSC (through the ASCC) may have to coordinate operations through each Embassy's Security Cooperation Organization or host-nation law enforcement representatives.

SENIOR DEFENSE OFFICIALS

3-16. The senior defense official or defense attaché is the principal military advisor on defense and national security issues. The senior defense official is also the senior diplomatically accredited DOD military officer assigned to a U.S. diplomatic mission and the single point of contact for all DOD matters involving the embassy or DOD elements assigned to or working from the embassy. This individual acts as the in-country focal point for planning, coordinating, supporting, and/or executing U.S. defense issues and activities in the host nation, including theater security cooperation programs under the oversight of the CCDR. Army sustainers may be tasked to assist in establishing and maintaining sustainment foundations to enhance nation partnerships. For additional information regarding DOD operations at U.S. embassies, see DODD 5205.75.

COMBINED TRAINING AND EXERCISES

3-17. Army forces build partner combat readiness and set conditions for future contingencies through training and exercises. Combined exercises familiarize both forces with the capabilities and shortfalls of the other force and develop procedures to leverage capabilities and mitigate shortfalls. These serve to sustain and/or develop interoperability between nations as well as build partnership capacity.

3-18. These exercises are extremely diverse in size, participation, duration, and sustainment requirements. The requirements may range from a few aircraft being sustained by HNS or OCS with minimal DOD sustainment, to large-scale training operations requiring a combination of HNS, OCS, and home-station sustainment activities. These exercises may be with one United States military agency and another country or with joint agencies and multiple nations. These events can generate very high support requirements. Sustainment commands are thoroughly embedded in the planning process to determine support requirements, specific responsibilities, and support procedures. While the volume of requirements for short-term multinational training events may not be burdensome, the events are complex and require careful planning and synchronization. The use of multinational exercises establishes theater gateways and access agreements for activities like cross-border movements and status of forces agreements.

Pacific Pathways: PACOM in Competition

In Autumn 2023, less than a week after being confirmed as the new Army Chief of Staff, General Randy George attended the 13th Indo-Pacific Armies Chiefs Conference in New Delhi, the largest conference for land forces in the Indo-Pacific Theater. “This region is a priority, and the Army is all over the world but exercises more in the Indo-Pacific because it is a priority” stated General George.

This prioritization of the Indo-Pacific Theater is a consequence of a strategic shift or ‘pivot’ that occurred in 2014 which placed the (then) Pacific Command (PACOM) as the strategic priority for the U.S. Army. In support of this shift, in 2014, General Vincent Brooks, commander of U.S. Army Pacific (USARPAC) created the Pacific Pathways program. Historically, there had been a long tradition of support to various exercises throughout PACOM. What was lacking was a coordinated, wholistic, plan for the deployment and sustainment to U.S. forces throughout the whole region, in support of all the exercises and any emergent humanitarian crisis (for example, a standing program to increase the power projection of the U.S. Army throughout PACOM). Pacific Pathways would fill that void.

In June 2014, the first Pathway departed from Joint Base Lewis-McChord (JBLM) with elements of the 2nd Stryker Brigade Combat Team, 2nd Infantry Division. It sailed to Indonesia and Malaysia for multilateral exercises and then went to Japan to participate in exercises with the Japan Self-Defense Force. In November, after sailing for a five-month, 17,000-mile Pacific journey, they returned to JBLM. The initial 2014 Pathway was a proof-of-concept exercise in the effort to operationalize the program. In 2015, three Pacific Pathways, each with elements of a brigade combat team from the 25th Infantry Division, deployed and participated in multinational exercises in Thailand, South Korea, Australia, Indonesia, Malaysia, Mongolia, and Japan. In successive years, the three-deployment model became standard for units deployed.

Pacific Pathways’ deployments became a forcing function for the sustainment enterprise to confront and work through a myriad of issues associated with the increased complexities of the program’s objectives. Individual exercises did not challenge or engage the entire sustainment structure of the Pacific Theater. With each deployment, the entire sustainment enterprise (specifically USAMC, Defense Logistics Agency, Surface Deployment and Distribution Command, 8th TSC, 593rd ESC, 402nd and 404th Army Field Support Brigades) had to find ways to operate together to strategically move a brigade combat team (minus) by sea and air, perform multiple RSOIs, and provide continuous sustainment for three 90-day periods. One of the biggest problems to overcome was simply the ‘tyranny of distance’; the distance to travel to conduct supply operations across the Pacific. In addition to this, issues with different host-nation customs rules and procedures, movement of Class IX, dependability and capability of OCS, and suitability and availability of fuel (especially aviation) were among the challenges faced in the initial deployments.

Since these initial deployments, Pacific Pathways (subsequently named Operation Pathways) became a staple of power projection for USARPAC. The deployments have evolved, the time in country has increased to build further partnerships, and the Army prepositioned stocks system has become more engaged in the program. According to Major General Jered Helwig, commander 8th TSC, Operation Pathways “set conditions for the joint interior lines and to build out the architecture, because we know if we don’t rehearse it in competition, it will be very difficult to execute in crisis and conflict”.

SECTION II – PLANNING CONSIDERATIONS DURING COMPETITION

3-19. In addition to the sustainment activities and other considerations for operations during competition mentioned above, there are additional conditions and planning considerations for sustainment forces. Sustainment planners must be prepared to meet the challenges of distributing supplies and bulk fuel utilizing military assets without reliance on OCS and contractors on the battlefield. Additional considerations are discussed below.

THEATER STRATEGIC, OPERATIONAL, AND TACTICAL COMPETITION ACTIVITIES

3-20. Certain conditions must be established in theater during competition at the theater strategic, operational, and tactical levels. These conditions must be in place to enable deployment, employment, sustainment, and redeployment of forces. They include—

- Whole-of-government initiatives.
- JOA opening:
  - Theater opening.
  - Port opening.
  - RSOI.
- Support to other Services.
- Theater distribution.

WHOLE-OF-GOVERNMENT INITIATIVES

3-21. Whole-of-government initiatives enable access to countries. They involve strategic organizations establishing host-nation agreements, contracts, and clearances to allow forces to enter ports and airfields and operate on highways, rail lines, and waterways in theater. They can be complex and time consuming. The number of governments and defense organizations involved can complicate and prolong the process to gain access to a country's infrastructure and commerce.

JOINT OPERATIONS AREA OPENING

3-22. Establishing a JOA relies on the efforts of theater strategic, operational, and tactical-level organizations. This condition must be tailored to accommodate the size and capabilities of deploying forces. Specific tasks involved in establishing a JOA include theater opening, port opening, and RSOI.

Theater Opening

3-23. Theater opening involves establishing and operating ports of debarkation (air, sea, and rail), a distribution system, and sustainment infrastructure. This condition facilitates port throughput for the RSOI of forces in theater. Specific capabilities include security forces, port opening teams, maintenance companies, transportation companies, signal companies, medical detachments, and command and control structures. Coordination between the supported CCDR, USTRANSCOM, and other strategic organizations will determine the who, what, and how of theater opening.

Port Opening

3-24. The TSC is responsible for port opening and accomplishes this through its task organized elements to begin initial theater distribution. This size and scope of the units conducting port opening will depend on mission and operational variables. Multiple port opening options are available to assist the CCDR.

3-25. The Army's theater petroleum and water group supports the theater port opening mission of the TBX when assigned. It provides planning, coordinating and operations support to the TBX when the bulk petroleum portion of the mission exceeds staff capabilities.

Joint Task Force-Port Opening

3-26. The joint task force-port opening is an option available to the CCDR. The Air Force's Air Mobility Command is responsible for managing APODs, and SDDC is responsible for managing SPODs. The Navy's Military Sealift Command provides sealift from its organic fleet or through contracts with commercial ocean carriers. The joint task force-port opening facilitates joint reception, staging, and onward movement and theater distribution by providing an interface at the APOD and/or SPOD and distribution node. Joint task force-port opening capabilities include:

- APOD and SPOD assessment.
- APOD and SPOD opening and initial operation.
- Distribution network assessment.
- Distribution node management.
- Cargo and passenger operations.
- Coordination with movement control for onward movement of arriving cargo and passengers.
- Establishment of joint in-transit visibility and radio frequency identification networks.

3-27. Another key task of the joint task force-port opening is to open and initially operate an associated forward distribution node (such as cargo marshalling or transload) within 10 kilometers of the airfield ramp area. The joint task force-port opening may be employed to move the cargo off the ramp at the airfield to the forward node for eventual distribution into the theater. The Army has an on-call mission to support joint task force-port opening as needed.

Transportation Brigade Expeditionary

3-28. The TBX provides command and control of assigned and attached port, terminal, and watercraft units conducting expeditionary port-opening, movement control, and austere intermodal operations at unimproved seaports. It has the ability to conduct port operations and can provide command and control to both watercraft and water terminal organizations.

Reception, Staging, Onward Movement, and Integration

3-29. RSOI is an ongoing series of four interrelated and overlapping processes that ensure synchronized clearance of nodes and assembly of combat power that is then rapidly transported to point of need to support operational requirements.

3-30. *Reception* is the process of receiving, off-loading, marshalling, accounting for, and transporting of personnel, equipment, and materiel from the strategic and/or intratheater deployment phase to a sea, air, or surface transportation point of debarkation to the marshalling area (JP 3-35). The TSC implements reception from strategic lift activities at or near designated air and seaports of debarkation.

3-31. *Staging* is assembling, holding, and organizing arriving personnel, equipment, and sustaining materiel in preparation for onward movement (JP 3-35). Staging is the part of the RSOI operation that unites unit personnel with their equipment and prepares them for onward movement and employment by the JFC. The TSC provides sustainment support to units during staging.

3-32. Onward movement is the process of moving forces and sustainment from reception facilities and marshalling or staging areas to tactical assembly areas or other operating areas. Corps and division commanders coordinate their movement plans to their projected AOs with all necessary military and civilian agencies.

3-33. Integration is the synchronized transfer of units into an operational commander's force prior to mission execution.

SUPPORT TO OTHER SERVICES

3-34. Support to other Services relies on joint interdependence that is essential to sustainment operations. Joint interdependence occurs when one Service relies on another Service's capabilities such as common-user transportation. This allows Services to maximize optimum use of resources and reduce duplication of effort and competition for the same resources. The CCDR implements joint interdependence through DAFL and can assign the Army the task of providing common-user support to other Services.

THEATER DISTRIBUTION

3-35. Establishing the theater distribution network is an essential part of sustainment support and is pivotal to obtaining freedom of movement and action. It provides operational forces with the materiel, supplies, and retrograde of repairable material needed to maintain readiness. Theater distribution involves four networks:

- The **physical network** includes the means for distribution (airfields, roads, bridges, railroads, structures, pipelines) and the capabilities for supporting distribution operations.
- The **financial network** facilitates distribution operations by providing policies, processes, and systems for the use of fiscal resources.
- The **informational network** is the combination of all information systems that support theater distribution.
- The **communication network** links the complex elements of distribution. It enables capacity, reliability, and security of communication networks that support the rapid transmission of global distribution data. Real-time communications are vital for successful execution of distribution operations.

3-36. The bulk of planning for Army sustainment in a theater is done by the ASCC and TSC. Planners focus on the challenges of geographically large and difficult to access areas. Planners develop means to generate and employ capabilities within the operational area.

3-37. The ASCC plans and coordinates means to identify and mitigate capability gaps. When directed, the theater Army may contract for the establishment of intermediate staging bases (ISBs), possible locations for pre-positioned stocks, and possible assembly areas.

3-38. Planners consider sustainment by type of support and across a continuum of possibilities to gain capabilities from other military partners, host nations, the sustainment enterprise, contracted support, and organic capabilities. OPLANs and concept plans are the basis for planning to evaluate total requirements and capabilities. For more information regarding theater distribution considerations, see Chapter 5.

3-39. The following planning considerations may apply to multiple sustainment functions and are important for sustainers to consider during competition:

- ACSAs.
- International agreements.
- Established contracts (theater, external [LOGCAP], and systems support).
- Customs and agriculture requirements.
- Commercial capabilities.
- Requesting funding authorities.
- Hazardous materials regulations.
- Mobility constraints.
- Noncombatant evacuation operations.

3-40. Risk, uncertainty, and chance are inherent in all military operations. Sustainment planners must seek to understand, balance, and take prudent risks, rather than avoid risks, to ensure sustainment of the operational force. Risk considerations (both accumulated and deferred) and other considerations should be addressed, and mitigation strategies/alternatives developed as part of the sustainment plan. Sustainment commanders must assess and mitigate risks continuously throughout operations. The following is a sample list of risk considerations during competition:

- Large APS sites constitute a high value target for potential adversaries (for both lethal targeting and information collection purposes). How will the loss of an APS site impact operational requirements? Can we establish multiple sites, and will the cost outweigh the force protection/redundancy benefits? How can the footprint be minimized while meeting requirements?
- Are APS sites, financial and supply automation, and other systems hardened against cyber-attacks? How do you validate requirements received through electronic systems? Does the threat have the capability to change information verses directed denial of service attacks?
- Is the operational plan over-reliant upon HNS, ACSAs, and contingency contracts to support combat forces? Is there sufficient redundancy and flexibility in the instruments to rapidly adapt to changing requirements?

- Have you negotiated multiple points of access/entry? What happens if a host nation denies country or movement clearance?
- Has support to and from other Services, agencies, and allies been factored into the support plan and have the appropriate request/accounting processes been established?
- Can the shaping activities be misunderstood (considered threatening) and cause threat forces to accelerate their plans?
- Have the LCMCs and DLA coordinated with the industrial base to support potential surge requirements?

3-41. Operations in a contested environment over extended lines of communication present risks to sustainment forces. These threats increase the likelihood of attacks at any point in the strategic framework. It is therefore necessary to continuously plan for and coordinate for protection resources and assets to mitigate effects of enemy attacks in support areas and maintain freedom of action.

Disperse Deployment and Sustainment

3-42. The theater Army executes deployment and sustainment along multiple dispersed routes. Army expeditionary forces deploy from the homeland and other regions using joint strategic transportation and arrive at multiple points in theater, proceed forward along multiple routes, and then occupy dispersed tactical assembly areas within range of enemy antiaccess and area denial systems. Aviation units employ split basing between the tactical and operational support areas, or in the case of division formations, between the tactical support and close areas. Aircraft and units rotate through a network of dispersed, austere locations in the tactical support and close areas. Sustainment draws on multiple sources for local procurement and prepositioned supplies, distributed through dispersed supply nodes operated by forward-presence units. Intensive sustainment-level maintenance of aviation, ground, and electronic combat systems, including battle damage assessment and repair, is conducted within the operational support area's lower threat environment. The Army postures redundant sustainment infrastructure forward, plans and prepares precision logistics support, and ensures the availability of additional expeditionary capacity through proper balance across the Active and Reserve Components.

Mitigate Effects of Enemy Attacks in The Support Areas

3-43. The theater and field armies mitigate the effects of enemy attacks in the support areas to enable the reception of expeditionary forces executing strategic and operational maneuver. Forces in the support areas employ deception to cause the enemy to expend resources on decoys or targets that have moved, miss fleeting opportunities, or expend high-value capabilities on less important targets. APS are protected and hardened to allow the rapid integration of expeditionary forces and the generation of combat power. Army forces in the support areas build resilience and redundancy by dispersing critical deployment and sustainment capabilities in mixed clusters and gain residual protection from air and missile defense radars and launchers, aerial surveillance, and other specialized protection capabilities that they would otherwise not be allocated.

3-44. Sustainment headquarters, including the TSC, ESC, and CSC, use dispersion and multiple command posts to mitigate the effects of enemy attack and maintain command and control of sustainment operations. The configuration of the TSC and ESC headquarters is determined by their ability to command forces across vast land areas while supporting Army forces. TSC and ESC commanders exercise command and control over widely dispersed formations while maintaining a common operational picture (COP) with higher headquarters and subordinate units. TSC, ESC, and CSC commanders vet the command and control capabilities of their organizations using command posts during exercises and training events. The commander, with the assistance of the staff, determines the communication capabilities required for each command post during dispersed operations. Key considerations for evaluating command and control capabilities include staff integration and crosstalk, communication systems, and the ability to maintain a COP.

CONSIDERATIONS FOR SUSTAINMENT FUNCTIONS

3-45. The paragraphs that follow discuss the key considerations for sustainers during competition by function.

MAINTENANCE

3-46. Maintenance operations during competition focus on planning and preparing for deployment while continuing to conduct routine equipment maintenance. The AFSB's LRCs may provide maintenance support at home station. United States Army Medical Logistics Command and its subordinate units (United States Army Medical Materiel Agency, United States Army Medical Materiel Command-Europe, and United States Army Medical Materiel Command-Korea) are able to provide CLVIII maintenance support at home station. See AR 40-61 for additional information on medical logistics. Successful maintenance operations in theater require units to deploy with their authorized stockage lists, shop stock, and bench stock items, because the flow of parts may be greatly restricted within countries during shaping operations. HNS, theater support contracting (which includes local purchase), external support contracts (reach-back contracting office and LOGCAP), and/or systems support contracts (reach-back sustainment support) are force multipliers for maintenance in many of these operations.

TRANSPORTATION

3-47. USTRANSCOM is responsible for moving units and equipment into theater. Once inside the AOR, the TSC and/or ESC provides recommendations for transit priorities. Special interests include border crossing agreements, infrastructure capacity (roads, bridges, and ports), customs and diplomatic clearance, and movement control. During competition, it is critical for sustainers to test transportation nodes and identify alternate LOCs. Aerial delivery capabilities should be identified and understood during this period, as requirements for alternate resupply may increase. Transportation plans for operational area opening and concepts of support may be tested during shaping. Movement boards are a mechanism to review and manage transportation plans, agreements, policies, and priorities. Movement boards are also a means of reviewing route status, convoy security requirements, and transportation asset allocation to support distribution operations. For additional details, see ATP 4-16.

SUPPLY AND SERVICES

3-48. The CCDR assigns lead Service responsibilities, normally through the contingency planning process, to achieve efficiencies and improve effectiveness through optimizing available modes, nodes, routes, and suppliers. These lead Service support functions can be for single or multiple common-user functions and often include general supplies. The lead Service is responsible for forecasting operational requirements to support all operations from humanitarian assistance to large-scale combat operations. Lead Service sustainment planners should anticipate increased needs for bulk fuel, ammunition, construction and barrier material, and repair parts to support concept plans and OPLANS. The lead Service can also request support from DLA to decrease wait time, reduce cost, and improve military readiness. For additional information on field services, see Appendix A, Quartermaster Operations.

3-49. ACSAs and OCS may be leveraged to attain several classes of supply. Food may also be provided through such arrangements. For clothing, individual equipment, tentage, and organizational tool sets, it is critical that units bring what is required to execute their anticipated tactical tasks with them. ACSAs should be considered for living arrangements. Use of non-U.S. medical materiel for U.S. personnel requires special consideration given regulatory requirements. Sustainment personnel should reach out to the U. S. Army Medical Logistics Command SPO for guidance on procuring foreign medical materiel.

3-50. Bulk fuel and water are provided utilizing existing pipelines, military pipelines, assault hose lines, contracts, HNS, and agreements (including blanket purchase agreements, into-plane contracts, into-truck contracts, and bunker contracts), along with host-nation bulk fuel and water agreements. DLA-Energy's contract support, interaction with other nations to develop ACSAs, contingency sites, fuel exchange agreements, and the implementation of a quality surveillance testing program for products are critical to the overall success of the operation. DLA-Energy has responsibility for centrally procuring bulk petroleum for DOD. In cases where pre-established agreements with nations in the AOR are absent, DLA-Energy establishes contracts with local venders. DOD components submit requests to the CCDR's joint petroleum office for validation and subsequently gain DLA-Energy's authorization for local procurement of petroleum products exceeding the annual limits. Several considerations must be considered:

- Quality surveillance.
- Additization equipment requirements in the event DLA-Energy cannot source additized jet fuel.

- Storage capacity and locations.
- Types of fuel required for an operation.
- Requirements for the Army support to other Services Title 10 inland distribution mission.
- Planned receipt methods in the corps rear area including over-the-shore, host-nation pipeline/storage, DLA-Energy contract deliveries, and rail tank cars.

3-51. For ammunition, planning includes an evaluation of receipt, storage, and issue options to include dispersion considerations required for net explosive weight. Planning should also include identifying locations within the AOR for a theater storage area and multiple ammunition supply points to provide redundant and robust storage capability. Ammunition stocks can be received directly from the port and distributed laterally between supply points or directly to forward unit holding areas. Units can also consider the use of ammunition caches in support of operations to continue offensive momentum and prepare for transitions to the defense. Units should also be aware of the risks that caches may be discovered, interdicted, and destroyed.

3-52. It is also important to consider foreign ammunition during competition. U.S. forces may be called upon to receive, store, and dispose of foreign ammunition. Logistics planners can leverage EOD assets that are trained in foreign ammunition for storage and compatibility determination. Quality assurance specialist ammunition surveillance personnel can also assist with NATO and foreign ammunition storage and compatibility requirements.

3-53. Major end items are traditionally brought from home station during competition. In the event a replacement major end item is needed, supply managers request through current supply systems for replacement. In addition, paying agents can be used to make local purchases for emerging requirements. USAMC receives prioritization and authorization from HQDA to redistribute assets based on command priorities or replacements from other sources. These sources include OCONUS theater sustainment stock, redeploying unit left behind equipment, and APS. The theater AFSB manages the theater sustainment stocks, redistribution property assistance yard, and provides integrated issue of major systems. The AFSB also provides integrated fielding of all components of new equipment, normally at home station, in conjunction with new equipment training. The Army Medical Logistics Command and medical logistics planners leverage APS, medical materiel, and medical maintenance support agreements and contracts established during competition. For critical items not available from those sources, units bring sufficient supplies to sustain operations.

DISTRIBUTION

3-54. Distribution is the primary means that enables freedom of action, extends operational reach, and prolongs endurance during operations. Establishing a distribution network is critical to shaping an OE. It is enabled by a distribution management system designed to achieve support objectives. *Distribution management* synchronizes and optimizes transportation, its networks, and materiel management with the warfighting functions to move personnel and materiel from origins to the point of need in accordance with the supported commander's priorities (ADP 4-0).

3-55. Planning, coordinating, and synchronizing strategic and Army capabilities for distribution are essential. Global distribution extends from the point of origin (garrison or point of supply) to the point of employment (the Soldier in theater). The Army conducts theater distribution as part of the global distribution system. *Theater distribution* is the flow of personnel, equipment, and materiel within theater to meet the geographic combatant commander's missions (JP 4-09). The theater segment extends from the ports of debarkation or source of supply (in theater) to the points of need.

3-56. The TSC or ESC will establish movement boards to manage transportation policies, priorities, LOC status, convoy protection and synchronization, and transportation asset allocation to support theater distribution operations.

3-57. The TSC or ESC-validated movement program should be published in an OPORD and executed by subordinate units like the sustainment brigade or movement control battalion. When transportation assets are tasked, the movement control board will ensure the transportation movement request is produced to capture transportation requirements. For additional details, see ATP 4-16.

3-58. Petroleum and water distribution planning is a key function of the theater petroleum and water group during competition. This group (usually assigned directly to the TSC) plans the development, design, and construction of the petroleum distribution system and storage facilities based on the operational plan of the theater commander. A critical planning requirement for the group is to create detailed plans for the purification, distribution, and storage of potable water. It also evaluates host-nation petroleum systems and plans for their development, rehabilitation, and extension aligning with the operational plan of the theater commander. The theater petroleum and water group also coordinates construction, rehabilitation, and maintenance requirements for petroleum facilities with the engineer command. It is dependent on external support for area signal support, security, construction, facility maintenance, and other supporting functions. For additional information, see ATP 4-43 and ATP 4-44.

MORTUARY AFFAIRS

3-59. The DOD Mortuary Affairs Program provides for the care, management, and disposition of deceased Service members, DOD civilians, and covered contractor personnel and the handling of their personal effects. It covers fatality management and the return of human remains. The three phases of mortuary affairs are current death (peacetime), concurrent return (theater-level operations during conflict), and temporary interment (formerly graves registration). For more information see JP 4-0.

3-60. During peacetime, OCONUS CCDRs support the Military Departments in coordinating for the recovery, preparation, and evacuation of human remains to a DOD mortuary and ultimately for release to a civilian funeral home for final disposition.

3-61. During the transition from peacetime to conflict, the CCDR makes the decision to move from current death (peacetime) to concurrent return establishing theater-level mortuary affairs operations and placing the responsibility of fatality management on the tactical-level units to establish theater mortuary facilities that meet the anticipated fatality management requirements.

3-62. Fatality management, as a part of the Mortuary Affairs Program, provides for the search, recovery, presumptive identification, preparation, and temporary disposition of human remains. It provides theater-level fatality management support to CCMDs operating mortuary affairs collection points, theater mortuary evacuation points, theater personal effects depots, and mortuary affairs contaminated remains mitigation sites that have the capability to cremate biologically or chemically contaminated remains in a DOD contracted or operated crematory. For more information regarding contaminated human remains, see ATP 4-46. The CCDR may assign the Army as lead Service for recovering and evacuating military fatalities during joint operations. Sustainment planners must consider fatality estimates, the flow and number of allocated mortuary affairs assets into the theater, and the sustainment channels with the most expedient available transportation resources to evacuate human remains. Human remains will be evacuated without delay to preserve forensic evidence for the Armed Forces Medical Examiner. Establishing roles and responsibilities during competition is critical to the execution of fatality management and the evacuation of human remains and personal effects out of the operational area. Sustainers must work with interagency and international partners for the recovery and evacuation of—

- U.S. citizens.
- Allied and coalition forces.
- Host nation.
- Detainees.

3-63. While evacuation of human remains out of the theater is paramount, mortuary affairs processing capacities and theater evacuation platforms can be overwhelmed due to the lethality of large-scale combat or CBRN operations. In this event, the CCDR is empowered by Title 10 to authorize temporary interment for U.S. forces; that responsibility may not be delegated to subordinate commanders. Temporary interment should only be considered as a last resort, and only when operational constraints prevent the storage or evacuation of human remains out of the operational area to a servicing mortuary or when it is deemed prudent for the protection, health, and welfare of personnel. In extreme circumstances, when a unit is cut off and has no means to communicate with higher headquarters, the senior commander is responsible for deciding whether hasty burial will be utilized after all known evacuation options have failed.

3-64. During competition, sustainment planners explore all other options prior to temporary interment, but must develop plans for temporary storage, identify potential locations, and estimate the engineer assets

required to conduct interment. Existing international agreements STANAG 2070 and QSTAG 655 establish the precedent for interment of allied and coalition fatalities. However, plans for temporary interment overseas will require additional policies, procedures, and host-nation approval prior to execution. For additional information, see JP 4-0, ADP 4-0, and ATP 4-46.

GENERAL ENGINEERING SUPPORT

3-65. General engineering support during competition focuses on building, repairing, and maintaining various infrastructure facilities, providing essential services, and ultimately building partner capacity to co-develop host-nation capabilities to perform such tasks. Infrastructure development is often a series of technical tasks that fall under different sectors such as electricity, road and rail transportation, water supply and sanitation, water treatment, and sewage.

3-66. Shaping the OE requires that engineer planners anticipate the impact of geography, force projection infrastructure with specific engineer missions, and available engineer forces within the supported AOR. Engineer planners determine the basic mobilization, deployment, employment, and sustainment requirements of the CCDR concept of operations. Engineer planners secure funding within authorities and plan for procurement of Class IV supplies and services. For more information on engineering, see FM 3-34.

OPERATIONAL CONTRACT SUPPORT

3-67. *Operational contract support* is the process of planning for and obtaining supplies, services, and construction from commercial sources in support of CCDR-directed operations (JP 4-10). At the theater level, sustainment planners align allocated military resources against forecasted requirements and employ non-organic sources such as OCS to mitigate risk. Sustainment planners must also be prepared for theaters where forcible entry operations will be required or an adversary with peer or overmatch capabilities will limit available OCS support. As part of the military decision-making process, all primary staff and most special staff have responsibility to develop Annex W and ensure the integration and synchronization of OCS capabilities within the commander's operational concept. This synchronization includes the identification of commercial support requirements, the location and capabilities of contracting support units, and the procedures and responsibilities for ensuring the safety and accountability of contractors. Commanders at each echelon must plan for the integration of contracted capabilities and should include planners from the supporting CSB and AFSB to address specific OCS capabilities.

3-68. Theater support contracts address theater-specific requirements and include micro-purchases. Elements of ACC deploy with combat forces to provide, or attain and provide, the necessary contracting authority to award these contracts in support of Army operations. External support contracts provide contingency requirements on a global scale and often require administrative contracting, quality assurance, and government property administration support. The LOGCAP program, managed by ASC, provides deployed forces with the largest, most comprehensive external support contract within the DOD. All Army primary staff elements are responsible for the integration and synchronization of OCS capabilities in Army operations. External support contracts with DLA, USTRANSCOM, and other DOD agencies also provide deploying forces with critical commercial support. Systems support contracts provide field services representatives to maintain and repair critical systems, both in CONUS and during contingency operations. See ATP 4-10.1 for additional information.

3-69. Sustainment headquarters at brigade and above include an organic OCS branch within the SPO section that plans and manages the OCS process. The theater Army (and when constituted, the field army) must form an OCS integration cell led by the G-4 staff and including participation from all primary and relevant special staff directorates to ensure effective OCS planning and management. Because commercial support impacts multiple staff sections and lines of effort, commanders at EAB may establish bureaus, boards, centers, cells, and working groups to plan, synchronize, and integrate desired effects. Most theater Armies (and when constituted, the field army) does not have an OCS cell and should form one within the G-4 staff to fulfill OCS planning and management. The cell members may include representatives from other sections, including the staff judge advocate. United States Army Pacific has an OCS-theater planning team to synchronize and integrate desired OCS effects. For additional information, see JP 4-10, ATP 4-10, ATP 4-71, and ATP 4-98.

FINANCIAL MANAGEMENT

3-70. Financial managers must be prepared to provide funding support across the competition continuum. As the financial management strategic enterprise integrator, United States Army Financial Management Command utilizes its internal capabilities to deliver system support to financial enterprise resource planning systems, financial audit and compliance support, financial management technical training and evaluation, banking, and limited accounting for sustainment elements below corps. In addition, it directly coordinates with interagency enablers to include the Office of Secretary of Defense (Comptroller), the Assistant Secretary of the Army (Financial Management and Comptroller), Federal Reserve Banks, Defense Finance and Accounting Service, and the United States Treasury in support of the financial management enterprise. These interagency partners are critical in providing battlefield currency support, ecommerce, financial authorities and policies, and accounting support.

3-71. Resource management cells (J-8, G-8, and S-8) must forecast and request funding authorization in advance for future operations through appropriate financial management channels. Operation and Maintenance, Army is the primary source of funding to support U.S. appropriations to be enacted by Congress for specific purposes. Special funding appropriations provide support to U.S. and non-U.S. military personnel. Financial managers must be prepared to execute and account for all special funding with the same level of effort required to execute and account for Operation and Maintenance, Army funding.

3-72. Support during competition may include funding support for organizing, equipping, and training foreign forces. Title 22, USC contains the Foreign Assistance Act, the Arms Export Control Act, and other laws that authorize security assistance, developmental assistance, and other forms of bilateral aid that financial management personnel must be familiar with to support stability operations. ARSOF and the supporting or supported conventional force have long used Title 22 funding, provided by the Department of State, in foreign internal defense operations that occur during stability operations or follow on from a larger stability operation. Congress has also authorized DOD to provide security cooperation support to foreign military and security forces, with Department of State coordination and Congressional notification, through chapter 16 of Title 10, USC.

3-73. United States Army Financial Management Command and the finance support center continuously work in close coordination with sustainment elements below corps to ensure the readiness of finance units at the tactical level. Readiness support is provided through combined training opportunities and external evaluations. Finance units provide pay agent training and payment support through cash and ecommerce during shaping exercises. Individual and collective training opportunities may be available during theater security cooperation and exercise events. For more information, see FM 1-06.

PERSONNEL SERVICES

3-74. Personnel services complement logistics by planning for and coordinating efforts which provide and sustain personnel. Personnel services contribute to personnel welfare (readiness and quality of life). Personnel services facilitate the Army's ability to prolong endurance. Personnel services include HR support, legal support, religious support, and band support.

Human Resources Support

3-75. Successful HR support is dependent on careful planning, coordination, synchronization, and continuous integration with strategic partners during shaping activities and must occur prior to, during, and after military action. The objective of HR support is to maximize operational effectiveness by anticipating, manning, and sustaining military operations. HR support operations accomplish this by building, generating, and sustaining the force to provide CCDRs with the forces required to set conditions to win future conflicts.

3-76. During competition, HR support involves the national-level capability to plan, resource, manage, and control the HR management life cycle functions for the Army. It involves integrating HR functions and activities across the Army staff, among the respective components, and among the Services.

3-77. HR support during competition includes functions and tasks planned, coordinated, integrated, and executed by operational-level HR organizations and human resources operations branches (HROBs) located within ESCs, DSBs, and sustainment brigades. These functions and tasks include casualty and postal operations, personnel accountability, and HR planning and operations. Deliberate coordination and

synchronization of these functions with strategic-level partners like the Casualty and Mortuary Affairs Operations Division for casualty operations, Military Postal Services Agency for postal, and Human Resources Command (HRC) for replacement operations are necessary in order to prolong endurance during large-scale combat operations. These habitual support relationships facilitate the CCDR's ability to extend operational reach.

3-78. During competition, the ASCC G-1 coordinates with corps and divisions to establish theater replacement management networks, personnel flow, and postal flow estimates. The ASCC G-1 refines and validates the casualty estimate and establishes and manages the personnel portion of reconstitution or reorganization efforts. To ensure initial HR capabilities are established prior to the arrival of the main flow of forces, HR support elements are included as part of the early entry element of the sustainment brigade assigned to the theater opening mission. The TG PAT establishes initial theater personnel accountability and theater replacement networks. Its mission is to conduct personnel accountability in the RSOI process, load and unload personnel data from the deployed theater accountability system, and conduct limited essential personnel services for transient personnel.

3-79. Additional TG PATs and military mail terminal teams, with corresponding HR companies and platoons, could be required if more than one intertheater port of debarkation (POD) is used for RSOI and/or mail flows. However, with multiple entry points, it may be necessary for initial personnel accountability to be completed by TG PATs or the deploying units themselves. In this case, the arriving personnel data file would be passed to the TG PAT at the primary POD.

3-80. The TG PAT mission does not include conducting any other sustainment-related requirements for life support and RSOI (billeting, feeding, equipping, and transportation of transient personnel). These activities are conducted by the DSB, sustainment brigade, DSSB, CSSB, or movement control team. For more details, see FM 1-0. Planning requirements include the number and placement of HR elements and units (to include bands supporting casualty operations) within a theater of operations. HR support responsibilities for early entry elements include—

- Initiating and establishing theater personnel accountability and personnel tracking.
- Establishing and operating the theater casualty information center and conducting casualty operations.
- Establishing, operating, and maintaining a theater personnel database.
- Coordinating and synchronizing the establishment of a military mail terminal to support postal operations for the theater.
- Estimating intratheater mail movement (usually by ground) between the military mail terminals and Army post offices.
- Establishing the replacement operations plan.

3-81. The HROB is part of the early entry element of the sustainment brigade SPO, focusing on ensuring TG PAT personnel are included as part of the early entry element for theater opening and the establishment of TG PAT support and initial postal support. Early establishment of postal infrastructure during theater opening or early entry operations limits the requirements for postal restrictions and allows the flow of mail to commence earlier. The HROB receives technical guidance from the TPOC and higher-level HROBs while receiving sustainment and execution guidance from the SPO section and the commander.

Legal Support and Religious Support

3-82. Legal support assists commands during competition by providing sound legal advice. Judge advocate legal services can provide advice on administrative and civil law, contract and fiscal law, military justice, national security law, and Soldier and Family legal services. Religious support assists the commander in providing for the free exercise of religion and provides religious, moral, and ethical advice and leadership. Religious support also advises the commander and staff on religion, ethics, morals, and morale, and their impact on all aspects of military operations. For additional information see FM 3-84 and FM 1-05.

Band Support

3-83. Army bands support competition by promoting regional stability. Through cultural exchange, bands are uniquely capable of influencing human behavior and perceptions without ever speaking a word. Army

bands support CCDRs by promoting U.S. national interests and building partnerships. Army bands can exert a low-threat, influential effect when performing in support of the commander's outreach plan or public and cultural diplomatic initiatives. Army Bands also provide casualty operations support to HR organizations. Planning requirements include placement of bands within a theater of operations. See ADP 4-0, ATP 1-0.1, and ATP 1-19 for more details.

HEALTH SERVICE SUPPORT

3-84. HSS capabilities are critical enablers during competition. Army medical personnel provide AHS support to sustain forces deployed during competition. The HSS mission includes medical treatment (organic and area support), hospitalization, medical evacuation (including medical regulating), and in coordination with Army Sustainment, medical logistics (including blood management). The ASCC commander has the authority to designate command and support relationships to deployed commands to integrate and synchronize capabilities (such as transportation, engineers, EOD, medical, and logistics) until later enabling commands arrive in theater. The TMC is responsible for integration, synchronization, coordination, planning, and execution of AHS support to the deployed force.

3-85. Essential AHS support tasks during competition and crisis include the provision of support to stability efforts (which include global health engagements), home station medical activities, and generation of medical capabilities. AHS support operations during competition are executed with the intent of enhancing international legitimacy and gaining multinational cooperation to mitigate conditions that could lead to a crisis. Therefore, AHS support to stability operations are critical to mission success throughout the phases of conflict. Regional health threat assessments, regional medical infrastructure assessments, building partner medical capacity, establishment/maintenance of support agreements, and other AHS support activities to set the theater provide the foundation for planning, sustaining, and achieving effective medical support to the theater campaign plan.

3-86. AHS support activities identified for planning and coordination to set the theater are implemented and executed during competition. The TMC, MEDBDE (SPT), and their subordinate units provide AHS support to theater opening, RSOI of early entry forces, integration of joint and multinational medical capabilities for establishment and execution of the joint trauma system, and global health engagements and other stability operations in support of security cooperation and deterrence missions to build partner medical capacity, which promotes regional stability. Other key AHS activities during competition include the provision of AHS support for medical maintenance and execution of medical support agreements, home station medical readiness and training activities, force tailoring for generation of medical capabilities, providing Army operational medical support to other Services and unified action partners, as well as assessment of theater APS and other medical logistics support. Efforts are also made to identify capability gaps and determine fills.

3-87. The role of Army Medicine in support of the CCMD is to preserve fighting strength by providing medically ready forces and trained, ready, and rapidly deployable medical forces. Preserving fighting strength also focuses on maximizing the number of troops available for employment by preventing or mitigating health threats, maximizing return to duty rates, minimizing morbidity and mortality, and clearing the battlefield to enable freedom of movement. To accomplish these tasks, Army Medicine leverages the surgeon sections (staff channel) at each echelon and medical command and control channels to integrate AHS with Army sustainment staffs (S-4 and G-4) and commands (TSC, ESC, and sustainment brigade) in support of U.S. national objectives, the CCDR's theater campaign plan, and the Unified Command Plan across the full range of military operations.

3-88. Medical staff channels (surgeon sections) conduct integration, coordination, synchronization, and planning of AHS support with sustainment staff (S-4 and G-4). The chain of medical commanders executes AHS support to established plans. Starting with the Surgeon General, the surgeon sections at each echelon identify, assess, counter and/or mitigate health threats throughout the range of military operations. The surgeon sections with sustainment staff advise commanders on the optimal placement and coordinate use of medical assets to support operations (for example, forward-positioned forces, APS, and assets in adjacent or supporting regions).

3-89. During competition, institutional medical organizations within Army Medicine (in coordination with the Defense Health Agency) conduct home station medical activities to maintain health readiness, support contingencies, and project medical forces in support of the CCMD. At EAB, organizations without organic

medical capabilities receive general support AHS support on an area basis, while organic medical elements at brigade and below provide direct support to parent units.

SUPPORT TO ARMY SPECIAL OPERATIONS FORCES

3-90. Though applicable across the range of military operations, ARSOF support planning and execution begins during competition below armed conflict. As discussed in Chapter 2, ARSOF sustainment structures (Ranger support companies, GSBs, and the 528th Sustainment Brigade [Special Operations] [Airborne]) are lean and unable to provide all sustainment functions required to support ARSOF missions. ARSOF sustainment structures are designed to perform the following tasks:

- Enable expeditionary ARSOF missions.
- Deploy early and rapidly.
- Fill immediate and critical logistics requirements within organic formations.
- Provide the capability to plug into theater logistics structures to achieve required endurance.
- Tie the ARSOF units to the operational theater support structure.

3-91. ARSOF rely on ASCC logistics structures to provide Service CUL to all Army forces in the operational area regardless of command structure. ARSOF routinely arrive in the operational area early, execute forcible-entry operations, and operate independently in small teams. Because of these factors, ASCC sustainment support to ARSOF is tailored to meet requirements based on the OE.

3-92. For example, a special forces group-led combined joint special operations task force with its organic GSB cannot simply plug into the distribution network of a single DSB or sustainment brigade and execute tactical distribution to each of the special forces battalions, companies, and Operational Detachments Alpha. This is due to the GSB's lack of organic capability and the fact that special forces groups do not deploy as a single entity. The GSB often supports a special forces group conducting activities across multiple locations. For this reason, CUL is required.

3-93. In addition to CUL, ARSOF have requirements for SOF-peculiar equipment that requires supply, sustainment, and maintenance mechanisms outside of the Army common support structure. SOF-peculiar sustainment requirements are the responsibility of USASOC and United States Special Operations Command.

SOF SUPPORT IN UNDEVELOPED THEATERS

3-94. When a SOF unit deploys into an undeveloped theater during competition, it must bring sufficient resources to survive and operate until it establishes a bare-base support system or makes coordination for TSC or ESC, host-nation, or third-country support. All SOF units require services pertaining to food, water, and clothing, as well as medical and personnel needs. Operational project stocks and foreign-nation support agreements will be utilized as available. A bare-base support system may function from CONUS, afloat (amphibious shipping or mobile sea bases), or at a third-country support base. The bare-base support system relies heavily on strategic and tactical airlift or sealift for resupply.

3-95. Deployed SOF units in an undeveloped AO may have to bypass normal logistics support echelons. These units may maintain direct contact with their parent units or may request a tailored support package from the 528th Sustainment Brigade (Special Operations) (Airborne) to accompany them into the theater of operations. The brigade can then request directly from the wholesale logistics system and provide support and sustainment to the ARSOF units. The brigade may also rely on theater OCS to obtain local support. The 528th Sustainment Brigade (Special Operations) (Airborne) is capable of deploying a tailored brigade headquarters for command and control of operational-level logistics in support of ARSOF missions until relieved by ASCC logistics command and control capabilities. The brigade is capable of providing command and control of Army CSSBs operating in support of ARSOF for up to six months. In practice, the solution may be some combination of all options.

SOF SUPPORT IN DEVELOPED THEATERS

3-96. In a developed AOR, the ASCC establishes a sustainment structure that provides support to ARSOF. Pre-positioned war reserve materiel stocks, operational project stocks, and foreign-nation support agreements may provide support. The logistics force structure of ARSOF has the mechanisms to plug in to all joint and

Army sustainment structures required for replenishment operations. Basic life support funding for SOF forces must be coordinated through financial managers.

3-97. ARSOF elements will require tailored organic ARSOF sustainment capabilities often augmented by the ASCC or the designated CCMD lead for CUL support. Special operations-peculiar support and services will be provided by United States Special Operations Command in accordance with Title 10, Section 167. The nature of the SOF campaign and mission may also require leveraging host-nation, interagency, or nonstandard logistics capabilities. See ATP 3-05.40 for more information on ARSOF sustainment and FM 6-05 for more information on conventional forces and SOF integration, interoperability, and interdependence.

SECTION III – ROLES AND RESPONSIBILITIES BY ECHELON

3-98. Sustainment operations during competition differ from sustainment operations during crisis or armed conflict. For example, sustainment tasks to support military engagement and security cooperation are less resource intensive than tasks conducted for large-scale combat operations. Regardless of the activities, the roles of Army organizations do not change. A *role* is the broad and enduring purpose for which the organization or branch is established (ADP 1-01).

THEATER ARMY

3-99. The theater Army's role is ASCC to a CCMD. The theater Army integrates land power within theater engagement plans and security cooperation activities. Integrating land power requires the theater Army to train and prepare Army forces for operations and to coordinate training and readiness requirements with Service force providers. Integrating land power also includes establishing and extending the network, sustainment infrastructure, and leveraging the intelligence enterprise assets and protection capabilities that support operations throughout an AOR. The theater Army staff works closely with the TSC to develop plans to execute sustainment during operations. Together, these staffs apply all the considerations discussed above to develop the plan, and the TSC executes the plan. Key activities during the planning process are—

- Plan and coordinate sustainment for security cooperation activities such as bilateral and multinational exercises to improve multinational interoperability and operations.
- Plan and coordinate sustainment for missions to train, advise, and equip foreign forces.
- Provide recommendations to Army representatives negotiating basing and transit rights, establishing relationships, and formalizing support agreements.
- Participate in OPLAN and concept plan development to include the logistics supportability analysis and provide logistics estimates to interagency partners.

3-100. During competition, the theater Army supports the CCMD in conducting missions, tasks, and actions that shape the environment to assure friends, deter adversaries, and establish conditions for future contingencies. To accomplish this, the theater Army, as the ASCC, executes CCDR daily operational requirements while training and preparing for future contingency operations.

3-101. Executing operational requirements prepares the ASCC to rapidly transition to conflict should the CCDR identify an increased threat and an operational requirement in an AOR. Well in advance of any conflict, the theater Army ensures the ARFOR or joint force land component commander (JFLCC) targeting desires are documented for future inclusion on the resulting joint target list, restricted target list, and no-strike list.

3-102. Should the CCDR identify a potential crisis, the theater Army examines a range of basing and deployment options. When the CCDR decides on specific deterrent options, the theater Army begins the process of recommending, requesting, and tailoring landpower. This is done while refining plans for the full employment of landpower should deterrence fail to resolve the crisis.

3-103. As soon as feasible, Army forces attached to the theater deploy and the theater Army receives, stages, and integrates additional Army forces into an AO. To accomplish this, the theater Army develops additional basing requirements. As Army forces deploy into a JOA, the theater Army expands its footprint to sustain and protect Army, joint, and multinational forces as directed by the CCDR. Functions executed by the theater Army include, but are not limited to—

- Executing CCDR's daily operational requirements:

  - Provide Army support to other Services.
  - Conduct theater security cooperation.
  - Assess and develop infrastructure.
  - Develop concept and operation plans.
- Setting and maintaining the theater.
- Setting and supporting operational areas:
  - Conduct RSOI.
  - Provide sustainment support in an operational area.

THEATER SUSTAINMENT COMMAND

3-104. The TSC concentrates on strategic and operational-level sustainment support and management. When directed, the TSC provides lead service sustainment and executive agency support for designated logistics and services to other government agencies, multinational forces, and nongovernmental organizations. The TSC has four operational responsibilities to forces in theater:

- *Theater opening* – The ability to establish and operate ports of debarkation (air, sea, and rail), to establish a distribution system and sustainment bases, and to facilitate throughput for reception, staging, and onward movement of forces within a theater of operations (ADP 4-0).
- *Theater distribution* – The flow of personnel, equipment, and materiel within theater to meet the geographic combatant commander's mission (JP 4-09).
- *Sustainment* – The provision of logistics, financial management, personnel services, and health service support necessary to maintain operations until successful mission completion (ADP 4-0).
- *Theater closing* – The process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities (ADP 4-0).

3-105. The TSC simultaneously plans and synchronizes sustainment operations for theater security cooperation activities (which include security assistance, joint and multinational exercises, security force assistance, civil-military operations) and large-scale combat operations.

3-106. The theater petroleum and water group, normally attached to the TSC, operates within the AOR for distribution of petroleum in the theater. Embedded within the theater Army are staff elements which provide oversight of petroleum and water supply, storage, reporting, and health safety within the AOR. The G-3 is responsible for developing the theater Army concept of operations, which will drive fuel requirements. The G-4 staff is the primary staff concerned with petroleum and water requirements determination.

3-107. The Theater Petroleum Center or petroleum liaison detachments may be assigned or attached to the theater Army G-4 to support planning and operations at the theater level. The Theater Petroleum Center serves as the senior Army petroleum advisor to the CCMDs. It provides strategic through operational planning support to CCMDs, the theater Army, corps, and TSC. It also conducts liaison support with DLA Energy, the Army Petroleum Center, the joint petroleum office, subarea petroleum office, and other partners as needed. For additional information, see ATP 4-43.

3-108. Planners use the understanding of an OE and situational understanding developed during the execution of shaping activities to develop and refine OPLANs as conditions change in various operational areas. For example, a TSC review of an OPLAN could reveal that a planned port or designated supply route is inadequate for large-scale combat operations. The TSC forwards a recommended alternative to the ASCC headquarters.

3-109. The ASCC G-1 is the senior Army HR representative/advisor in the theater. The G-1's primary function is to plan and prioritize HR support to assure a unity of purpose and effort that maximizes the readiness and operational capabilities of forces within the theater. The TSC ensures HR organizations (military mail terminal, TG PAT, HR company) execute their HR missions in accordance with the policies, priorities, and timelines established by the ASCC G-1/AG. Refer to FM 1-0 for specific roles and responsibilities.

3-110. The TSC G-8 is the senior resource management adviser to the TSC commander. The TSC G-8's focus is on TSC-specific (internal) resource management support, which is identifying, acquiring,

distributing, and certifying funds in accordance with the TSC's four operational responsibilities and the commander's priorities.

3-111. In the DMC, the finance operations center is externally focused on the AOR in concert with the overall sustainment support operation, ensuring that finance contributes to the desired effects of the supported commander. The finance operations center plans current and future operations, and coordinates, integrates, and assesses emplacement and operations of finance units executing disbursing and payment support. The finance operations center is the key linkage between the strategic support from the United States Army Financial Management Command to the theater distribution network and finance units executing the financial management concept of operations. The finance operations center also advises the ASCC G-8 and TSC G-8s on the status of theater finance operations.

EXPEDITIONARY SUSTAINMENT COMMAND

3-112. The ESC is the expeditionary command for joint logistics. Normally, the ESC is task-organized to the TSC based upon the requirements of the operation. The ESC, when assigned as a subordinate element of the TSC, supports the deployed force while the TSC maintains AOR-wide focus. The ESC concentrates on synchronizing operational-level sustaining operations to meet the day-to-day and projected operational requirements of the supported force. It accomplishes this, in part, by establishing mid-range and short-range planning horizons derived from the supported commander's OPLAN, commander's intent, commander's critical information requirements, tempo, and distribution system capacity. The expeditionary capability of ESCs becomes critical when multiple JTFs operate in an AOR. The ESC attached to a TSC has two operational responsibilities to forces in theater:

- Synchronize and integrate sustainment support for a JFC or JTF within a JOA.
- Support reception, staging, and onward movement within a JOA.

SET THE THEATER

3-113. Setting the theater is continuous and is conducted as part of competition for contingency or crisis response operations. Set the theater describes the broad range of activities conducted to establish the conditions in an operational area for the execution of strategic plans. The CCDR has overall responsibility for this activity but executes many responsibilities through the TSC of the ASCC. The purpose of setting a theater is to establish favorable conditions for the rapid execution of military operations and the support requirements for a specific OPLAN during crisis or conflict.

3-114. Setting the theater involves all of the warfighting functions:

- The focus of the command and control warfighting function is the organization and the command and control of forces to accomplish missions. The ASCC tailors and controls Army forces in the AOR. The TSC provides command and control of assigned and attached sustainment forces in the AOR.
- The movement and maneuver warfighting function focuses on mobilization, deployment, employment, and redeployment of forces. The ASCC conducts theater opening and is responsible for RSOI of Army forces. The TSC provides TACON for movement of Army forces into theater, conducts RSOI, and provides command and control for theater distribution.
- The intelligence warfighting function focuses on planning, collecting, producing, and disseminating intelligence. The ASCC provides Army intelligence capabilities to support CCMD operations. Part of that intelligence support is setting the theater from an intelligence perspective that is bigger than supporting sustainment operations (see FM 2-0). Supporting theater sustainment intelligence requirements is a significant and complex mission. The TSC G-2 directs, plans, collects, and disseminates intelligence to subordinate units to meet theater sustainment intelligence requirements. However, the TSC G-2 also depends on the intelligence enterprise and the theater intelligence architecture for access to timely, relevant, accurate, and predictive intelligence.
- The fires warfighting function plans and directs Army fires in coordination with joint fires. Sustainment supports joint and Army fires.
- The protection warfighting function focuses on establishing measures that make Army forces hard to detect. The ASCC is responsible for protection of Army forces in the AOR. Sustainment plans, coordinates, and executes protection plans for sustainment forces.

3-115. Setting the theater during competition (from a sustainment perspective) involves actions to provide sustainment (logistics, financial management operations, personnel services, and HSS) to SOF, security force assistance brigades, military engagements, and security cooperation. It also involves conducting sustainment preparation of the OE and other activities in support of daily Title 10 requirements, contingency operations, and crisis response operations.

3-116. The ASCC conducts theater sustainment analysis as part of setting the theater. This analysis begins during competition and continues during crisis. This analysis identifies risk in terms of access, capabilities, and capacities across the AOR. It consists of the actions taken by sustainment planners to optimize means (force structure, resources, and strategic lift) for supporting the command's plan. These actions include identifying and preparing ISBs and forward operating bases, selecting and improving LOCs, forecasting and building operational stock assets forward and afloat, and designing a distribution and automatic information technology network and infrastructure for the theater. Sustainment preparation of the OE is part of setting the theater and identifies potential risks in terms of access, infrastructure capabilities, and capacities in theater so planners can develop alternatives and mitigating measures. Logistics planners use the sustainment preparation of the OE analysis to optimize the distribution system.

3-117. The theater campaign plan is the CCDR's vehicle for operationalizing the theater strategy. It provides a framework within which the CCDR conducts security cooperation activities and military engagement with regional partners through cooperative security and development. A theater campaign plan's main function is to provide guidance to coordinate steady-state components of contingency planning by conducting security cooperation activities across the AOR.

3-118. The theater Army develops the force structure required to support the theater campaign plan. The theater Army requests Army forces and the resources required to support them. These resources include required sustainment capabilities. The theater Army, in conjunction with the sustainment command (TSC or ESC), provides support to forces participating in exercises to support the theater security cooperation plan, designs effective and efficient movement plans for land forces into and out of the theater of operations, and also requests forces to support ongoing Army responsibilities for sustainment.

3-119. Sustainment support to setting the theater involves theater opening and receiving initial forces, equipment, and supplies, assembling them into mission-tailored units, and transporting them to their final destination. LOGCAP ensures a rapid response to emerging crises. The Army should also utilize HNS to the maximum extent possible to give sustainment units time to close in theater. The Army places set the theater as a priority and provides for holistic operational planning across the Army's strategic roles. LOGCAP planners are placed at the ASCC, TSC, and corps with LOGCAP decision authority residing at the ASCC.

3-120. Set the theater activities during competition may also include establishing a distribution network, identifying local procurement requirements, employing the TG PAT, and setting the conditions for medical operations. The broad range of set the theater activities also includes the synchronization and integration of sustainment through the establishment of boards, bureaus, centers, cells, and working groups. For more information on set the theater activities, see JP 3-31, ADP 3-0, ADP 4-0, FM 1-0, FM 3-0, FM 3-94, FM 1-06, ATP 3-93, and ATP 4-10.

3-121. Establishing the distribution network is a complex joint effort. The CCDR typically establishes a JDDOC. It is an integral component of the CCDR's staff, normally under the staff supervision of the CCMD J-4. A JDDOC may be co-located with the DMC. Some initial tasks of the JDDOC include—

- Monitoring airlift and sealift flow.
- Providing movement control of arriving supplies, personnel, equipment, and units.
- Establishing theater-wide capabilities required to meet anticipated transportation and throughput capacities.

Financial Management Support to Set the Theater

3-122. Financial managers assist commanders with setting the theater by tailoring and projecting financial management support to the force. Some initial tasks include—

- Identifying funding authority for deployment operations and funding in support of operations, to include special funding authorities throughout the strategic roles.

- Determining the requirement for multiple disbursing station symbol numbers and dispersion throughout theater.
- Securing initial funding for central funding and cash management operations (for example, establishing a limited depositary account).
- Establishing financial management policies and procedures to address finance and resource management operations (for example, cash holding authority and fund certification thresholds).
- Analyzing current banking infrastructure throughout the theater and determining the need to expand synchronization.
- Identifying the mobility of the financial management distribution network between strategic and operational echelons for replenishment (strategic lift, surface transportation) in the absence of host-nation capabilities.

Army Health System Support to Set the Theater

3-123. The TMC is assigned to the ASCC and serves as the medical command responsible for synchronization and execution of AHS support operations within the AOR. AHS is comprised of force protection and HSS. The TMC commander coordinates with the ASCC surgeon to provide AHS support within the AOR. The TMC maintains a regional focus that encompasses the CCDR's entire AOR and is critical for the successful provision of AHS support to set the theater. The medical commander's ability to assess host-nation medical capability/capacity and the presence of health threats prevalent in the AOR facilitates the planning and execution of regional strategies for establishment of the theater joint trauma system and mitigation of identified threats. The TMC assists the CCDR in maximizing the use of scarce medical resources, shaping the security environment by building partner medical capacity and alleviating health conditions that impact U.S. military forces and multinational partners, and particular challenges faced by the host nation. Efforts must also be made to understand the roles and responsibilities of all agencies involved (to include the Department of State, World Health Organization, partner nations, and others) for integration and synchronization of all medical capabilities in the region. The TMC also provides AHS support to set the theater through synchronization, coordination, planning, and integration of strategic medical capabilities from the U.S. sustaining base. It also provides support through global health engagements, establishing and maintaining medical support agreements, deploying medical technical expertise for consultation services and other support, military medical training exercises, and other tasks that include—

- Executing AHS support to other Services.
- Ensuring adherence to eligibility criteria for treatment in U.S. military MTFs.
- Recommending theater evacuation policy adjustments.
- Providing theater food protection support.
- Coordinating with USTRANSCOM for patient movement plans.
- Ensuring integration and interoperability of theater medical capabilities.
- Providing AHS support to foreign humanitarian assistance and disaster relief.
- Conducting medical preparation of the OE.
- Maximizing use of host-nation medical capabilities.
- Establishing and executing occupational and environmental health surveillance programs and countermeasures.
- Coordinating with the National Center for Medical Intelligence, Centers for Disease Control and Prevention, and other strategic partners for identification and mitigation of regional health threats.
- Coordinating and planning for AHS support to—
  - Noncombatant evacuation operations.
  - Detention operations.
  - RSOI and theater opening.
  - Large-scale casualty producing events.
  - Other Services.

FIELD ARMY

3-124. When constituted, field armies assist the theater Army commander and JFCs with posturing the joint and multinational force for armed conflict. They do so by relieving the theater Army from day-to-day command and control of Army forces operating in an AOR and by executing competition tasks within the

overall framework established by the CCMD and the theater Army. They provide JFCs with a land component command capability for the transition to large-scale ground combat. This enables the theater Army to focus on theater-level matters and allows it to synchronize competition and preparation for combat activities across the entire AOR.

3-125. During competition, the field army can deter threats and prepare to transition to large-scale combat operations when the risk for immediate, multi-corps, large-scale combat is high. With joint force augmentation, the field army may also serve as the JFLCC during competition.

3-126. The field army, when employed, focuses on deterrence and setting conditions for contingency operations should the adversary attack or the decision be made to initiate armed conflict. While the theater Army continues to shape the entire theater and address aggression outside this designated AO, the field army maintains the necessary formations and capabilities to provide credible deterrence and ensure the ability to quickly respond to escalation within the AO. The field army can conduct a land-based campaign against the adversary on behalf of the CCDR and, due to its presence, is postured to transition to a JTF headquarters should conflict arise. The field army is also tailored in its capability and capacity as determined by the nature and capabilities of the near-peer adversary. As the near-peer adversary's capabilities change, so do those of the field army. The following are key activities during the planning process:

- Prepare for potential armed conflict by conducting detailed analysis of critical adversary systems in conjunction with partners.
- Conduct an aggressive campaign of competition to counter and contain the near-peer threat as an integral part of the theater campaign.
- Maintain the necessary formations and other capabilities to provide credible deterrence.
- Utilize dispersion, hardened facilities, deception, and multidomain obscuration to create protected positions of advantage.

3-127. The ESC attached to the field army simultaneously plans and synchronizes operations for field army security cooperation activities, including joint and multinational exercises, flexible deterrence operations, and operations during armed conflict in multiple operational areas. The ESC attached to a field army has two operational responsibilities to forces in theater:

- Synchronize and integrate sustainment support for the field army.
- Support reception, staging, and onward movement within the field army AO.

CORPS

3-128. Army units at the corps and lower echelons execute shaping tasks and provide the forces for security cooperation. Army forces may support foreign internal defense or security force assistance by participating in multinational exercises, medical and other civil-military operations, development assistance, and training exchanges. Army forces at corps echelons and below directly engage with partner forces. Civil affairs forces engage with governmental and nongovernmental organizations and civilian populations to accomplish their mission, build rapport, and improve conditions to promote stability.

3-129. When uncommitted to specific CCDR requirements, the corps serves as a tactical echelon that focuses on preparation to prevail in large-scale combat. When committed to a theater of operations, the theater Army or field army command and controls corps unless the corps is OPCON to a JFC subordinate to the CCDR. In such cases, the theater Army maintains an ADCON relationship with the corps due to its theater-wide ARFOR responsibilities.

3-130. During competition, the corps shapes its assigned AO depending on the role that it is fulfilling. As an ARFOR, the corps assists higher echelons in their efforts to set, support, and shape operational areas. Corps do so by executing operational-level tasks, collecting information, providing bottom-up refinement to planning, and participating in activities to posture the joint and multinational force to prevail in the event that armed conflict occurs.

3-131. The CSC participates in multinational exercises and supports readiness of corps units at home station. It may be tasked to support specific shaping operations if the scope of the operation and the command and control and distribution/materiel management requirements warrant a sustainment command presence. This may become important in multinational exercises or large-scale humanitarian assistance operations.

DIVISION

3-132. Division headquarters are often tasked to be the primary interface for the Army with various unified action partners during competition. When regionally aligned, a division with a tailored package of its subordinate brigades and other enablers from both Active and Reserve Components is allocated to a CCDR to help execute that CCDR's theater campaign plan.

3-133. Divisions provide trained and ready forces and echelons of command and control in support of exercises or training events with the intent to shape the security environment, improve mutual understanding, and improve interoperability with treaty partners or potential coalition partners. Due to the limited scale and short duration of violence, a division usually serves as a tactical headquarters, joint force or multinational force land component command, and, if required, as a JTF headquarters or ARFOR. While most U.S. military engagement and security cooperation typically takes place in the echelons below brigade, there are multiple exercises where a division is used to assist in command and control or sustainment activities. These exercises support military engagement and security cooperation efforts in critical theaters.

3-134. During competition activities, the DSB synchronizes and integrates sustainment operations for the division which include security cooperation activities and exercises. The DSB participates in multinational exercises and supports readiness of division units at home station. DSBs may be aligned to a specific country for partnership. If so, DSBs are task organized based on the sustainment command's deliberate analysis of requirements to support the CCDR's mission. Regionally assigned and aligned sustainment forces train and work together with partner nations in an effort to better understand each other's capabilities and operating procedures. These relationships are critical to establishing agreements and contacts that will mutually benefit both countries.

CONSOLIDATION OF GAINS DURING COMPETITION

3-135. Army forces continuously consolidate gains to maintain an OE that is advantageous to U.S. strategic interests. Examples of consolidating gains during competition range from transportation system improvements (including ports, airfields, and rail lines of communications), increasing theater supply stocks, intelligence cooperation, and providing Army medical personnel to support CCMD humanitarian and civic assistance activities. Army forces contributing to foreign humanitarian assistance and disaster relief efforts with allies and partners help cement existing international relationships or set conditions for new ones in other places.

3-136. Army sustainment forces play a key role in consolidating gains during competition. Sustainment forces often times are key contributors to the examples listed in in the preceding paragraph. Sustainment forces that maintain presence or support relationships reinforce confidence between allies and partner nations. Providing security, food, water, shelter, and medical treatment to the population are stability tasks that enable consolidation of gains and help ambassadors, country teams, and JFCs maintain influence and cooperation with allies and partners as they pursue mutually beneficial objectives.

TRANSITION TO CRISIS AND ARMED CONFLICT

3-137. A transition from competition to crisis and armed conflict can occur rapidly with little notice or forewarning. Transitions are complex and unpredictable and responses to a transition may lead to differing perceptions of what has taken place. Decisions made before and during the initial stages of a crisis or armed conflict have significant impact on the decisions made by adversaries and the ultimate outcome of a particular situation. Sustainment forces and their leaders must be prepared to anticipate and respond to crisis and conflicts in the OE.

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Chapter 4
Sustainment Operations During Crisis

This chapter provides an overview of Army operations during crisis. This chapter discusses sustainment planning considerations, considerations for forcible entry operations, and describes roles and responsibilities of organizations for sustainment operations by echelon during crisis.

SECTION I – OVERVIEW OF ARMY OPERATIONS DURING CRISIS

4-1. A *crisis* is an emerging incident or situation involving a possible threat to the United States, its citizens, military forces, or vital interests that develops rapidly and creates a condition of such diplomatic, economic, or military importance that commitment of military forces and resources is contemplated to achieve national and/or strategic objectives importance that commitment of military forces and resources is contemplated to achieve national objectives (JP 3-0). A crisis may be the result of adversary actions or indicators of imminent action, or it may be the result of natural or human disasters. During a crisis, opponents are not yet using lethal force as the primary means for achieving their objectives, but the situation potentially requires a rapid response by forces prepared to fight to deter further aggression. When directed, the Army provides a JFC with capabilities to help deter further provocation and sufficient combat power to maintain or reestablish conventional deterrence.

4-2. Crisis response operations are characterized by actions to protect friendly forces and indicate the intent to execute subsequent phases of a planned operation. With the transition from shaping to deterrence, the theater Army shifts to refining contingency plans and preparing estimates for landpower based on CCDR guidance.

ARMY SUPPORT TO THE JOINT FORCE DURING CRISIS

4-3. The military supports unified action partners during crisis by providing flexible deterrent and response options. A flexible deterrent option (FDO) is a planning construct intended to facilitate early decision making by developing a wide range of interrelated responses that begin with deterrent-oriented actions carefully tailored to create a desired effect.

4-4. A flexible response option (FRO) is a military capability specifically task organized for effective reaction to an enemy threat or attack and adaptable to the existing circumstances of a crisis. FDOs and FROs occur across the diplomatic, informational, military, and economic instruments of national power. They are most effective when integrated and implemented in a simultaneous manner.

4-5. FDOs are preplanned, deterrence-oriented actions carefully tailored to bring an issue to early resolution without armed conflict, and they can be initiated before or after unambiguous warning of threat action. Examples of Army contributions to joint FDOs include—

- Command and control headquarters—establishment of a field army or deployment of a corps or division.
- Deploying a security force assistance brigade to establish liaison capability or conduct security force assistance.
- Building or expanding infrastructure and increasing sustainment capacity to facilitate RSOI.

4-6. FROs can be employed in response to aggression by adversaries, and they are intended to facilitate early decision making by developing a wide range of actions carefully tailored to produce desired effects. Army contribution examples to joint FROs include—

- Airborne or air assault units positioned to conduct joint forcible entry.
- A maneuver brigade drawing APS.
- Port opening to receive the joint force.
- Multi-domain task force to respond to adversary antiaccess and area denial activities.
- SOF to conduct foreign internal defense, direct action, or special reconnaissance.

FORCE PROJECTION

4-7. The demonstrated ability to project Army forces into an operational area is an essential element of conventional deterrence. Army forces depend upon joint lift capabilities for deployment. *Force projection* is the ability to project the military instrument of national power from the United States or another theater in response to requirements for military operations (JP 3-0).

4-8. Force projection is particularly important during crisis, as Army forces have an unknown amount of time to shape a developing situation. It can occur, however, in any context. Forces projected forward during competition to conduct exercises, bolster allies and partners, and conduct other activities are under observation. Adversaries assess the speed and efficiency of these routine deployments, which can have a deterrent effect. Given the fluid nature of a crisis, force projection may continue well after a crisis has transitioned to armed conflict. Force projection includes—

- Opening the theater.
- Mobilization
- Deployment.
- Initial employment of forces.
- Sustainment.
- Redeployment.

OPENING THE THEATER

4-9. During the transition to crisis or armed conflict, Army forces open the theater to receive deploying forces. Army forces execute existing plans to establish and open air, sea, and rail terminals. Distribution systems and ISBs may be established where required. Higher echelon (including theater, corps, and division enablers) and rapidly deployable command and control elements begin to integrate with host-nation forces as quickly as possible to set the conditions for RSOI of follow-on tactical forces. This includes coordination with the forces of other supporting nations to assure effective distribution of services, facilities, and supplies to all deploying units across the alliance or coalition. During theater opening, designated arriving forces draw available APS. This provides the JFC with increased capacity and capability during the initial stages of a crisis or armed conflict. Army forces must be prepared for combat while conducting theater opening operations. The first deploying units require the capability to defend themselves while they provide reaction time and maneuver space for follow-on forces.

MOBILIZATION

4-10. *Mobilization* is the process by which the Armed Forces of the United States, or part of them, are brought to a state of readiness for war or other national emergency (JP 4-05). This includes activating all or part of the Reserve Components, as well as assembling and organizing personnel, supplies, and equipment. See JP 4-0 for additional information on mobilization.

DEPLOYMENT

4-11. *Deployment* is the movement of forces into and out of an operational area (JP 3-35). How the JFC intends to employ forces is the foundation of the deployment structure and timing. For example, a JFC may deploy a combat-ready maneuver brigade or division early in a crisis to stabilize a situation or secure ports for follow-on forces, accepting risks to the movement efficiency of follow-on forces. Corps and division staffs examine all deployment possibilities and conduct parallel planning.

INITIAL EMPLOYMENT OF FORCES

4-12. The initial employment of Army forces during a crisis will most likely be as part of FDOs or FROs. This employment may represent the opening stages of a joint operation or a show of force demonstration. The objective of this early employment is to deter an adversary from further aggression, expand the theater to receive follow-on Army and joint forces, and form a credible defense with host-nation forces to prevent adversary gains.

SUSTAINMENT

4-13. Sustainment is central to force projection, and sustainment preparation of an OE is the basis for sustainment planning. Corps, division, and brigade planners focus on identifying the resources available in an operational area for use by friendly forces and ensuring access to them. There is no fundamental difference in sustainment preparation of an OE during competition, crisis, or armed conflict, except that sustainment activities intensify as Army forces respond to crisis and prepare for armed conflict.

REDEPLOYMENT

4-14. *Redeployment* is the transfer or rotation of forces and materiel to support another commander's operational requirements, or to return personnel, equipment, and materiel to the home and/or demobilization stations for reintegration and/or out-processing (JP 3-35).

SECTION II – OVERVIEW OF SUSTAINMENT ACTIVITIES DURING CRISIS

4-15. Sustainment of operations during crisis requires a force array tailored to the type of operation, geographic location, permissiveness of the environment, threat, and a host of other considerations determined during the planning phase of competition. Commanders must also consider possible sequels and branches during planning to ensure optimal command and support relationships are established and the right mix of forces are identified for potential follow-on operations. The phased arrival of Army sustainment forces will require planners to integrate non-Army solutions, including ACSAs and OCS, to enable the rapid deployment of combat forces.

4-16. The ASCC is responsible for all Army operations, to include receiving forces, sustaining forces, and preparing to redeploy forces. The ASCC also interacts with theater strategic and operational commands and organizations essential to the theater distribution network.

4-17. Establishing a host-nation coordination center is a means to enhance stability and interaction between nations. The lead element for the coordination center is security cooperation (G-9), with representation from the logistics and medical (G-4, Surgeon), financial management (finance operations center or finance support center), engineer, and G-3 sections, host-nation representatives, Department of State, and any other governmental agencies or non-governmental organizations as required. A multinational command, especially one that operates under a parallel command structure, establishes a coordination center during the shape role of an operation. It organizes and controls functional areas including logistics and civil-military operations. A coordination center is the initial focal point for support issues such as force sustainment, medical support, infrastructure engineering, HNS, and movement control. As a multinational force matures, the center's role includes activities such as force provision or force deployment. When a coordination center is activated, member nations provide action officers who are familiar with its activities. Multinational forces are encouraged to maintain contact with parent headquarters. For more information, see FM 3-16.

4-18. Establishing a civil-military operations center enables military forces and indigenous populations to synchronize, coordinate, and enable interorganizational cooperation and to achieve unified action. It is designed to share information, identify and distribute resources, and assist in the execution of civil affairs operations and civil-military operations. It can also play a role in planning future operations by integrating with stabilization-focused departments, agencies, and organizations. The civil-military operations center is usually in the best position to engage with the civil component on behalf of the G-4 or S-4 for utilization of local resources. Such resources may include water, energy, food, ports, roads, and other resources to sustain the force. For more information, see FM 3-57.

4-19. Assessment of sustainment preparation of the OE and sustainment analysis while conducting operations during crisis are key activities for sustainers. The outcomes of sustainment preparation of the OE are informed OPLANs and TPFDD. The data also aids in identifying capabilities and capacities needed to successfully transition from crisis to operations in support of armed conflict or going back to a state of competition. It is during crisis operations that plans and estimates are refined, the theater distribution network is expanded, and actions are taken to deploy forces as required.

REFINING PLANS AND DEVELOPING ESTIMATES

4-20. The CCMD, in coordination with the Service components and DLA, continues to refine its mission analysis and logistics estimates to identify joint logistics requirements and continue to set the theater. Actions may include—

- Changes in inventory positioning (for example, locations and quantities).
- Contract reviews for appropriate surge clauses and operational contingency zones.
- Market research to identify local procurement opportunities.
- Discussions with industrial base partners regarding production capacities.
- Identification of potential acquisition policy waivers that may be required.
- Close coordination with the Services on readiness rates and critical weapon systems.
- A review of unit personnel fill rates and requirements needed to support additional personnel.
- A readiness review of DLA deployable capabilities. DLA may provide additional liaison officers or deploy a DLA assessment team with forward deployed units to coordinate support.

4-21. The TSC, ESC, CSC, DSB, and sustainment brigade refinement of sustainment plans and estimates is a continuous process and essential to mission success and risk reduction. Sustainment planners will continue to conduct detailed analysis and assessment to update support requirements and availability of resources based on the ever-changing OE. These estimates are provided to the CCMD and interagency partners for planning purposes. The availability of commercial support will play a particularly important role during the early stages of crisis operations and may change rapidly due to enemy activity or host-nation policy.

LOGISTICS ESTIMATION

4-22. Sustainers employ tools such as the Operational Logistics Planner that produce class of supply consumption estimates for units at all levels. Command Post Computing Environment, Mercury Application, Operational Logistics Planner and the Quick Logistics Estimation Tool enable staffs at all echelons to estimate mission requirements for all Class I, II, III (bulk and packaged), IV, V, VI (including mail), VII, VIII, and IX as well as water and ice for their units. It also provides an analysis of the estimated transportation assets needed to get the supplies to the units. These tools use the latest Army-approved planning rates and force structures. Units can be customized to add or remove equipment and personnel. Additionally, sustainment planners use the Army Water Planning Guide for water support operations. For additional information, see Appendix D.

CASUALTY ESTIMATION AND REPLACEMENT REQUIREMENTS

4-23. The Army G-1 is the functional proponent for overall casualty estimation (killed in action, captured, missing in action, wounded in action, and disease and non-battle injury) and must coordinate closely with the Army Surgeon General for Army evacuated rates in support of projected manning requirements. Replacement requirements consist of the killed in action and evacuated Soldiers not return-to-duty, prisoner of war, and missing in action. Casualty estimation is conducted at ASCC level and above as part of the planning process for contingency operations and approved by the CCDR.

4-24. The Director of Military Personnel Management, Army G-1 has designated the Medical Planners' Toolkit as the casualty estimation tool of record for EAB Army HR planners. The Medical Planners' Toolkit integrates several tools, including the Casualty Rate Estimation Tool, which provides the capability for planners to calculate the combat and noncombat injuries and illnesses that would be expected during military operations. Casualty estimates can be generated for ground combat, ship attacks, fixed facilities, and natural disasters. The Casualty Rate Estimation Tool-generated patient streams are based on the casualty estimate and the user-selected Patient Condition Occurrence Frequency distribution.

4-25. Close coordination with the SPO officers in ESCs, CSCs, DSBs, and sustainment brigades is required to ensure HR planners are properly synchronized with logistics and medical planners. Casualty estimates support operations planning, future force planning, and staff training. Casualty estimation and replacement requirements should be planned during course of action development to assess force strength for missions within the concept of operations and scheme of maneuver. This allows for establishing communications and electronic interface for personnel accountability and patient tracking early and enables timely and accurate information, especially during large-scale combat operations.

4-26. Mass casualties must be included in the planning process, as well as processing large-scale replacements. *Mass casualty* is defined as any number of human casualties produced across a period of time that exceeds available medical support capabilities (JP 4-02). The ASCC G-1 must continuously coordinate with the corps/divisions for proper personnel replacement flow in theater with allocated personnel replacement seats in the TPFDD. During large-scale combat operations, the Army's theater planners may anticipate a sustained percentage of casualties each day. The percentage of casualties per day will be based on the total number of deployed forces. These casualties will vary in severity of injury and represent killed in action, wounded in action, and disease and non-battle injuries. Army HR planners should anticipate having to replace the total casualties killed in action, captured, missing in action, wounded in action, and disease and non-battle injury. Army medical planners should anticipate having to support the total casualties that are wounded in action and disease and non-battle injuries.

Note. Medical is responsible for wounded in action and disease and non-battle injuries. Sustainment is responsible for killed in action.

4-27. The ASCC G-1/AG is responsible for developing personnel replacement requisitions as part of the deliberate planning process. HRC assists Army commands in developing personnel replacement force packages by using a reinforcement sourcing process. This process guides collectively trained Soldiers in crews, teams, or squads to combat in a manner that preserves their morale and fighting spirit, benefiting them and the units they join. See ADP 4-0, FM 1-0, and ATP 4-93 for more details.

ARMY HEALTH SYSTEM SUPPORT DURING CRISIS

4-28. Army operations during crisis are designed to prevent adversary opportunities to further exploit positions of relative advantage. AHS support, through synchronization and integration by the TMC, is a critical asset in the ASCC commander's mission to prevent/deter the escalation of future combat and positively impact the wellbeing of the host-nation population. Key AHS activities during crisis include the provision of medical support to flexible deterrence/response options and setting the theater for possible escalation. Medical planners continue support to the theater campaign plan and provide medical support to force projection activities.

4-29. During the transition to crisis, the surgeon sections at each echelon conduct planning refinement, coordination, synchronization, and integration of AHS support to flexible deterrence/response options. These options range from mobilization, force tailoring, repositioning forward-stationed medical assets, providing the medical plan for forces in-transit, and/or employing expeditionary medical assets. Surgeon sections at EAB derive or refine medical support requirements based on G-1 new or revised casualty estimates and modify medical plans for capability and capacity sufficiency.

4-30. Surgeon sections at EAB assess, plan, and coordinate medical activities in support of setting the theater in anticipation of possible expansion of theater operations. This includes continued evaluation of health threats, leveraging regional medical agreements, and procuring support to expanded medical operations. Theater-level medical command organizations or agencies, such as Defense Health Agency, continue conducting home station activities to maintain health readiness, support contingencies, and reassess the sufficiency of AHS capability generation to support rotational, expeditionary, and escalation force structures for contingency operations. As required, theater-level medical commanders provide medical support to enable the RSOI of incoming medical units. The chain of command for forward-positioned, rotational, and expeditionary operational medical units executes AHS support in accordance with established plans.

MEDICAL PLANNING TOOLS

4-31. The Joint Medical Planning Tool, the Medical Planners' Toolkit, and the Medical Contingency Requirements Workflow are planning tools approved for calculation of medical requirements. The Joint Medical Planning Tool and Medical Planners' Toolkit are fully integrated for versatility and enhanced medical planning efficiency.

4-32. The Joint Medical Planning Tool is a computer-based simulation tool developed by the Naval Health Research Center. It supports research, medical systems analysis, operational risk assessment, and field medical services planning. The Joint Medical Planning Tool is based on empirical data, including over 400

patient conditions and their associated medical treatment tasks, times, consumable supplies, and the equipment necessary to accomplish patient care. It also includes algorithms that calculate died of wounds due to treatment delay and complications. The Joint Medical Planning Tool spans the spectrum of theater-based roles of care and emulates all Service MTFs and their respective functional areas, including the number and type of personnel and the type, speed, and capacity of transportation assets.

4-33. The Medical Planners' Toolkit provides planners an end-to-end solution for medical support planning across the range of military operations. The Medical Planners' Toolkit combines several tools, the Patient Conditions Occurrence Frequency tool, the Casualty Rate Estimation Tool, and the Expeditionary Medicine Requirements Estimator, into a single desktop application. This allows the user to manage the frequency distribution of probabilities of illness and injury and estimate of casualties in a wide variety of military scenarios. See JP 4-02, ATP 4-02.55, and ATP 4-02.7 for additional information.

4-34. The Medical Contingency Requirements Workflow is web-based and resides in the unclassified domain for users to perform Class VIII analysis, run scenarios for contingency supply forecasting, and provide a variety of theater strategic, operational, and tactical tailorable support through national stock number and assemblage research capability. Medical Contingency Requirements Workflow also generates materiel item estimates using clinical treatment protocols supporting military and civilian patient-generating scenarios.

SECTION III – ROLES AND RESPONSIBILITIES BY ECHELON

THEATER ARMY ROLES DURING CRISIS

4-35. The theater Army commands all Army forces in the AOR until the CCDR attaches selected Army forces to a subordinate JTF. The theater Army is the lead for RSOI operations for arriving forces. Until another organization can assume the role, the theater Army initially divides its responsibilities between the Army component (the ARFOR) in the JOA or theater of operations and Army forces operating in other parts of the AOR. This may require force tailoring by the theater Army to develop the initial request for forces, followed by additional task organization as forces arrive in the AOR.

THEATER SUSTAINMENT COMMAND

4-36. The TSC continues to support operations during crisis by conducting set the theater and security cooperation activities throughout the AOR. The TSC's priority of effort still focuses on sustaining deployed forces. If the TSC has an attached ESC, that ESC may focus on select operational activities such as operational area opening activities, Army support to other Services, and sustaining deployed forces in the AOR. This division of responsibilities enables the TSC to continue focusing on long-range planning to set the theater.

4-37. The TSC is responsible for supporting RSOI operations conducted by the theater Army. Effective RSOI consists of the processes that transform arriving personnel and equipment into forces capable of meeting operational requirements in accordance with established timelines. During RSOI, Army units are attached from the supporting commander (usually FORSCOM) to the theater Army. The theater Army task organizes Army units as TACON to the TSC.

4-38. During crisis, the theater petroleum and water group (in coordination with the supported unit G-4 staff) continues to refine the petroleum concept of support and begin distribution of petroleum, oils, and lubricants (POL) and water to forward storage facilities. The theater petroleum and water group staff reviews and refines fuel consumption estimates and requirements to ensure effective petroleum distribution is available to meet tactical requirements. Fuel consumption estimates must be accurate in order to develop realistic plans in support of tactical forces. During crisis operations, POL and water units increase security and quality surveillance measures to ensure availability and quality of bulk fuel and water to support operational requirements.

4-39. Risk, uncertainty, operational security, and chance are inherent in all military operations. Sustainment professionals must seek to understand, balance, and take calculated risks rather than avoid risks to ensure sustainment of the operational force. Sustainment commanders must assess and mitigate risk continuously throughout operations. These risk considerations and others should be addressed, and mitigation

strategies/alternatives developed as part of the sustainment plan. The following is a list of risk considerations (not all inclusive) during crisis operations:

- Will the sustainment activities place the tactical plan at risk (for example, provide the enemy with sufficient information to know the plan)?
- Have risk reduction measures been implemented and operational security measures been established to mitigate risks to operations? Are there sufficient forces to support combat operations if crisis operations are not successful?
- Will sustainment activities precipitate transition to armed conflict?
- Are sustainment systems hardened against cyber-attack? How do you validate requirements received through electronic systems? Does the threat have the capability to change information verses directed denial of service attacks?
- Is coordination with host nations sufficient to ensure smooth flow into and out of APODs and SPODs? Have limits of host-nation ports been considered (for example, net explosive weight limitations and hazmat requirements) and planned to be accommodated?
- Are security measures in place to protect critical resources such as commercial line haul, storage sites, stocks, caches, and critical infrastructure?

TAILOR ARMY FORCES

4-40. Force tailoring combines two complementary requirements-selecting the right forces and deploying the forces in the optimal sequence. Much of the effort for selection and deployment order occurs prior to deploying forces to a theater.

4-41. Throughout the process, sustainment commands work with the theater Army sustainment staff to track force composition and order of deployment to ensure support is available to sustain the force package. The right types and number of sustainment units should be integrated early into the force flow.

4-42. Selecting the right force involves identifying, selecting, and sourcing required Army capabilities and establishing their initial task organization to accomplish the mission. The result is an Army force package matched to the needs of the CCDR. The theater Army works with force providers (for example, FORSCOM and USAMC) to match the composition of the force with the forces identified in theater security cooperation plans or contingency plans. In the deliberate sustainment planning process, it is critical the Center for Army Analysis analyzes contingency plans and provides battle damage attrition estimates to the theater Army, TSCs, and USAMC LCMCs to ensure that adequate depot maintenance, calibration, and repair forward activities support is identified and integrated into the force flow for planning purposes.

4-43. Force tailoring establishes the order of deployment for the force package, given the available lift and the CCDR's priorities. The organization established in force tailoring is not necessarily the same as the task organization for combat. It is a macro-level organization established to control the forces through deployment and RSOI.

4-44. The Army National Guard and the Army Reserve makeup the Army Reserve Components. The Army National Guard represents Component 2, and the Army Reserve represents Component 3. Together, these two make up over half of the Army's total force.

4-45. The Army Reserve Components are largely composed of sustainment and maneuver support forces. Almost 84 percent of the Army's sustainment force structure is in the Army Reserve Components. Army Reserve sustainment capabilities are essential for the operating force and provide the preponderance of sustainment, civil affairs, and psychological operations capabilities.

4-46. The Army Reserve Components were not expected to deploy early into an operation. However, as the OE has changed and the balance of sustainment forces shifted from the Regular Army to the Army Reserves, Army Reserve Forces maintain higher levels of expeditionary readiness.

RECEPTION, STAGING, ONWARD MOVEMENT, AND INTEGRATION RESPONSIBILITIES

4-47. A critical portion of the deployment process often associated with crisis operations is RSOI. It is this process that delivers combat power to the JFC in an AOR. RSOI is also a process the Army has not been challenged with to the extent required for large-scale combat operations in recent history. The increased challenge will stem from the initial deployment of large forces and will continue with a heavy flow of

replacements. Accurate casualty estimates are a critical part of RSOI planning. RSOI goals are to link units with their equipment while maintaining a balanced flow of supplies, personnel, equipment, and units consistent with strategic lift capabilities and CCDR priorities.

4-48. Sustainment commands are assigned responsibilities for RSOI operations by the ASCC. The TSC will normally be assigned the responsibility of RSOI. Subordinate units of the TSC from an ESC, sustainment brigade, CSSB, down to a movement control team can be assigned specific tasks in support of RSOI. Specific tasks include feeding, billeting, limited supply, finance, personnel accountability, medical, battlefield orientation, maintenance, and transportation of replacements to their assigned units. Support for execution of RSOI is provided by some combination of theater support contracts, external support contracts (primarily LOGCAP), regionally available commercial HNS, military assets, and Component 2 or 3 units deployed early. It requires sufficient capabilities and capacity to provide the support required by arriving units at PODs. For example, heavy vehicle operators and mechanics are required to move and repair vehicles being downloaded from ships for onward movement. The TSC and/or ESC directs the operation of the theater's PODs and the AOR distribution networks to minimize bottlenecks that may impede the flow of cargo and forces into and throughout the theater.

4-49. Effective RSOI consists of the processes that transform arriving personnel and equipment into forces capable of meeting operational requirements in accordance with established timelines. Army units are attached from the supporting commander (usually FORSCOM) to the ASCC. The ASCC subsequently passes TACON of the unit to the sustainment command managing RSOI activities. RSOI is an ongoing series of four interrelated and overlapping processes that ensure synchronized clearance of nodes and assembly of combat power that is then rapidly transported to point of need to support operational requirements. Reception is the process of unloading personnel and equipment from strategic modes of transport, marshaling the deploying units, transporting them to staging areas, and if required, providing life support. Staging is the process of rapidly assembling and organizing arriving personnel and equipment into units and force packages that constitute combat power, and then preparing units and forces for onward movement. Life support is provided during reception and staging until the unit becomes self-sustaining. Onward movement is the process of moving combat power and supplies from reception facilities and staging areas to tactical assembly areas or other locations as designated by the CCDR, moving arriving non-unit personnel and replacements to gaining commands, and moving arriving sustainment materiel from reception facilities to distribution sites. The sustainment command then transfers TACON of the units to the gaining JFC or joint functional command for integration.

4-50. The role of the DSB during RSOI operations is to go through RSOI and then provide support to its division going through RSOI. The sustainment command responsible for conducting RSOI must consider the DSB a tactical unit and not part of the RSOI support structure. The DSB must be able to complete the RSOI process and move forward to a tactical assembly area with its supported division.

4-51. Success of RSOI is measured by force closure. Force closure is the point in time when a supported JFC determines that sufficient personnel and equipment resources are in the assigned operational area to carry out assigned tasks. It is essential during RSOI operations that data relating to arriving unit personnel, unit equipment, contractors, and containers be captured at each point of entry into the theater (for example, APODs, SPODs, railheads, and border crossings) to facilitate personnel/asset accountability and force closure reporting. For more information on force projection, see JP 3-35, ATP 3-35, and FM 1-0.

4-52. The execution and support of RSOI requires a complement of various capabilities and units, which when synchronized and integrated, can efficiently and effectively receive and move forces (personnel and equipment) to key staging areas for assembly and onward movement while sustaining forces remaining behind. The optimal mixture of support and enablers tailored to receive forces will minimize the time it takes for units to maneuver through the RSOI process. Three main nodes/functions (APOD, SPOD, and ISB) are each slightly different in their makeup, yet connected to each other through the transportation of equipment, personnel, and materials. The amount of distribution assets on ground during the early phases of conflict directly correlate to a commander's ability to rapidly transition from crisis operations to large-scale combat operations. Planners should focus on the early deployment of sustainment assets during crisis. RSOI planners will need to assess the threat risk as well as mission priority when determining the arrival and integration of units and enablers executing and supporting RSOI. The most common enablers from Army sustainment formations required for RSOI are—

- Transportation assets: Inland cargo transfer companies for their materiel handling equipment and vessel offload capabilities, transportation truck companies, heavy equipment transportation companies for movement of tracked vehicles, and movement control teams for traffic circulation.
- Quartermaster assets: Quartermaster companies for feeding, materiel storage and distribution, POL companies for fuel storage and distribution.
- Ordnance assets: Modular ammunition company to provide ammunition to units prior to their onward movement. Maintenance assets augmented by contracted support to maintain vehicle readiness throughout the process.
- Medical assets: Operational medical units to provide AHS support to units prior to their onward movement.
- HR assets: Typically located at theater gateways and various intratheater ports of debarkation to assist with initiating and establishing theater personnel accountability and personnel tracking.
- Financial management assets: Finance units assist arriving units with disbursing and payment support. Arriving unit resource managers coordinate technical arrangements with the theater Army G-8 for funding, capturing costs, and reporting requirements.

4-53. In addition to the sustainment capabilities mentioned above, there are other assets that play a vital role in RSOI. These assets provide additional infrastructure capabilities, security, protection, and command and control of the RSOI process. EOD personnel provide commanders the ability to quickly respond to explosive ordnance threat situations as they occur. Military police provide force protection for units conducting RSOI and convoy escorts for units moving from reception to staging areas. The United States Army Corps of Engineers can provide infrastructure improvements, establish power grids, and determine power distribution for APODs, SPODs and ISBs. CBRN capabilities must also be part of the RSOI effort. CBRN reconnaissance elements will assess for any CBRN hazards, and decontamination elements support contamination mitigation. These assets must be requested and incorporated early in the flow of forces into theater to support RSOI at the APODs, SPODs, and ISBs.

INTERMEDIATE STAGING BASE

4-54. An ISB is a temporary location used for staging forces and sustainment and inserting and extracting forces into and out of an operational area. The ISB is the critical staging area with the focus of assembling all equipment, containers, and personnel as well as classes of supply (including mail) to support onward movement for a limited contingency operation.

4-55. ISBs enable the forward staging forces to accomplish tasks and provide support from a location closer to the contingency operation. To best use ISBs for forcible entry operations, planners can pair those two tasks with these three purposes: build capacity, conduct intermodal transfer, and disaggregate and aggregate forces. Sustainment planners should develop contingency plans for the use of multiple ISBs or points of entry into the JOA, as economic and political situations can rapidly deteriorate and result in the unexpected closure of bases. For more detailed discussion of ISBs, see JP 3-34, JP 3-35, ATP 3-37.10, and ATP 3-35.

PRINCIPLES OF THEATER DISTRIBUTION

4-56. The principles of distribution include centralized management; optimized infrastructure; maximized throughput; rapid and precise response; continuous, seamless, two-way flow of resources; and time-definite delivery. All these principles rely upon solid asset visibility, which enables distribution operations. Commanders, logistics planners, and logisticians performing theater distribution functions must understand each of these principles and consider how they are applied when developing strategic, operational, and tactical plans. See ATP 4-93 for additional information on the principles of theater distribution.

Centralized Management

4-57. Centralized management of the supply and transportation systems is essential for efficient and effective distribution operations. At the strategic level, USTRANSCOM's deployment and distribution operations center provides centralized management of distribution. At the operational and tactical level, the TSC or ESC DMC provides centralized management of the distribution system.

Control

4-58. Control of the distribution system is the focal point of centralized management. Sustainment command headquarters and staffs control distribution by providing direction and oversight of distribution processes and flow of materiel. Logisticians performing theater distribution functions exercise control through the identification of shipments and the monitoring of their location as shipments move through the distribution system.

Visibility

4-59. Visibility is the ability to see forces and commodities moving within the distribution system. Visibility includes asset visibility and in-transit visibility. Asset visibility provides situational understanding of the flow of materiel, including arrival and departure of unit personnel, equipment, and all cargo at all nodes, from origin to destination on all modes. In-transit visibility provides visibility and near-real-time status on the movement of all classes of supply.

Capacity

4-60. Capacity includes the measure of personnel and materiel that can move through the distribution system and the capability of the infrastructure to support a two-way flow of forces and materiel. The theater's infrastructure (roadways, sea and aerial ports, warehouses) will determine the capacity of its distribution system and logistics support framework. Availability of transportation assets, materiel handling equipment, air and ground transportation, and watercraft determine the capacity of the distribution system to deliver and accept materiel.

Optimized Infrastructure

4-61. Optimizing the theater infrastructure (roads, railways, waterways, structures, seaports, airports and open staging areas, other structures, distribution nodes, and warehouses) means synchronizing the movement of forces and materiel moving over or through the existing infrastructure. Planners must maintain a balance between distribution capability and the infrastructure capacity to support operations. The available vehicles (air, ground, and watercraft), sustainment units and personnel (Army and contractor), and assets (physical and organizational) affect distribution system optimization.

Maximized Throughput

4-62. Throughput refers to the quantity of cargo and passengers that can pass through a port or a transportation terminal on a daily basis. An efficient distribution system maximizes tonnage, minimizes handling, and improves velocity using containerization, pallets and flatracks. Maximizing throughput reduces the surface traffic on the physical network and therefore reduces Soldier risk.

Rapid and Precise Response

4-63. Rapid and precise response is the ability to receive, prioritize, and fill supported unit requests in the minimum time possible, and in the exact quantity, quality, and point of need requested. The effectiveness of rapid and responsive distribution can be measured by assessing the following attributes, or key performance indicators:

- Speed is moving requirements according to priority at the rate that meets "the right time" condition of distribution.
- Accuracy is delivering requirements while meeting the "right thing" and "right place" conditions of distribution.
- Continuous, seamless, two-way flow of resources.
- Continuous and seamless pipeline.

Continuous, Seamless, Two-Way Flow of Resources

4-64. The continuous and seamless two-way flow of resources describes the flow of sustainment materiel and retrograde cargo between the strategic, operational, and tactical levels. It ensures transportation assets

are maximized in the delivery of sustainment and in support of retrograde and redeployment activities. Maximized transportation assets not only increase efficiency but also reduce operational energy consumption and enables all nodes and modes to operate effectively.

Time-Definite Delivery

4-65. Time-definite delivery is the consistent delivery of requirements at a specified time and destination. Time definite delivery is ensuring the right materiel is at the required location, in the right quantity, and within the required timeframe. It is based on the logisticians performing theater distribution functions and logistics planners anticipating needs to support operational requirements.

DISTRIBUTION NETWORK

4-66. Sustainment commands establish the initial distribution network in the operational area and synchronize and integrate intratheater deployment and distribution operations. These commands monitor all segments of the distribution network. The TSC establishes the initial distribution network in the operational area. The TSC synchronizes and integrates intratheater deployment and distribution operations. The TSC manages the strategic-to-operational links of the global distribution network. This includes the segment of the distribution network that begins at the strategic source of support and extends to the point of need. The ESC manages the operational-to-tactical links of the global distribution network. This includes the segment of the distribution network that begins at the POD or theater source and ends at the point of employment. Both the TSC and ESC have distribution management responsibilities executed through a DMC. The TSC or ESC will establish movement boards to manage transportation policies, priorities, LOC status, convoy security and synchronization, and transportation asset allocation to support theater distribution operations. The sustainment commands also provide command and control of organizations that execute distribution and distribution management and control capabilities.

CORPS ROLES DURING CRISIS

4-67. During crisis, the corps headquarters may deploy into an operational area as a tactical headquarters with subordinate divisions and brigades. Corps typically deploy an early entry command post, comprising selected personnel from within the headquarters, to provide command and control of arriving forces. Should crisis become armed conflict, large-scale combat operations may require the corps headquarters to function under the command of a multinational force land component or become subordinate to a field army equivalent established as part of a multinational coalition.

LIMITED CONTINGENCY OPERATIONS

4-68. In a limited contingency, a corps normally fills the role of the JTF or the joint force land component command. Normally, the commander of the JTF or joint force land component command exercises command and control over all forces and other resources in a JOA or ground forces in a JOA. If the corps is functioning as the joint force land component command, then it is also capable of filling the ARFOR role, and it often does.

CORPS SUSTAINMENT COMMAND

4-69. The CSC synchronizes and integrates sustainment operations for the corps during Army operations during crisis. It has two operational responsibilities in limited contingency operations:

- Synchronize and integrate sustainment support for the JOA.
- Support reception, staging, and onward movement within the JOA.

DIVISION ROLE DURING CRISIS

4-70. The division headquarters performs many of the same activities as the corps headquarters. The division headquarters fulfills its primary role as a tactical headquarters staffed, trained, and equipped to command two to five maneuver brigades and other subordinate brigades and battalions. One or more of these brigades may be allied formations. Upon deployment into a theater, a division may undergo significant task organization in preparation for its assigned roles during operations. During crisis, a division initially conducts defensive, security, and stability tasks in support of joint operations. The primary role of a division during crisis is to

demonstrate credible coercive force as a combined arms formation. Divisions should expect to conduct short-notice training exercises with multinational partners and perform other activities that demonstrate capabilities as part of crisis response. In an immature theater, a division headquarters should be prepared to accommodate the command structure of the next higher echelon until that echelon's systems are in place.

4-71. Some adversaries possess significant capability to employ antiaccess and area denial strategies across all domains. Countering those strategies is the responsibility of the JFC. The land component commander's challenge is conducting forcible entry operations and deploying significant combat power in an environment where the enemy has an initial advantage.

4-72. *Forcible entry* is the seizing and holding of a military lodgment in the face of armed opposition or forcing access into a denied area to allow movement and maneuver to accomplish the mission. (JP 3-18) These operations are complicated and always joint. In the case of a no-notice and/or crisis response mission, only hours separate the alert from the deployment.

4-73. The phases of a forcible entry operation are (1) preparation and deployment, (2) assault, (3) stabilization of the lodgment, (4) introduction of follow-on forces, and (5) termination or transition operations. Once an assault force seizes a lodgment, it normally defends to retain it while the JFC rapidly deploys additional combat power by air and sea.

4-74. Sustainment of these operations is normally divided into three echelons during deployment: assault, follow-on, and rear echelons. Sustainment of forces during early entry operations focuses on supply and distribution. This is accomplished by leveraging resupply by air including planned resupply, immediate airdrop resupply, and emergency airdrop resupply requests. The assault force is supported by both organic and external elements organized to distribute supplies, materiel, fuel, and ammunition forward by air or water LOCs. The exact organization and disposition of the assault and follow-on sustainment elements is a function of the assault force's mission and anticipated follow-on operations.

4-75. The DSB provides the foundational capabilities for enabling forcible entry. DSBs may perform specialized roles in rapid deployment operations from home station in support of forcible entry. Once deployed, the DSB and its task-organized subordinate units focus on sustaining both the assault and introduction of follow-on forces.

4-76. As sustainers plan for support of the force entering the theater, they also consider requirements during crisis operations that may differ in scale, scope, or type from those associated with other operations. Planners identify and account for unique requirements such as—

- Establishing civil security and control.
- Supporting essential services requirements.
- Integrating non-organic sustainment capability.
- Providing support to infrastructure development, such as general engineering support.
- Providing direct or indirect support to unified action partners.
- Building POL stockage objectives and intertheater and intratheater days of supply.

CONSOLIDATION OF GAINS DURING CRISIS

4-77. During and after crisis response, Army forces consolidate gains to deny adversary forces the means to extend the crisis or create a similar crisis in the future. This will often entail maintaining an enhanced force posture in a JOA for a period of time to demonstrate U.S. willingness to defend allies and partners. Army forces continue to support improvements to host-nation capabilities through a security cooperation plan designed to make them less vulnerable to future crisis. If an adversary directly targets partner forces, or acts through a proxy, the United States must be prepared to reconstitute the partner's forces as quickly as possible. The ability of Army forces to reconstitute partner nation forces is especially important to JFCs since, in many areas, only the Army has the capacity to conduct a comprehensive security cooperation program. Many allies and partners rely primarily on their armies and do not have robust navies or air forces. Consolidating gains during and after crisis response creates enduring change that reinforces deterrence against adversaries and improves relative advantages for U.S., allied, and partner forces.

TRANSITION TO COMPETITION AND ARMED CONFLICT

4-78. During a crisis, partner-nation security forces and government institutions may suffer losses that reduce capability and capacity due to the actions of adversary or proxy forces. Army forces may be tasked to execute security cooperation programs to help restore or maintain partner-nation capabilities and capacity as a means to consolidate gains. Army forces seek to restore partner security forces and government institutions as quickly as possible to maintain popular support. Doing so reduces the need for large numbers of U.S. forces to deploy in the future or be maintained in theater to support or enable a partner nation's security. A quick recovery also highlights the strength of the alliance or bilateral relationship of a partner nation with the United States.

4-79. Army forces responding to a crisis are prepared for and expect to fight. This saves time during the transition and requires an understanding of the OPLAN or likely concept of operations as early as possible. Forward-positioned forces reposition into battle positions or tactical assembly areas and take all available measures to protect themselves from attack in every domain as they prepare for combat. When located with allied or partner units, Army forces synchronize their activities to ensure unity of purpose and mutual support.

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Chapter 5

Sustainment Operations During Armed Conflict

This chapter provides an overview of sustainment operations during armed conflict. This chapter covers sustainment of large-scale combat operations, sustainment of defensive operations, and sustainment of offensive operations. This chapter concludes with a discussion on the transition from conflict to competition or crisis.

SECTION I – ARMED CONFLICT AND LARGE-SCALE COMBAT OPERATIONS

5-1. Armed conflict encompasses the conditions of a strategic relationship in which opponents use lethal force as the primary means for achieving objectives and imposing their will on the other. The employment of lethal force is the defining characteristic of armed conflict, and it is the primary function of the Army.

5-2. During armed conflict, operations usually reflect combinations of conventional and irregular warfare approaches. Leaders apply doctrine for large-scale combat operations during limited contingencies that require conventional warfare approaches. Irregular warfare includes counterinsurgency and unconventional warfare. The initial actions of large-scale combat operations will likely overlap with actions initiated during competition and crisis.

5-3. Large-scale combat operations are extensive joint combat operations in terms of scope and size of forces committed, conducted as campaigns aimed at achieving operational and strategic objectives through the application of force. Large-scale combat on land occurs within the framework of a larger joint campaign, usually with an Army headquarters forming the base of a joint force headquarters. These operations typically entail high tempo, high resource consumption, and high casualty rates. Large-scale combat introduces levels of complexity, lethality, ambiguity, and speed to military activities not common in other operations.

5-4. Large-scale combat operations occur in circumstances usually associated with state-on-state conflict, and they encompass divisions and corps employing joint and Army capabilities from multiple domains in a combined arms manner. Irregular warfare activities often complement large-scale combat operations, with conventional, irregular, and special operations forces conducting operations close to each other.

5-5. Successful large-scale combat operations defeat enemy armed forces while establishing control over land and populations to achieve operational and strategic objectives. They may capitalize on superior military capability to quickly overwhelm a weaker enemy and consolidate gains as part of a rapid campaign. Large-scale combat operations against more capable enemy forces are likely to be of longer duration, lasting months or longer.

OPERATING AS PART OF THE JOINT FORCE

5-6. The Army always fights as part of a joint force, and usually as part of a multinational coalition during large-scale combat operations. Because CCDRs often assign the senior Army commander as the JFLCC, it is imperative that Army leaders from the JFLCC to division level understand the integration of operations on land with those in the other domains for the joint force.

5-7. The Army supports the joint force by providing the capabilities and capacity to apply sustained combined arms landpower through movement, close combat, and fires at whatever scale is necessary to defeat enemies on land. It does this by employing capabilities from the land, maritime, air, space, and cyberspace domains in support of ground operations on land and employing ground-based capabilities to enable operations in the other domains.

CONDUCTING LARGE-SCALE COMBAT OPERATIONS

5-8. During large-scale combat operations, Army forces conduct offensive, defensive, and stability operations to defeat enemy forces. Defeat of enemy forces in close combat is normally required to achieve campaign objectives and national strategic goals after the commencement of hostilities. Divisions and corps

are the formations central to the conduct of large-scale combat operations, as they are organized, trained, and equipped for the deep, rear, and support operations that enable subordinate success during close combat. The ability to prevail in ground combat is a decisive factor in breaking an enemy's will to continue a conflict. Conflict resolution requires the Army to conduct sustained operations with unified action partners as long as necessary to achieve national objectives.

SUSTAINING LARGE-SCALE COMBAT OPERATIONS

5-9. Large-scale combat operations require greater sustainment than other types of operations across the operational framework. See FM 3-0 for additional information on the operational framework. Their high tempo and lethality significantly increase maintenance requirements and expenditure of supplies, ammunition, and equipment. Large-scale combat incurs the risk of mass casualties, which increase requirements for medical, fatality management, and large-scale personnel and equipment replacements. Large-scale combat operations demand a sustainment system that can move and distribute a tremendous volume of supplies, personnel, and equipment.

5-10. Army sustainment is a key enabler of the joint force on land. Army forces provide sustainment to other elements in the joint force according to the direction of the JFC. The JFC has the overall responsibility for sustainment throughout a theater, but the JFC headquarters executes many of its sustainment responsibilities through the TSC. When directed, Army sustainment capabilities provide the bulk of Army support to other Services through executive agency, CUL, lead Service, and other common sustainment resources. See JP 4-0 for more information on joint sustainment.

5-11. Successful sustainment operations strike a balance between protecting sustainment capabilities and providing responsive support in the execution of deep, close, and rear operations. A well-planned and executed logistics operation permits flexibility, endurance, and application of combat power. Plans must anticipate and mitigate the risk posed by enemy forces detecting and attacking friendly sustainment capabilities. Sustainment formations pursue operations security, survivability, and protection with the same level of commitment as all other forces. While most rear and support operations are economy of force endeavors when allocating combat power in divisions and corps, the continuity and survivability of those operations are vital to deep and close operations.

5-12. Dispersion of assets and redundancy help protect sustainment formations as part of rear operations. Dispersing sustainment formations makes it less likely that enemy long-range fires can destroy large quantities of materiel. Dispersion also creates flexibility, as several nodes can execute the sustainment concept without a single point of failure. However, dispersed sustainment operations complicate command and control and can be less efficient than a massed and centralized approach. Commanders balance the risk between dispersion and efficiency to minimize exposure to enemy fires while maintaining the ability to enable the supported formation's tempo, endurance, and operational reach.

5-13. Commanders must plan for the possibility of heavy losses to personnel, supplies, and equipment. Even with continuous and effective sustainment support, units may rapidly become combat ineffective due to enemy action. Commanders at all levels must be prepared to conduct reconstitution efforts to return ineffective units to a level of effectiveness that allows the reconstituted unit to perform its future mission. For additional information see ATP 3-94.4.

SUSTAINING ENABLING OPERATIONS

5-14. Enabling operations set the friendly conditions required for most operations. Commanders direct enabling operations to support the conduct of offensive, defensive, and stability operations and defense support to civil authorities tasks. The execution of enabling operations alone does not directly accomplish the commander's end state, but enabling operations must occur to complete the mission. Examples of enabling operations are reconnaissance, security, troop movement, relief in place, passage of lines, countermobility, and mobility. While sustainment supports all enabling operations, troop movement and combined arms mobility require the most sustainment support. See FM 3-0 for additional information on enabling operations.

SUSTAINING TROOP MOVEMENT

5-15. *Troop movement* is the movement of Soldiers and units from one place to another by any available means (FM 3-90). Troop movements are made by different methods such as dismounted and mounted marches using organic combat and tactical vehicles; motor transport; and air, rail, and water means in various combinations. The method employed depends on the situation, the size and composition of the moving unit, the distance the unit must cover, the urgency of execution, and the condition of the troops. It also depends on the availability, suitability, and capacity of the different means of transportation. Troop movements may also be used as a form of deception. Concealing troop movements may deceive the adversary and divert their efforts from the main objective. See ADP 3-90 for additional information on troop movements. Troop movements over extended distances have extensive sustainment considerations. Movement control boards are critical for planning and enabling troop movement. Movement control boards support synchronization and coordination of troop movement against distribution priorities. For additional information, see ATP 4-16.

ROAD MOVEMENT

5-16. Road movement is a route synchronization plan that involves movement of forces from PODs, redeployment of forces to ports of embarkation, movement of supplies and equipment, and movement of units. The goal of route synchronization planning is to sustain movements according to the commander's priorities and make the most effective and efficient use of the road networks. It requires synchronization and coordination with planners of unit movement and maneuver. Planning is done in a logical sequence and results in the publication of the route synchronization plan. The unit movement officer coordinates movement planning during deployments, redeployments, and other moves. For additional information, see ATP 3-35 and ATP 4-16.

ARMY AIR MOVEMENT

5-17. Army air movements are operations involving the use of utility and cargo rotary-wing assets for other than air assaults. Commanders conduct air movements to move troops and equipment, to emplace systems, and to transport ammunition, fuel, and other high-value supplies. Commanders may employ air movements as a substitute for ground tactical movements. Air movements are generally faster than ground tactical movements, but air movements can be vulnerable to enemy air defense systems or influenced by bad weather. The same general considerations that apply to air assault operations also apply to Army air movements. For additional information, see FM 3-0, FM 3-04, and FM 3-99.

RAIL AND WATER MODES

5-18. Operating forces can use rail and water modes of transportation to conduct troop movements if these are available in an AO. Their use can provide flexibility by freeing other modes of transport for other missions or circumventing closed or high-threat highway routes. Their use normally involves a mixture of military and commercial assets, such as defense freight railway interchange railcars pulled by privately owned diesel-electric engines to transport tanks along railroad rights-of-way from one rail terminal to another. Responsibility for coordinating the use of railroads and waterways resides in the ARFOR headquarters in the theater of operations.

MOVEMENT CONTROL DURING LARGE-SCALE COMBAT OPERATIONS

5-19. Sustainment of troop movement is achieved through movement control. Movement control links the tactical employment and sustainment of forces to national and operational objectives. During the execution of large-scale combat operations, movement control prioritizes and synchronizes movements to support actions in the division rear, close, and deep areas. Coordination and synchronization of organizational movements are planned and initiated from the theater strategic level and flow from the TSCs DMC through the TMCE, ESC DMC, and the corps transportation officer. At the operational and tactical level, the division transportation officer, sustainment brigade SPO officer, movement control battalion, and movement control team ensure the seamless execution of all movements generated from a transportation movement request. A movement control team can be attached or OPCON to a corps or division headquarters and placed under the control of the corps transportation officer or division transportation officer to augment that staff and assist in providing a range of transportation support planning, programming, and operations required to support the

range of military operations. For additional information on the movement control process, see ATP 4-16, ATP 4-91, ATP 4-92, ATP 4-93.

SUSTAINING MOBILITY

5-20. Freedom to move and maneuver within an operational area is essential to the application of combat power and achieving results across the range of military operations. An OE will present numerous challenges to movement and maneuver. These are typically overcome through the integration and synchronization of mobility and countermobility in support of mission requirements. Sustainment units should be prepared to support gap crossing operations and aviation assets during the movement of maneuver troops. For additional information, see ADP 3-37, ATP 3-39.30, ATP 3-90.4, and ATP 3-90.8.

SUSTAINMENT OF GAP CROSSING OPERATIONS

5-21. Gap crossing operations require maneuver forces to break formations, concentrate within lanes or at crossing points, and reform on the far side before continuing to maneuver. Gap crossing types are deliberate, hasty, and covert. Gap crossings require large amounts of indirect fire support for obscuration and suppression that generate logistics requirements for ammunition and transportation. The amount of resources required to obscure the crossing is dependent on multiple variables such as duration required, weather, and terrain. Obscuration requires close coordination, control, and detailed planning to maximize the desired effects on the enemy while not degrading friendly capabilities. Artillery units conducting suppression and obscuration missions will displace frequently for survivability, requiring pre-positioning of munitions at various firing positions and position areas.

AVIATION OPERATIONS

5-22. Aviation operations related to sustainment increase mobility for light forces, offer aeromedical evacuation support, and provide additional options for distribution. These operations may include rotary, fixed-wing, and unmanned aerial systems. Sustainment forces should expect fuel and ammunition requirements to increase during aviation operations. Sustainment units should be prepared to conduct aerial resupply for maneuver forces. Planning considerations for aerial delivery should include type of airdrop asset and type of aerial delivery operation. Special planning considerations must include the fuel required by the aviation force at fluctuating rates. For example, a company of CH-47 Chinooks could consume as much as 40,000 gallons of fuel in as little as two days, or it could consume almost no fuel in two days based on weather and operational considerations. The brigade aviation element is critical to coordinating aviation as an enabler. See FM 3-04 for additional details.

ENEMY THREAT CONSIDERATIONS FOR SUSTAINMENT FORCES

5-23. Enemy forces possess a wide range of space, air, maritime, and land-based intelligence, surveillance, and reconnaissance capabilities that can detect U.S. forces. These capabilities present risk to U.S. forces and risk to mission accomplishment. Leaders must assume they are under constant observation from one or more domains and continuously ensure they are not providing lucrative targets for the enemy to attack. One way of accomplishing this is reducing power usage and electromagnetic signatures. The challenges posed by enemy forces are massed and precision fires against static or fixed forces; air and missile threats including loitering munitions and other unmanned aircraft systems; degraded communications; areas and resources contaminated by CBRN; fixed and bypassed enemy formations; enemy infiltration and targeting of vulnerable units first; and enemy influence campaigns.

5-24. Army sustainment forces must prepare for continuous visual, electromagnetic, and influence contact with adversaries. Sustainment forces are under persistent visual surveillance by enemy space and other capabilities. Sustainment forces and individuals are in constant electromagnetic contact with adversaries who persistently probe and disrupt individual, group, and Army capabilities dependent on space and cyberspace domains. Army forces are subject to adversary influence through disinformation campaigns targeting Soldiers and their families and friends through social media and other platforms.

The Russo-Ukraine War and Large-Scale Combat Operations Sustainment Challenges

In February 2022, after a months-long build-up of troops on their shared international border, armed forces of the Russian Federation invaded Ukraine. Though low-level fighting had been ongoing between Russian backed separatists and the Ukrainian Armed Forces since 2014, this invasion was a massive escalation, seemingly aimed at capturing the whole of the eastern Donbas region as well as the capital of Kyiv. An initial multi-pronged assault employed ballistic missile strikes, fixed and rotary wing aviation, paratroopers, and mechanized units. It was, and as of this writing continues to be, the largest ground conflict in Europe since the end of the Second World War.

There are multiple sustainment lessons that can be extracted from this conflict on the strategic, operational, and tactical levels. At the strategic level, the most pertinent one may be that conduct of large-scale combat operations is a war of 'materiel'. It has and will continue to consume munitions, combat systems, and supplies at a rate that has not been seen in decades.

At the operational level, the conflict has highlighted the challenges with conducting reconstitution of battle-damaged formations while continuing combat operations in the same theater of operations. Allies and partners, for both sides, will continue to play an essential role in the rebuilding of combat power.

At the tactical level, the Russo-Ukraine War has shown the vulnerability of sustainment nodes to interdiction and attack. The proliferation of multiple sensors across the battlefield, from a soldier with a cell phone to commercial drones and unmanned aircraft systems, make the operating environment 'transparent' to a degree not seen before in warfare. This has caused both combatants to move their supply nodes and other sustainment assets well behind the front lines. The challenge of tactical distribution in large-scale combat operations is one that will require dispersion, precision, and innovativeness of logistics commanders and forces.

5-25. During competition, enemy forces are capable of employing multiple methods of collecting on Army sustainment forces to develop an understanding of sustainment capabilities, readiness status, and intentions. Enemy forces are capable of doing this inside and outside the continental United States. They employ space-based surveillance platforms to observe unit training and deployment activities. They employ cyberspace capabilities to penetrate networks and gain access to individual and group cyberspace personas to create options for future intimidation, coercion, and attack. During armed conflict, the enemy can employ networked land, maritime, air, and space-based capabilities to detect and rapidly target sustainment forces with fires. U.S. forces that are concentrated and static are easy for enemy forces to detect and destroy. Dispersion of sustainment forces and resources has multiple survivability benefits. It increases opportunities to use cover and concealment to reduce probability of detection. In the event the enemy detects elements of sustainment forces, dispersion acts as a form of deception, helping to conceal their intentions. Sustainment leaders must only concentrate forces when necessary and balance the survivability benefits of dispersion with the negative impacts dispersion has on mission effectiveness.

5-26. A *threat* is any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interest, or the homeland (ADP 3-0). Threats may include individuals, groups of individuals, paramilitary or military forces, nation-states, or national alliances. In general, a threat can be categorized as an enemy or an adversary.

5-27. FM 4-0 is focused on sustaining large-scale combat operations against peer threats in an OE with challenges across multiple domains. A peer threat is an adversary or enemy with capabilities and capacity to oppose U.S. forces across multiple domains worldwide or in a specific region where it enjoys a position of

relative advantage. Peer threats present credible challenges to sustainment forces through the use of information warfare, isolation, systems warfare, preclusion, and sanctuary. Other considerations such as contested LOCs and antiaccess and area denial techniques coupled with challenges across multiple domains challenge sustainment support to operations. Sustainment commanders must consider the OE and all factors that affect their ability to sustain operations during planning.

5-28. Peer threats have the ability to influence and direct irregular forces, criminal elements, and hostile populations and impose disruptive effects in cyberspace that will challenge Army sustainment during pre-deployment, deployment, employment, and redeployment. These disruptive effects may occur at unit home stations, ports of embarkation, while in transit to the theater, and upon arrival at ports of debarkation as well as within the theater.

5-29. Peer threats employ their capabilities across multiple domains to attack U.S. vulnerabilities, including sustainment facilities, networks, and formations. They use their capabilities to create lethal and nonlethal effects throughout an OE. During combat operations, threats seek to inflict significant damage across multiple domains in a short period of time. They seek to delay U.S. forces long enough to achieve their goals and for U.S. forces to reach culmination. One effective way to delay U.S. forces, which generally operate on very long LOCs, is to disrupt sustainment operations and nodes. Peer threats can also disrupt contracted support capabilities through predatory economics, cyber-attacks, intimidating contractors or companies, misinformation and disinformation that disrupt host/local support, competing for resources, and bidding up prices. The adversary will build up their capability to do these things to favor their objectives during competition, and to set conditions in their favor if competition transitions to conflict. See FM 3-0 for additional information on peer threats.

5-30. Threat forces may employ tactics that force the United States Army into conducting large-scale combat operations in urban areas. Currently more than 50 percent of the world's population lives in urban areas, and this is likely to increase to 70 percent by 2050, making large-scale combat operations in cities likely. Large-scale combat operations in urban terrain are complex and resource intensive. In most urban operations, the terrain, dense population, military forces, and unified action partners will further complicate sustainment operations. For additional information on operations in urban areas, see ATP 3-06.

5-31. Threat use of subterranean spaces and structures (any space or structure located below ground) as a means to covertly maintain the initiative against a more powerful military opponent may occur during large-scale combat operations. Such spaces and structures can be used for command and control, defensive networks, operations, storage, production, or protection. Continued improvements in the construction of subterranean environments have increased their usefulness and their proliferation. For additional information, see ATP 3-21.51.

IMPLEMENTING DISPERSION FOR SUSTAINMENT FORCES

5-32. *Dispersion* is the spreading or separating of troops, materiel, establishments, or activities, which are usually concentrated in limited areas to reduce vulnerability (JP 5-0). Sustainment leader efforts to preempt and mitigate enemy detection are essential, but they cannot eliminate the risk of enemy massed and precision fires, including CBRN and weapons of mass destruction. To improve survivability from enemy indirect fires, Army sustainment forces must maintain dispersion and remain as mobile as possible to avoid presenting themselves targets to the enemy systems. If sustainment forces are required to remain static, those forces employ survivability techniques to avoid or withstand hostile actions or environmental conditions. See ATP 3-37.34 for information on survivability operations.

5-33. Sustainment commanders, including the TSC and ESC, have options for achieving dispersion. They can use split command post operations to achieve dispersion while maintaining command and control over widely dispersed forces. At the operational level, sustainment commanders maintain dispersion by employing multiple staging areas, base clusters, and multiple LOCs. Vetting the ability to maintain command and control of over widely dispersed forces in base clusters can be tested during training and exercises. At the tactical level, sustainment commanders achieve dispersion by increasing the distance between sustainment formations and among the elements of the supported force. In the offense, sustainment forces should utilize multiple routes and longer march intervals as practical to support the maneuver commander's intent and only concentrate forces enough in base clusters to support the massing of effects. In the defense, sustainment forces occupy areas far enough away from anticipated action to prevent their detection and destruction by

enemy deep fires. See FM 3-0 for additional information on being under constant observation and all forms of enemy contact.

RECONSTITUTION OPERATIONS

5-34. The scale, complexity, and increased destructive power of large-scale combat operations results in greater loss of personnel, weapon platforms, supplies, and equipment than other types of operations. The objective of reconstitution operations is to restore combat power and build and maintain unit strength within a limited window of time. Under exceptional conditions, with severely degraded units, constrained time, and limited or no personnel replacements, commanders may make the decision to execute reconstitution. Reconstitution operations are extraordinary actions that commanders take to restore degraded units to an acceptable level of combat effectiveness as determined by the commander, commensurate with mission requirements, available time, and resources. Reconstitution must be planned and resourced during competition. Commanders directing reconstitution missions use assets under their control, along with those provided by higher echelons. For additional information, see ATP 3-94.4.

SUSTAINMENT PLANNING CONSIDERATIONS

5-35. Commanders and staffs should be very deliberate in planning sustainment support and only plan for support that is absolutely essential to mission accomplishment. Planning considerations include a known or anticipated support requirement, a known or anticipated problem, a readiness issue, a capability shortfall, enemy threat, or an aspect of operational or mission variables that influence sustainment support. If identified and used properly, planning considerations assist planners in identifying specific support or operational requirements based upon available information. Sustainment planners must also plan for execution of all sustainment functions (logistics, financial management, personnel services, and HSS) and their associated sub-functions at all echelons. This includes personnel replacement, casualty reporting, medical treatment, medical evacuation, and medical logistics/supply.

5-36. Planners must consider the scope of support provided by the DSBs. All units attached to the division are supported by the DSB and its organic DSSB. This includes the attached maneuver brigades as well as other organizations supporting the division's operation. Units such as engineer, military police, CBRN, and air defense may operate in the division's rear and support areas. If the scope of support requirements exceeds the capacity of the organic DSSB, additional modular logistics companies or an additional CSSB may be required. The division G-4 and the DSB commander must continually assess the situation and make organizational changes as necessary. Division units that have small or inadequate logistics planning and execution capabilities, such as the division artillery, should share information with the division G-4 and coordinate with the DSB for logistics planning and execution.

5-37. Planning for non-essential support puts unnecessary demands on already limited distribution and transportation assets and puts capability at needless risk. This may also deprive units of support for which they have a legitimate requirement. As an example, if heavy equipment transporter system support is needed for a mission with no additional transportation requirements, commanders should request a heavy equipment transporter system company, not a composite truck company (heavy). The composite truck company comes with additional, unneeded types of trucks that will only burden the mission and waste a critical asset that can be legitimately used elsewhere. Another example is the use of laundry and shower units. These may be desirable but unnecessary for mission accomplishment.

5-38. The tempo and lethality of large-scale combat operations may overwhelm maintenance, medical, personnel replacement, and mortuary affairs capabilities. Additionally, the strain of support to other Services and multinational partners will exact a heavy toll on already constrained sustainment resources. For example, the quantity of air and ground distribution assets required to fulfill the Army's role as lead service for bulk petroleum (when designated) will place significant demands on the Army in support of large-scale combat operations. As another example, the Army provides the single integrated medical logistics management and serves as theater lead agent for medical materiel for United States Central Command, United States European Command, United States Africa Command, and United States Forces Korea. Managing theater CL VIII supply support for the joint force will add complexity, especially given the variation in medical materiel used by each of the Services. Because of these factors, sustainment planning should include coordination, integration, and synchronization at all levels for reinforcing sustainment support to the joint force and multinational partners.

3rd Corps Support Command and Large-scale combat operations in OPERATION IRAQI FREEDOM

On March 19, 2003, ground operations for OPERATION IRAQI FREEDOM began. The planning and coordination for sustainment operations, however, began well before that date. Advance elements of the 3rd Corps Support Command (COSCOM) led by BG Charles Fletcher arrived in Kuwait on January 10, 2003. 3rd COSCOM not only had to coordinate with V Corps, the lead invasion force under LTG William Wallace, but also with its upper echelon, the Combined Forces Land Component Commander and Third Army Commander, LTG David McKiernan, and the 377th TSC under MG David Kratzer.

In the beginning, 3rd COSCOM had two corps support groups, the 7th and the 16th, and three separate battalions attached to it, totaling approximately 4,000 Soldiers. By the end of summer, it had quadrupled in size to approximately 17,000 soldiers in six corps support groups, five separate battalions, and a rear operations center. The personnel comprised an even split between Active Duty, Army Reserve, and National Guard components.

The 3rd COSCOM crossed the berm on March 21st behind the 3rd Infantry Division (Mechanized), the main striking force. BG Fletcher utilized four command posts reaching from Camp Arifjan up to the forward, embedded division elements to operate sustainment activities. From March 21st to April 18th, 3rd COSCOM moved with V Corps for a total of 828 miles. On April 19, the lead elements of 3rd COSCOM and the 24th Corps Support Group occupied the airbase near Balad, 45 miles north of Baghdad, and established Logistics Support Area – Anaconda. This became a primary sustainment hub for Operation Iraqi Freedom until American withdrawal from Iraq in December 2011. The establishment of the logistics support area signaled the change from offensive operations to defensive operations operating along a system of ground and air supply routes for American and allied forces in Iraq. 3rd COSCOM transferred responsibility to the 13th COSCOM on January 31, 2004.Logistics Planning Considerations

5-39. The high tempo of large-scale combat operations will result in gaps and seams that create both opportunities and risks as enemy formations disintegrate or displace. The variety of possible situations arising during large-scale combat operations requires that sustainment operators establish a flexible and tailorable distribution system in support of tactical commanders.

5-40. Distribution management, using all modes of transportation, is the method by which sustainment commanders and staffs move materiel and personnel from an originating point to the point of employment. The distribution system extends from ports of debarkation and supply points in the joint security area and extends to the forward line of troops. Distribution execution becomes ever more complex and threatened by enemy action as it moves from higher to lower echelons. Distribution planners must understand that retrograde of materiel, casualties, and human remains is a significant component of distribution and requires extensive planning and management. Well-developed distribution plans, synchronized across all warfighting functions and echelons with redundancy, are critical to ensure all units have the materiel and personnel needed for maximum capability. Figure 5-1 displays a graphic depiction of a distribution network.

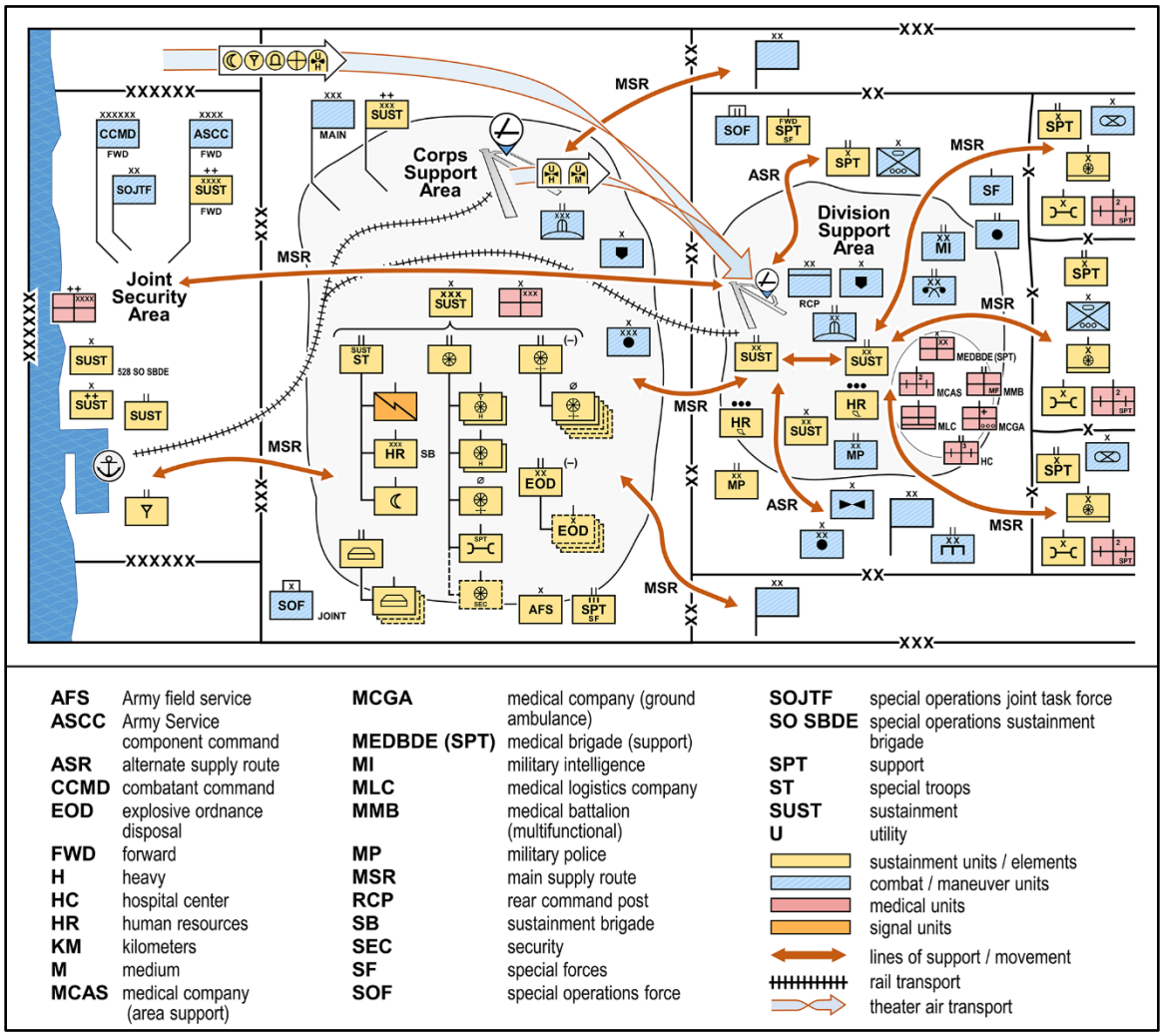


Figure 5-1. Distribution network

5-41. Sustainment planning is not a singular activity, but both a continuous and a cyclical part of the operations process. While planning may start based upon receipt of a specific mission as part of an iteration of the operations process, planning does not stop with the production of an order. During preparation and execution, the plan is continuously assessed against pre-established requirements and refined as the situation changes. Sustainment plans must be continually assessed to diagnose problems and determine trends that may positively and negatively affect operations. Thorough assessment of measures like died-of-wounds rates, percentage of requisitions filled, operational readiness rates, and funding authorities and funds available (status of funds) can indicate areas that require additional analysis and emphasis during execution. Feedback from subordinate units and supported formations can also contribute to this insight.

5-42. Sustainment planners should expect maneuver units to be degraded to a large degree in supplies, communications, and equipment readiness due to equipment failure attributed to tempo and operational loss. Planning considerations must factor in major end item battle loss attrition, battle damage sustainment, and how the depots project OCONUS capabilities to support the OPLAN. During the set the theater planning process, theater Armies and their supporting TSCs must coordinate with the Center for Army Analysis and develop OPLAN battle loss and battle damage estimates with USAMC and its subordinate LCMCs. The TSCs, in conjunction with ASC and the LCMCs, need to plan for the footprint, support requirements, and force protection of depot maintenance forward repair activities.

5-43. Contracted sustainment support should include considerations for operational security and address the constraints and limitations of contracted support. Planning should address under what conditions contracted support should be used and where to emplace it on the battlefield. During large-scale combat operations, planners should be aware of the location of contracting organizations forward of the corps rear boundary. This is for both operational security and effectiveness. Many contracting vendors use local nationals that may gather essential elements of friendly information and communicate that information to threat entities which could compromise an operation and lead to failure. Although local contracting for services and commodities might be limited due to operational area effects and constraints, these elements are present to support the maneuver forces with requirements anticipation, development, and provision of support.

5-44. The transition from offensive operations to defensive operations requires sustainment forces to have Class IV stocks on-hand. Forces require every option to defend from attacks, and these include protective barrier material such as concertina wire, bastions, and lumber for overhead cover. Transitioning back to offensive operations may require aggregate for road repair, ford sites, and gap crossing preparation. Class IV is also required for detainee collection points and holding areas and theater detention facilities.

5-45. Sustainment planners should anticipate increased expenditures of munitions during large-scale combat operations that could exceed the availability in theater. The munitions section of the TSC and ESC DMC must monitor expenditure rates in relation to stockage levels, forecasts regarding current and future operations, and limitations to re-supply and recommend controlled supply rates to the CCDR. Reconciling controlled supply rates and required supply rates is informed by OPLANS and anticipated expenditure rates.

5-46. Ammunition planning includes determining ammunition requirements, echeloning capabilities and ammunition units, establishing split-based operations where required, pre-configuring ammunition and resupply, and, when required, using civilian, contractor, allied, and host-nation capabilities. A combat configured load is a mixed ammunition package designed to provide for the complete round concept, type of unit, type of vehicle, capacity of transporter, and weapons system (ATP 4-35). Contents of the package are predetermined and provide optimum distribution velocity, quality, and mix to support a particular weapon system or unit. Combat configured loads can be built at either the national-provider level or in a theater. Combat configured loads built at the national-provider level may be reconfigured in theater at an ammunition supply point as required and delivered as far forward to the using unit as possible.

5-47. Building, storing, transporting, and rebuilding the configured load with unused Class V requires significant amounts of personnel, facilities, haul, and security. Sustainment and supported units should consider building combat configured loads to meet the Class V demands for initial entry operations and large-scale combat operations. Configured loads represent a way of requesting or pushing ammunition rapidly with a mix of all or most of the munitions a weapons platform or unit needs. Combat configured loads can be quickly distributed to the platform level with little to no intermediate handling but are resource intensive.

5-48. The supported unit commander determines ammunition required supply rates based on desired effects (obscure, destroy, defeat, suppress), knowledge of upcoming tactical operations, and input from subordinate organizations including the supporting sustainment unit. The supported commander should also ensure a sustainment representative participates in targeting boards to provide subject matter expertise. The supporting unit commander manages the allocation and distribution of munitions based upon the supported commander's sustainment priorities. The supporting commander calculates and recommends composition of combat configured loads based upon the controlled supply rate, forecasting, and historical data.

5-49. Explosive ordnance threats may be present across the competition continuum during the conduct of operations both in CONUS and OCONUS. EOD detects, identifies, evaluates, renders safe, disposes of, or directs other disposition of explosive ordnance, including weapons of mass destruction. EOD facilitates technical collection of captured enemy materiel related to ordnance or weapons systems. Commanders manage risk posed by explosive ordnance by synchronizing and integrating EOD during the planning and execution of operations to protect life, property, and priority assets.

5-50. Sustainment planning must be executed in parallel and collaboratively with operational planning to ensure complete integration and synchronization. Sustainment commanders and leaders at all levels must have a complete understanding of the maneuver unit's concept of operation. This is the only way to understand and proactively anticipate the requirements to support current and future operations. It allows commanders to use command and control and the operations process to plan, prepare, execute, and assess the

appropriate support functions. Interaction with the supported unit planners is critical to this understanding. At the brigade or division level, this requires interaction with the maneuver battalion headquarters. At echelons with staff, the interaction must be with the S-1/G-1, S-3/G-3, S-4/G-4, S-8/G-8, and the unit surgeon.

5-51. The concept of operations drives requirements determination for all sustainment functions. Ideally, it will identify support priorities in terms of units, support functions, and commodities. This allows sustainment commanders to understand the sustainment requirements and plan accordingly.

5-52. In addition to the concept of operations, sustainment commanders must understand the OE and the problems it presents to support operations. This is one of the most critical aspects of supporting large-scale combat operations. Time, space, enemy, and environmental threats all impact a sustainment commander's ability to develop an executable support concept. Planning for echeloned sustainment support should be done on a continuous basis. Figure 5-2 depicts an example of echeloned sustainment using field, combat, and company trains. Operational and mission variables should be considered when actually selecting locations and determining distances between locations. The purpose of the field trains is to receive, configure and deliver all classes of supply forward and synchronize with the BSB. The purpose of the combat trains is to support application of combat power and return it to the unit's fighting formations and to execute sustainment operations with company trains. Additional information on field and combat trains can be found in ATP 4-90.

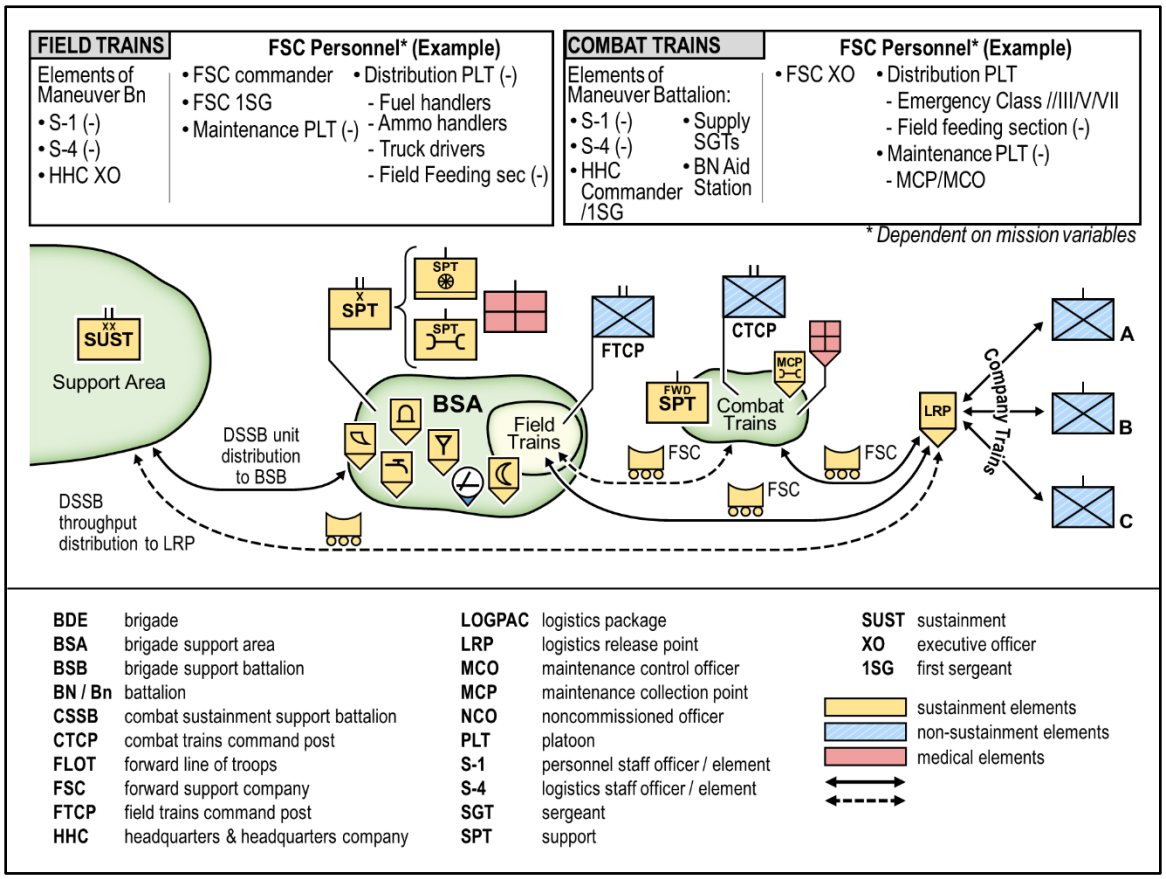


Figure 5-2. Example of echeloned support

5-53. Risk, uncertainty, and chance are inherent in all military operations. Sustainment planners must seek to balance and understand risks, rather than avoid them, to ensure continuous sustainment of the operational force. Sustainment planners should develop mitigation and risk reduction strategies to reduce and/or minimize the effects of risks. Military deception activities seek to hold the adversary's attention and can mitigate the impact of hazards that drive risk. Sustainment capabilities can be used at echelon by operational commanders to deceive an adversary. Conducting joint logistics-over-the shore operations at multiple ports

can deceive the adversary as to the true intent of the United States. Sustainment commanders must assess and mitigate risks continuously throughout operations. The ability to sustain units in the corps, division, and brigade areas of operation will incur significantly high risks resulting from conventional and hybrid threats. Sustainment units must be trained and prepared to execute reconnaissance and security tasks when military police are unavailable to ensure they can accomplish their sustainment missions.

5-54. To deal with expected direct enemy attack by aircraft and long-range artillery, commanders plan to disperse into smaller bases and base clusters. This applies to all bases from the BSA to bases operating in the joint security area. Units should train on communicating and securing base clusters with available personnel and equipment to prevent communications disruptions and potential fratricide. Dispersion mitigates effects of long-range fires and attack aircraft, but commanders still consider all security integration implications of the base cluster. Commanders ensure base defense measures are adequate to detect and defeat small unit operations (Level I or Level II threats) and that units use adequate cover and concealment measures to prevent detection by enemy forces. A *Level I threat* is a small enemy force that can be defeated by those units normally operating in the echelon support area or by the perimeter defenses established by friendly bases and base clusters (ATP 3-91). A *Level II threat* is an enemy force or activities that can be defeated by a base or base cluster's defensive capabilities when augmented by a response force (ATP 3-91). Security of base clusters should be integrated into planning.

5-55. Dispersion is essential, but it must be orderly enough to enable sustainment operations to continue after a brief period of reorganization and resupply with collaborative multi-echelon planning and coordination. Both command and control nodes and support capabilities in the support and rear areas are lucrative targets for the enemy. While dispersion may provide protection against long-range fires, it potentially makes defending against other threats like irregular forces or SOF more difficult. For sustainment of large-scale combat operations, there can be no massive stockpiles outside of sanctuary with appropriate assets assigned to maintain them. Sustainment commanders ensure as much dispersion as tactically prudent to prevent destruction. Wide dispersion of forces and lengthening LOCs create challenges for movement control, in-transit visibility, terminal operations, mode operations, and many other sustainment activities. The POL pipeline presents the same challenges. Pipeline security can be a significant challenge and cover a very large or isolated geographical area. Sustainment commanders must anticipate mitigating challenges presented by the need to disperse versus priorities of support. Shortfalls in transportation assets will require deliberative planning to overcome these mobility challenges.

5-56. Dispersion and the distributed nature of large-scale combat operations create increased requirements on transportation assets. Two corps with six divisions engaged in tactical formation for offensive operations may occupy an area roughly the size of Connecticut (5,000 square miles), significantly impacting demands on transportation assets. Planners must consider transportation requirements such as distribution and retrograde of materiel and personnel. For line haul operations, planners should consider one trip per day covering approximately 60 kilometers one way to support materiel and personnel moving from the BSB to the FSC. For local haul operations, planners should consider two or more trips per day covering 20 miles each way to support materiel and personnel moving from the FSC to forward locations. Transportation requirements that exceed Army capabilities must be mitigated through support from contracting, the joint Services, multinational partners, or other unified action partners.

PERSONNEL SERVICE PLANNING CONSIDERATIONS

5-57. Units will also have large numbers of casualties that require immediate treatment and evacuation. Units should identify potential medically related commander's critical information as it pertains to the health threat. A rapid and accurate assessment of supported unit status and support capability is critical. This is normally accomplished using command and control systems and specifically through logistics status (LOGSTAT) and personnel status (PERSTAT) reporting generated from the lowest levels through all command echelons. Sustainment planners at all echelons must ensure synchronization of replacement operations to sustain units suffering high casualties during large-scale combat operations. Corps, division, and brigade echelons require capability to receive, orient, and integrate replacements. HR planners send prioritized replacement requests, based on current strength and anticipated losses, to maintain units in combat at or near full strength. Units should have an SOP and plan to execute deliberate reorganization as a routine operation to integrate personnel replacements and equipment.

5-58. The planning process must include planning for mass casualties as well as processing and integrating large-scale replacements at echelon. The ASCC G-1 must continuously integrate with the TSC, ESC, corps, and divisions for proper replacement flow in theater.

5-59. The ASCC G-1/AG is responsible for developing casualty estimates (arranged by skill and grade), corresponding replacement requirements, and identifying replacement staging bases as part of the deliberate planning process to support the OPLAN. Replacements are sourced as part of the TPFDD. For replacement units, HQDA will task an Army command, ASCC, and direct reporting unit commanders to provide replacement units to the requesting commander. HRC, in coordination with HQDA Deputy Chief of Staff, G-1 and FORSCOM, executes total Army manning and assists Army commands in developing replacement force packages (buddy teams, squads, crews, platoons, companies). HRC is responsible for implementing non-unit related personnel distribution to support replacement operations.

5-60. Sustainment planners must consider fatality estimates, the flow of allocated mortuary affairs assets into the theater, and the sustainment channels with the most expedient available transportation resources to evacuate human remains. The evacuation of human remains should be without delay to preserve forensic evidence for the Armed Forces Medical Examiner. Sustainment channels also provide for the evacuation of personal effects to the Joint Personal Effects Depot in CONUS. Evacuation of human remains and personal effects may place a significant strain on the transportation system. Planning must include transportation for U.S. citizens, multinational forces, host nation, and detainees.

5-61. Despite the increased demand for unit replacements expected in large-scale combat operations, the requirement for individual replacements always exists. To begin the personnel flow as soon as possible after deployment, the Army initially uses a push system based on personnel requirements from approved casualty estimates and existing personnel shortages. As soon as possible after deployment, data on actual battlefield losses is used to adjust the push packages. While not a requisition system, the push package eventually reflects actual wartime requirements rather than casualty estimates. After utilization, the replacement system will transition to a pull operation based on theater requirements. The ASCC G-1 consolidates replacement requirements from subordinate organizations, receives replacement priorities from the ASCC G-3, and passes to the national HR provider.

5-62. Theater replacement operations entail the coordinated support, accountability, and distribution of individual replacements from the point of origin to requesting commanders. The TSC commander ensures that replacements are delivered from higher to lower echelons as far forward on the battlefield as possible based on distribution priorities established by the theater commander and requirements provided by the theater G-1. Normally, replacements are processed through the theater gateway, integrated into the theater database for accountability, and placed into the distribution network for movement to the unit of assignment. The sustainment brigade then coordinates transportation for distribution of replacements based on established priorities to unit of assignment. Unit of assignment decisions are relayed from the ASCC through the TSC to the sustainment brigade responsible for theater distribution or from the supported unit to the HROB at other echelons. The HROB is the key integrator between G-1/AG at echelon and the sustainment enterprise.

FINANCIAL MANAGEMENT PLANNING CONSIDERATIONS

5-63. Financial management planners analyze the commander's tasks and priorities and identify the resource requirements that will enable the commander to accomplish the mission. Financial management planners develop running estimates which may include facts and assumptions. Examples of financial management facts include, but are not limited to—

- Current budget and currency availability.
- Disbursing and payment support information.
- Banking facilities available.

5-64. Examples of financial management assumptions include, but are not limited to—

- Potential supplemental or special authority appropriations.
- Economic impacts of operations.
- Expected paying agent population.

5-65. Financial management key tasks or significant activities are addressed in the plan or order to achieve the commander's desired end state. Resource management technical planning considerations include, but are not limited to—

- Command resource requirements submission.
- Identification of funding sources.
- Determination of costs.

5-66. Finance operations technical planning includes, but is not limited to—

- Banking.
- Central funding.
- Disbursing.

HEALTH SERVICE SUPPORT PLANNING CONSIDERATIONS

5-67. AHS formations are designed as tailorable and modular units but may require significant additional transportation resources for mobility. A Role 3 hospital can take 48-72 hours to displace the MTF. Transporting the Role 3 hospital to a new site may require 22 additional flatbed trucks to move the hospital in a single serial. At the new site, the Role 3 hospital may require 72-96 hours to be fully operational. For additional information on the Role 3 hospital, refer to ATP 4-02.10.

5-68. Medical formations are designed for modularity that facilitates augmentation, cross-leveling, and reinforcement of Role 1 and 2 medical capabilities within the division or with assets from the MEDBDE (SPT). Role 1 and Role 2 capabilities consist of the following medical modules:

- Combat medic section (Roles 1 and 2).
- Ambulance squad (Roles 1 and 2).
- Treatment squad (Roles 1 and 2).
- Area support squad (Role 2).
- Patient holding squad (Role 2).

FATALITY MANAGEMENT PLANNING CONSIDERATIONS

5-69. Evacuation of fatalities may not occur during large-scale combat operations based on the availability of transportation platforms and the tactical and operational situation. Casualty estimates indicate the capacity for human remains processing by mortuary affairs companies will be exceeded during large-scale combat operations and may require the establishment of an in-theater mortuary. Mortuary affairs companies prepare and temporarily store human remains until transportation to a CONUS port mortuary is available. Sustainment planners must coordinate for adequate cold storage capacity within close proximity to the theater mortuary evacuation point. Cold storage platforms such as refrigerated shipping containers and multi-temperature refrigerated container systems normally used for Class I storage may be used for the temporary storage of remains. It is important to note that these containers can be returned to service for Class I storage through a process of cleaning and disinfecting as outlined in TG 195A. Although a last resort, temporary interment operations may be the only option to account for and safeguard human remains until the cessation of hostilities. For additional information, see JP 4-0, ADP 4-0, and ATP 4-46.

MOBILITY PLANNING CONSIDERATIONS

5-70. Large-scale combat operations will require significant mobility and constant displacement to avoid indirect fires and other threats. The need to constantly displace will create competition for transportation assets that will be required to shift from executing distribution operations to assisting with the mobility of various headquarters to prevent their destruction. Commanders will have to weigh risks and establish priorities of support.

5-71. It is essential to understand mobility planning considerations for units operating within the corps and division areas. Mobility is critical to survivability during large-scale combat operations. At the corps echelon and below, mobility can be broken down into tactical mobility and sustainment mobility. Competition for transportation assets is high when planning for mobility, and considerations should be made for the trade-offs between tactical mobility and sustainment mobility.

Tactical Mobility

5-72. *Tactical mobility* is the ability of friendly forces to move and maneuver freely on the battlefield relative to the enemy (ADP 3-90). By design, tactical units are generally more mobile and therefore require fewer external transportation assets to relocate. However, corps and division enablers have limited organic transportation assets and require significant assistance to move rapidly over long distances. Achieving tactical mobility varies based upon unit composition and operational requirements. Sustainment units generally require external support from transportation enablers. It is difficult, but not impossible, for the DSB to conduct sustainment operations while displacing. The DSB requires augmentation from a corps sustainment brigade and prioritization of effort. Augmentation extends the division's tactical reach by enabling the DSB to push supplies to the BSB and the BSB to subsequently push supplies to supported units. Additional information on the mobility ratings and requirements for specific units can be found in the Section 1 narrative of the Table of Organization and Equipment.

Sustainment Mobility

5-73. Sustainment mobility is the ability to support logistics, financial management, personnel services, and HSS operations. Motor transport operations provide essential distribution and lift capabilities for supporting sustainment mobility. The DSB's composite truck company requires augmentation to support sustainment mobility. Without augmentation, the composite truck company's capacity is consumed with supporting tactical mobility. The lack of augmentation requires BSBs to pull supplies from the division support area instead of receiving supplies from the DSB. The FSCs in turn must then pull supplies from the BSA and push supplies to the forward line of own troops multiple times a day. By design, maneuver brigades have two mobile days of supplies with one day of supplies located at the FSC and one day of supplies located at the BSB. The third day of supplies is not mobile and is stored at the BSA.

MISSION ANALYSIS: REQUIREMENTS, CAPABILITIES, AND SHORTFALLS

5-74. For sustainment planning, the most important factors are requirements, capabilities, and shortfalls. For example, insufficient transportation assets impact the ability of sustainment units to rapidly disperse or displace. Extended supply lines present significant challenges to bulk petroleum distribution. Peer threats impact the Army’s ability to outsource fuel distribution, forcing sustainment commands to use military assets over extended supply lines. The inability to leverage OCS or host-nation assets may result in operational pause or culmination before reaching an objective. Commanders and staffs at all echelons assess what is needed to support the force, what is on hand, and how to mitigate any shortfalls in space and time. The results developed by applying command and control systems and analytics in support of large-scale combat operations differ from those during prevent operations in scope and composition, but the analytical process is the same. The same is true of capability assessment.

5-75. Protection planning is a continuous process that must include a thorough understanding of the OE. Sustainment planners must also consider requesting additional security and control measures (military police escort, route clearance, checkpoints, traffic control posts) to protect movements or alleviate traffic concerns along an area of a specific route. Sustainment planners must be active participants in the protection working group to articulate, organize, and synchronize needed security resources and activities. Additional security and control measures may be established to facilitate the movement of a single element, or they may be established for a longer period of time to facilitate the movement of a number of elements along a given route. The owner of an AO should apply protection measures within the AO along an established main supply route or a route designated for unit movement when there is an increased enemy threat. See ADP 3-37 for additional information on protection.

5-76. Maneuver brigades with organic BSBs and FSCs have relatively robust logistics capability to fulfill maintenance requirements in most cases. However, a shortfall exists in armored and Stryker brigades because these lack track and specialized armor maintenance capabilities beyond the FSC. Commanders in the two-level maintenance system have multiple options available for maximizing maintenance capabilities. They may choose to utilize maintenance surge teams in armored and Stryker brigades to address the shortfall in maintenance capabilities. Commanders may want to consider echeloning maintenance and recovery assets to maintain responsive support to sustain momentum and preserve combat power. Commanders may choose to

utilize multiple maintenance collection points to optimize repair and limited recovery resources. Commanders may also authorize battle damage assessment and repair, controlled exchange, or overrides to deficiencies so equipment can be operated under the specific limitations directed by higher authority. Establishing timelines, standards, and resources for these actions should be addressed in unit SOPs.

5-77. Figure 5-3 depicts an example of echeloned maintenance capabilities for an FSC in support of an armored brigade. In this example, the FSC commander arrays the field maintenance section and recovery section in three echelons. In the first echelon, a field maintenance team with two or more maintainers and a tracked recovery vehicle are located in each of the company trains. The teams assist the company's vehicle operators and personnel with verifying faults, repairing minor issues, and ordering parts.

5-78. Vehicles requiring repairs that exceed the timelines established in unit SOPs are evacuated from the company trains to the second echelon. In this example, the maintenance collection point containing the majority of the FSC maintainers is the second echelon. The maintainers work on vehicles and equipment to repair and return forward in accordance with unit SOP timelines.

5-79. Vehicles and equipment at the second echelon that exceed repair timelines in the unit SOP are further evacuated to the third echelon shown as the BSA. The FSC commander keeps a small team of maintainers in the field trains located in the BSA. Their role is to make a final attempt to repair equipment at field-level maintenance before it is coded out and turned in for sustainment-level maintenance.

5-80. If the armored brigade must move forward, the maneuver commander must choose to either leave the maintenance collection point in place, move the maintenance collection point forward with the unit, evacuate the equipment in the maintenance collection point back to the BSA, or move the BSA forward to the maintenance collection point. There is significant risk associated with each course of action and the commander chooses the optimal one based on operational requirements.

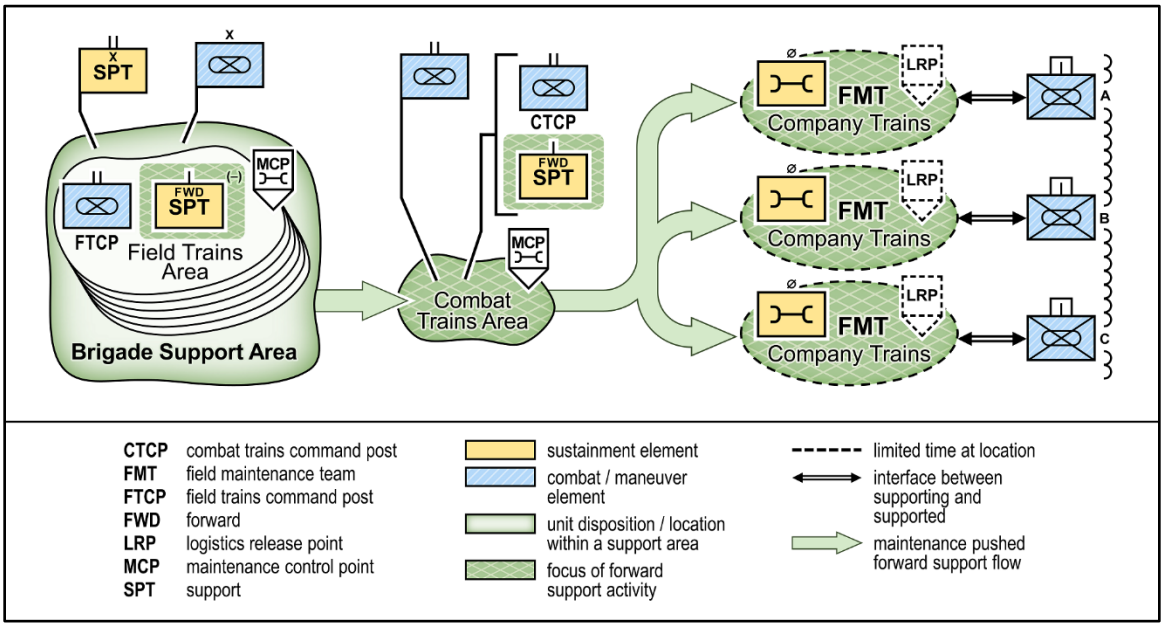


Figure 5-3. Examples of echeloned maintenance support to an armored brigade

5-81. Maneuver brigades also have relatively robust logistics capability to fulfill other support requirements. Their personnel services and medical capability is similar, with limitations and dependencies on EAB formations and their support relationships. Field artillery units have organic sustainment organizations, but lack certain capabilities (such as commodity maintenance, separate distribution, and brigade support medical companies) that maneuver brigades possess.

5-82. Maneuver brigades most commonly execute supply point distribution to fulfill requirements by means of logistics release points (LRPs). LRPs may be any place on the ground where distribution unit vehicles take

supplies and are met by the supported unit that then takes the supplies forward to their unit for subsequent distribution.

5-83. Units use LRPs to maximize efficient use of distribution assets and reduce the amount of time and distance supported units must travel in order to receive supplies needed for missions. LRPs are often located between the combat trains and the emplaced maneuver battalion's company trains. They are normally established and secured for only a limited duration. Resupply operations at LRPs are planned, coordinated, and synchronized operations conducted to mitigate shortfalls. Figure 5-4 depicts an example of an LRP on a battlefield.

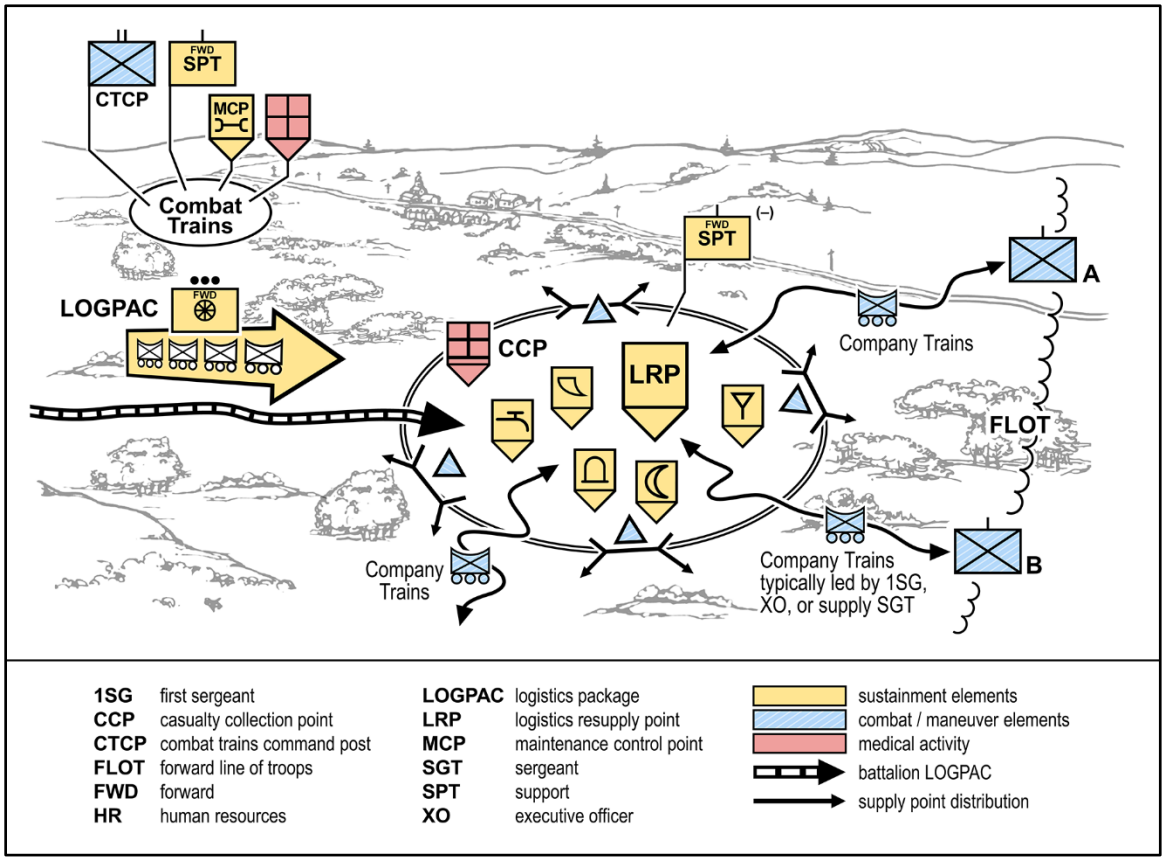


Figure 5-4. Examples of a logistics release point

5-84. At EAB, Army sustainment capability is modular and based on the specific task organization of TSCs, ESCs, TMCs, DSBs, sustainment brigades, MEDBDEs (SPT), TBXs, CSSBs, and DSSBs. Planners must also consider other sources of support (for example, DLA, HNS, contracted support, and support from other Services). As discussed in the previous chapter, planners assess support capabilities and build task organizations. How these capabilities are arrayed on the battlefield forms the foundation of the sustainment concept of support.

5-85. Analysis does not end with the formation of the task organization and concept of support. Commanders and staffs track and assess readiness of systems, personnel, and equipment as a baseline for adjusting support plans. The G-4 has coordinating staff integrating responsibility for the G-1, G-8, transportation officer, and the surgeon. At the brigade and battalion levels, the S-4 is the primary staff officer for logistics. The G-4 or S-4 prepares annex F (Sustainment), annex P (Host-Nation Support), and, in coordination with the AFSB and CSB, prepares annex W (Operational Contract Support) with appendices 1, 2, and 3 (as these are key to setting the theater for contracting support and completing the OPORD or OPLAN). The logistics planner in the theater, corps, or division G-5 provides sustainment input to annex A (Task Organization), annex C (Operations), and annex M (Assessment) to the OPORD or OPLAN. The G-1 prepares appendix 2 (Personnel Services Support). The surgeon prepares appendix 3 (Health Service Support) of annex F and also appendix

9 (Force Health Protection) of annex E (Protection). The sustainment staffs provide input to the operations staffs for the COP. The G-9 refines the civil affairs operations aspects of the plan and order by publishing Annex K (Civil Affairs Operations). In addition to Annex K, the civil affairs operations staff is involved in the development of Annex V (Interagency Coordination), in conjunction with the G-3/S-3 and operations staff. In addition, the civil affairs operations staff must take interest in Annex P (Host-Nation Support).

5-86. The sustainment staffs determine sustainment requirements for subordinate units, track the sustainment status of subordinate units, and establish support priorities in accordance with the commander's priorities and intent. The S-4 or G-4 monitors logistics requirements, the S-1 or G-1 does the same for personnel readiness, the S-8 or G-8 for financial management, and the surgeon for HSS. The staffs work in close coordination with the sustainment organizations supporting their echelon.

5-87. For logistics, the primary staff section in the TSC and ESC is the DMC. For HR, the TPOC synchronizes external HR support with the TSC DMC and the HROB within the ESC DMC and DSB/sustainment brigade SPO sections. The surgeon sections within the ESC and DSB/sustainment brigade plan and assess medical operations; this includes medical treatment, medical evacuation and regulating, and medical logistics within ESC and sustainment brigade units. The ESC and DSB/sustainment brigade surgeons advise their commanders on the health of the command and coordinate with the TMC and MEDBDE (SPT) for AHS support at EAB. The ESC and DSB/sustainment brigade surgeon sections work closely with the corps or division surgeon sections to ensure synchronization with medical evacuation, casualty evacuation, and the distribution plans for Class VIII. The DSB, sustainment brigade, TBX, DSSB, CSSB, and BSB all have SPO sections. The SPO staff supports the headquarters staff with the sustainment preparation of the OE and determining supply, maintenance workload, and AHS support requirements. In a support unit, the unit's current operations cell maintains the COP with sustainment specific input from the unit DMC or SPO staff.

5-88. LOGSTAT and PERSTAT reports are tools used to collect data for tracking and assessing readiness of systems, equipment, and personnel. Reports are primarily entered electronically through sustainment automation systems when operating in a permissive environment. Data is stored, processed, and disseminated using cloud computing. Cloud computing is a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources—networks, servers, storage, applications, and services—that can be rapidly provisioned and released with minimal management effort or service provider interaction. Users can access cloud services without geographic limitations, as long as they have a connection to the Department of Defense Information Network. Commanders, staffs, and other users pull data from the cloud to create valuable information in the form of a COP for informed decision-making. For additional information on signal support operations see FM 6-02.

5-89. Commanders should not assume that cloud computing or continued connections to the Department of Defense Information Network will be available in contested environments or during the conduct of large-scale combat operations. Communication plans should include requirements for operating in denied, degraded, or disrupted environments. These plans should identify primary, alternate, contingency, and emergency plans for maintaining connectivity and submission of LOGSTAT and PERSTAT reports and maintaining a COP. LOGSTAT and PERSTAT reports are submitted using available command and control or sustainment information systems. The content of the reports generated are based upon the data and information requirements of the commander and staff. Reports may be submitted via radio if required. Commanders plan for LOGSTAT and PERSTAT report submission during periods of degraded communications. Analog reports are a means for providing status reports during periods of denied, degraded, or disrupted operations. Effective LOGSTAT and PERSTAT reporting requires command emphasis. The timing of sustainment status report submissions is based on both the commander's requirements and unit battle rhythm. Typically, these reports are submitted at least once daily and whenever a significant change occurs. The commander may require more frequent status updates during periods of increased intensity. See appendix E for analog LOGSTAT and PERSTAT reports.

5-90. The Army has a deployed theater accountability system for use in a deployed theater. In the event the deployed theater accountability system is not available (due to lack of bandwidth, degraded communications, or other issues), manual reports such as the PERSTAT, personnel summary, and personnel requirements report can be used. Within a deployed theater, the ASCC G-1/AG establishes PERSTAT reporting requirements for unit strengths to include required "as of" times. When operating in a joint environment, the

joint PERSTAT requires the same data elements as the PERSTAT. Standardized analog LOGSTAT and PERSTAT reports are located in appendix E.

ASSESSMENT

5-91. *Assessment* is a continuous process that measures the overall effectiveness of employing capabilities during military operations (JP 3-0). Assessment is a critical part of planning considerations for sustainment operations. Assessment allows commanders, staffs, and leaders to gain situational awareness of current conditions and measure the effectiveness of sustainment operations. If conducted properly, assessment provides commanders, staffs, and leaders with the necessary information to determine all sustainment support requirements and adjust plans. Assessment should include the following requirements at a minimum:

- Assess the threats and hazards that may impact the freedom of sustainment operations throughout the OE, as well as the suitability of protection resources and activities to meet current and future operational objectives.
- Assess the status of the support capability of organic, attached, and assigned units. This includes, but is not limited to, status of personnel strength, equipment readiness, critical equipment on hand, critical supplies on hand by class, casualty status, organic medical capability (if applicable), and operational losses. This information is used to determine support requirements by sustainment function. It identifies problem areas such as combat ineffective units and shortages of critical supplies such as precision munitions.
- Assess the status of supported units to determine specific sustainment requirements in order to develop a concept of support that can effectively meet those requirements.
- Assess the status of sustainment support capability to determine if the support assets available have the required capability to support operations. This assessment should determine if the sustainment task organization is adequate to support the mission and identify shortfalls in terms of sustainment functionality.
- Assess time to execute sustainment operations, as it should also be a factor in determining sustainment support capability. Timing and windows for execution will vary during operations against a peer threat. Planners must know the time available versus time to execute.
- Assess the OE to identify aspects that will present problems or cause difficulty in executing the support concept. All operational and mission variables should be examined to determine if any would impact the operation and impede freedom of action.

5-92. Ultimately, assessment allows commanders and staffs to diagnose problems and determine operational adjustments needed to ensure the support concept is adequate to achieve the desired results. It also provides commanders and staffs with information on how sustainment operations are progressing and identifies problem areas where commanders can expect friction or conflict.

5-93. Assessment precedes and guides every operations process activity and concludes each operation or phase of an operation. While assessment is listed as the last operations process task, it is continuous. Throughout execution, staffs use running estimates to assess if support operations are occurring as planned and if the desired results are being achieved. This information is passed up through the chain of command and is compiled at each echelon. It must be reported parallel through maneuver and sustainment channels to build a COP of the sustainment status.

5-94. Assessment should also determine specific sustainment functional gaps in capability and report to higher headquarters for appropriate action. It includes, but is not limited to, the following:

- Status of required supplies by class of supply. This should be in terms of quantities on hand to allow planners to balance on-hand quantities with required quantities. Planners should also assess supply positioning to ensure supplies are positioned properly to support operations and priority efforts.
- Status of field maintenance capability to ensure it is adequate to repair damaged equipment to meet operational readiness requirements and timetables. The assessment should include critical maintenance equipment such as testing and fabrication equipment.
- Status of transportation capability to ensure it is adequate to transport required commodities. All types of transportation assets should be assessed: light, medium, heavy, aircraft, aerial delivery, water, rail, and petroleum transportation.
- Status of shower and laundry, field services, and mortuary affairs capability and location.

- Changes to distance that affect distribution calculations.
- Status of HSS capabilities to include medical treatment (holding), hospitalization (surgical and bed status), medical logistics (CL VIII, blood on hand, medical device maintenance and shortages), and medical evacuation. Planners should assess the positioning of medical units to support operations and priority efforts.
- Status of sustainment information systems interfaces to the Sustainment Transport System.
- Status of HR support capabilities, casualties, personnel strength, and availability of personnel replacements to ensure adequate HR support, religious support, and identify any critical personnel shortages, and/or combat ineffective units to rebuild combat power or consider reconstitution. HR managers report personnel requirements through a personnel requirements report. This report lists unit personnel replacement requirements by grade and military occupational specialty and is based on comparison of authorized versus assigned strength.
- Status of financial management capabilities, funding authorities, and funds available (status of funds) to support mission requirements.

SUSTAINMENT SYNCHRONIZATION

5-95. Logistics, financial management, personnel services, and HSS require coordination and synchronization at every stage of the planning process. This synchronization is crucial in large-scale combat operations with its inherent distributed nature. Only by integrating and synchronizing sustainment functions can the sustainment system produce required effects at the speed, volume, velocity, and lethality of large-scale combat operations.

5-96. Sustainment commanders and staffs present synchronized courses of action commensurate with sustainment capabilities to allow as much freedom of action as possible. Limitations such as insufficient infrastructure or non-availability of key classes of supply have a bearing on the commander's ability to execute the mission and are accounted for in the planning process. Sustainment leaders also coordinate, synchronize, and integrate the sustainment plan with joint and other unified action partners to ensure continuous linkage with strategic-level providers. A successful sustainment plan will extend operational reach, prevent culmination or loss of the initiative, manage transitions, exploit possible opportunities, and mitigate risk.

5-97. Throughout the operations process, commanders and staffs use risk management to identify and mitigate risks associated with all hazards that have the potential to injure or kill friendly and civilian personnel, damage or destroy equipment, or otherwise impact mission effectiveness. For sustainment commanders and staffs, identifying and mitigating risk must always include not only risk to finite and limited sustainment capabilities, but also how those capabilities are employed to enable freedom of action and extend operational reach.

5-98. Sustainment synchronization remains the focus as sustainment commanders plan for and coordinate support through such continuing activities as battle rhythm events, information collection, liaisons, meetings, protection efforts, and reporting. For the purposes of sustaining large-scale combat operations, two of these—liaison officers and reporting—require special emphasis.

5-99. Liaise refers to contact or intercommunication maintained between elements of military forces or other agencies to ensure shared understanding and unity of purpose and action. Most commonly used for establishing and maintaining close communications, liaise continuously enables direct, physical communications between commands.

5-100. Sustainment commanders and staffs have the continuous requirement to coordinate with higher, lower, adjacent, supporting, and supported units and civilian organizations. The sustainment liaisons participate in boards, bureaus, cells, centers, and working groups, especially in the case of the TSC with the ASCC, the CSC with the corps, the DSB with the division, the BSB with the maneuver brigade, and the ASB with the CAB. While the use of liaisons taxes organic staff manpower in sustainment organizations, their presence and active participation is essential to sustaining large-scale combat operations and mitigating the effects of dispersion, threat disruption of communications, and accelerated tempo.

5-101. Both maneuver and sustainment commanders rely on LOGSTAT and PERSTAT reports to identify support requirements and capabilities to enable large-scale combat operations. Sustainment staffs use data

from sustainment estimation tools, higher headquarters orders, and documents such as country studies to develop running estimates. A running estimate is the continuous assessment of facts, assumptions, constraints, and limitations concerning the current situation and OE used to determine if the current operation is proceeding according to the commander's intent and if planned future operations are supportable. Using sustainment information systems, commodity managers include information in running estimates such as quantity on-hand, quantity consumed, expected quantity on-hand, and expected consumption to anticipate requirements and assist in synchronization. Each staff element and command post functional cell maintains a running estimate focused on how its specific areas of expertise are postured to support future operations.

5-102. Current sustainment systems possess vulnerabilities and connectivity requirements that may make them susceptible to disruption and deliberate targeting by threat forces, both lethally and non-lethally. To mitigate this vulnerability and maintain an accurate readiness COP, organizations develop battle rhythms, data cut-off times, as-of times, and reporting times. Soldiers must be prepared to operate in denied, degraded, and disrupted communication environments. FM 6-99 includes standardized reports and message formats for manual and voice use. The report and message formats help users prepare and manually transmit written and voice reports and messages in denied, degraded, and disrupted environments. Each format provides an organized template to record, pass, and store information. Sustainment organizations at all levels should maintain manual reporting skills and should also be prepared to use alternate methods of reporting such as telephone, radio transmission, messenger, or hard copy. Commanders and staffs must also balance the timeliness and potential latency of reporting with the amount of time needed to analyze data when evaluating unit readiness and combat capability.

5-103. Sustainment enterprise resource planning systems and associated decision support tools help provide near-real-time status with minimal staff effort required to gather and display information from multiple databases. Integrating this information with command and control systems is crucial to give sustainment leaders and supported commanders and staffs the identical current COP. The value of integrated sustainment information systems and command and control systems is that everyone on the network can see and use the same reported information to plan and control operations. For more details, see appendix D.

5-104. Sustainment rehearsals are critical to synchronization and the success and accomplishment of the mission. Conducting sustainment rehearsals immediately after combined arms rehearsals ensures understanding and synchronization of the unit's maneuver and sustainment plans as it traverses the battlefield. It is critical that the combined arms team and all elements of sustainment are represented and participate in sustainment rehearsals to ensure all sustainment commodities understand how they integrate with other elements of sustainment to accomplish the mission. The sustainment rehearsal helps synchronize the sustainment warfighting function with the other warfighting functions to create a shared understanding of the plan.

Sustainment Rehearsals

- Critical to success and mission accomplishment.
- Synchronize the sustainment warfighting function with other warfighting functions.
- Should be conducted immediately after the combined arms rehearsal.
- Facilitate understanding and synchronization of the unit's maneuver plan.
- Participants must include the combined arms team and all elements of sustainment.

REAR OPERATIONS

5-105. *Rear operations* are tactical actions behind major subordinate maneuver forces that facilitate movement, extend operational reach, and maintain desired tempo (FM 3-0). This includes continuity of sustainment and command and control. Rear operations support close and deep operations. At the operational level, rear operations sustain current operations and prepare for the next phase of the campaign or major operation. These operations are distributed, complex, and continuous. At the tactical level, rear operations enable the desired tempo of combat, assuring that friendly forces have the agility to exploit any opportunity. Rear operations typically include five broad activities:

- Positioning and moving reserves.
- Positioning and repositioning aviation, fire support, and air and missile defense units.
- Conducting support area operations.
- Securing sustainment and command and control nodes.

- Controlling tactical unit movement between the division or corps rear boundary and units conducting close operations.

5-106. Rear operations typically include efforts that consolidate gains to make conditions created by deep and close operations more permanent. All of these activities compete for limited terrain and LOCs. Division and corps rear command posts are generally responsible for rear operations.

5-107. The rear area is inside the commander's overall AO. Some of it may be assigned to subordinate units, and some of it may be retained by the commander. The rear area is normally, but not always, distributed in multiple locations across an echelon. It is where most of an echelon's sustaining operations occur. The geographic size of a rear area is based on mission and operational variables and is difficult to quantify. These variables include the number of units assigned to the rear area, the existing threat, and the amount of terrain that can be influenced by the unit assigned rear area responsibility. As an example, for a division rear area, if it is assumed to be a brigade-sized area, it will be approximately 20 square kilometers. This number is for general planning consideration and to give readers an idea of the geographic scope of a division rear area and the impact it has on command and control and protection. It should be understood that division rear area size may vary widely. The corps rear area will be significantly larger.

5-108. Within the joint security area, strategic enablers such as USTRANSCOM, USAMC, DLA, and each of their individual subordinate components link strategic support activities with theater support activities. Examples of these activities include synchronizing strategic and operational distribution of equipment, supplies, and personnel; managing materiel and establishing contracts; establishing theater fuel stocks; and managing excess property turn-in. USASOC coordinates operational support requirements while monitoring SOF activities within the theater. The TSC and ESC (with attached sustainment brigades) conduct RSOI for units arriving in theater and support the movement of those units forward to corps and division areas. The TMC or MEDBDE (SPT) provides command and control of all EAB medical units providing direct or general support to the corps and division areas. Other sustainment forces in the joint security area support activities including Class I and Class III (Bulk) distribution, APOD and SPOD operations, personnel services, financial management activities, and other support tasks.

5-109. Within a division and corps rear area, a MEB is normally designated AO responsibilities. If a MEB is not available, a maneuver brigade should be designated AO responsibilities. Rear area control responsibilities include area security; terrain management; information collection, integration, and synchronization; civil affairs operations; civil-military operations; psychological operations; movement control; mobility support; clearance of fires; personnel recovery; airspace control; and minimum-essential stability tasks. This allows sustainment units to focus on their primary functions.

5-110. The corps headquarters is likely to position assets in the division rear area to facilitate division operations and enable freedom of action. The division headquarters orchestrates the sustainment and protection tasks essential to enabling freedom of action in the division close and deep areas. Planning in the rear area largely influences current and future operations in the close and deep areas. The rear area is not a single large base; it is a base cluster comprised of multiple bases, each established by units assigned to the rear area. The MEB is responsible for terrain management to include placement and integrated protection of the bases.

SUPPORT AREA OPERATIONS

5-111. Support area operations are a critical part of rear operations. *Support area operations* are the tactical actions securing lines of communications, bases, and base clusters that enable an echelon's sustainment and command and control (FM 3-0).

5-112. A support area is where units position, employ, and protect base sustainment assets and LOCs required to sustain, enable, and control operations. Support area operations include sustainment for the echelon and relevant security operations. They enable the tempo of deep and close operations and require detailed planning to coordinate among the various units providing sustainment, protection, and security. A MEB or maneuver brigade should have some command and control authority over the organizations positioned within the MEB AO to conduct security and defense; this may be TACON for security and defense.

SUPPORT AREA SECURITY

5-113. Sustainment forces prepare for various threats during support area operations and must be organically trained and manned to contribute to their own security. Threats in the division rear area are categorized by the three levels of defense required to counter them. Any or all threat levels may exist simultaneously in the division support area. All threats pose potential risks to sustainment and other support operations. Emphasis on base defense and security measures may depend on the anticipated threat level. A Level I threat for a typical base consists of a squad-sized unit or smaller groups of enemy soldiers, agents, or terrorists. Typical objectives for a Level I threat include supplying themselves from friendly supply stocks, disrupting friendly command and control nodes and logistics facilities, and interdicting friendly LOCs.

5-114. Units must also employ cover and concealment to prevent observation and detection of sustainment equipment and bases by reconnaissance elements, reconnaissance aircraft, drones, or attack aircraft. Cover and concealment includes signature management and emissions control. Dispersion aids in concealment and limits destruction and losses in the event of an attack. Units at all echelons must conduct CBRN defense preparation.

5-115. At higher echelons, military police units enhance protection capabilities by performing area security within the rear areas. These units perform response-force operations to defeat Level II threats against bases and base clusters located in that support area. In the case of Level III threats, these units maintain contact with the threats in the division support area until the tactical combat force under the MEB's control can respond. A *Level III threat* is an enemy force or activities beyond the defensive capability of both the base and base cluster and any local reserve or response force (ATP 3-91).

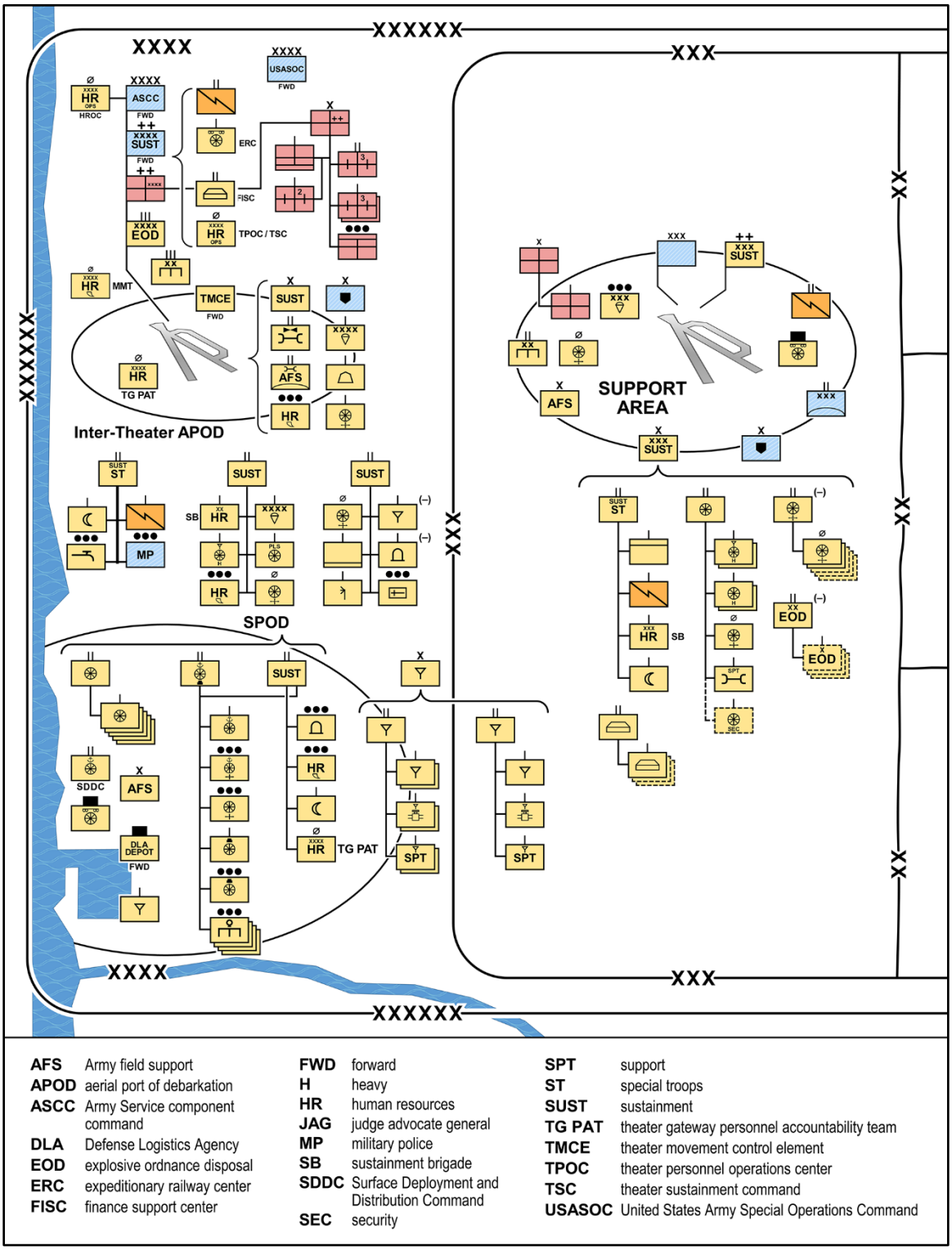
5-116. Corps and division commanders designate close, deep, and rear operations to describe the physical arrangement of forces in time, space, and focus. The rear area does not necessarily need to surround or contain the support area base clusters, but it typically does. The rear area requires a purposefully task-organized combined arms unit to conduct area security, stability tasks, employ and clear fires, and consolidate gains.

5-117. Army forces consolidate gains made in corps and division areas to build combat power for continued action against remaining enemy forces and protection of the civilian population. These gains include the establishment of civilian government and the use of populace and resources control measures to provide the minimum-essential stability operations tasks to establish civil security, support civil control, and provide for the population's immediate needs. Concurrently, corps and divisions must be able to accomplish these activities while sustaining, repositioning, and reorganizing subordinate units to continue operations in the close and deep areas.

5-118. Consolidation of gains activities may encompass a lengthy period of post-conflict operations prior to redeployment. Consolidation of gains may occur even if large-scale combat operations are occurring in other parts of an AO to exploit tactical success. Anticipation and early planning for activities after large-scale combat operations ease the transition process.

5-119. Commanders address the decontamination, disposal, and destruction of war materiel. Commanders must also address the removal and destruction of unexploded ordnance and the responsibility for demining operations (the consolidation of friendly and available enemy mine field reports is critical to this mission). The higher echelon headquarters must clearly articulate the roles and responsibilities for controlling supply routes and clearance procedures. Additionally, the theater Army is prepared to provide medical support, emergency restoration of utilities, support to social needs of the indigenous population, and other humanitarian activities.

5-120. The operational support company (EOD) provides freedom of movement and maneuver in contested environments within the rear area to include the strategic support area and the operational support area as well as fort-to-port and port-to-divisional contested battle space in large scale combat operations. Operational support companies provide capability for supporting unique missions such as APOD and SPOD opening, RSOI, building partner capacity, theater security cooperation, and homeland defense. See ATP 4-32 for additional information. Figure 5-5 depicts the joint security area and corps support area operations and figure 5-6 depicts a division and brigade support area operations



AFS	Army field support	**FWD**	forward	**SPT**	support
APOD	aerial port of debarkation	**H**	heavy	**ST**	special troops
ASCC	Army Service component command	**HR**	human resources	**SUST**	sustainment
		JAG	judge advocate general	**TG PAT**	theater gateway personnel accountability team
DLA	Defense Logistics Agency	**MP**	military police	**TMCE**	theater movement control element
EOD	explosive ordnance disposal	**SB**	sustainment brigade	**TPOC**	theater personnel operations center
ERC	expeditionary railway center	**SDDC**	Surface Deployment and Distribution Command	**TSC**	theater sustainment command
FISC	finance support center			**USASOC**	United States Army Special Operations Command
		SEC	security		

Figure 5-5. Support area operations at echelon (joint security area/corps)

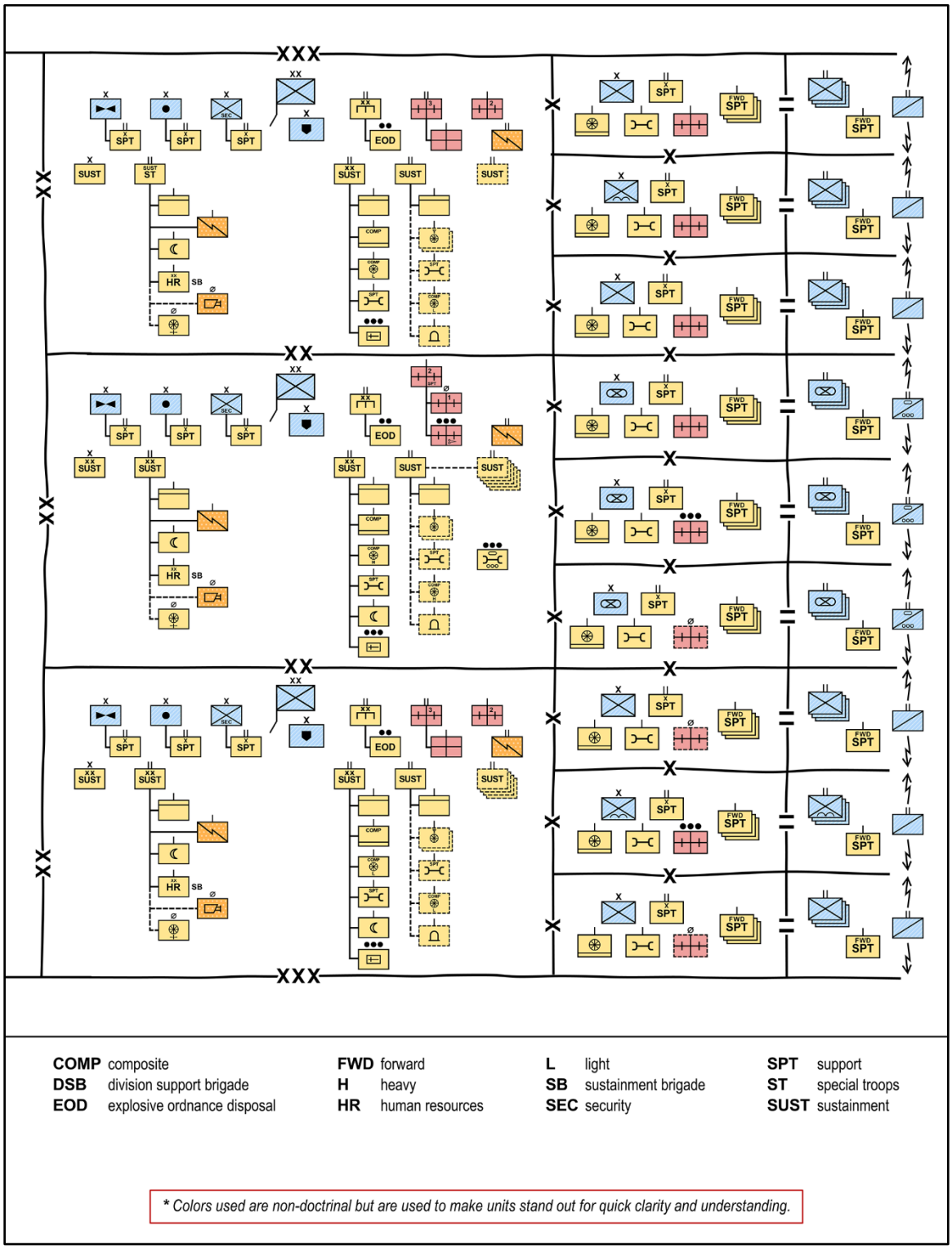


Figure 5-6. Support area operation at echelon (division and brigade)

ARMY HEALTH SYSTEM SUPPORT DURING LARGE-SCALE COMBAT OPERATIONS

5-121. Key AHS activities during large-scale combat operations include augmenting organic medical treatment and hospitalization capabilities for large-scale casualty producing events, providing medical support on an area basis, enabling prolonged care, clearing the battlefield of patients to facilitate movement and maneuver, and providing medical support to reconstitution operations. Army medical formations utilize the six AHS principles to provide medical support at the speed required by maneuver, within the constraints placed by sustainment, and in the best interest of the commander.

5-122. The surgeon sections at each echelon conduct coordination, synchronization, integration, and planning of AHS support to large-scale combat operations within their echelon's AO. At the national strategic level, the Office of the Surgeon General coordinates with the Defense Health Agency and the National Health System for increased requirements of medical services and the Armed Services Blood Program for blood and blood products, avoiding expiration through premature shipping and storage. The Surgeon General and FORSCOM surgeon work closely with HRC to develop medical force generation strategies in support of large-scale combat operations. Surgeon sections at EAB integrate, coordinate, synchronize, and plan area medical support, augmentation of organic medical capabilities and capacities, and medical support for large-scale casualty and evacuation events; enable prolonged care; and provide medical support to reconstitution operations. MEDBDE (SPT) commanders allocate AHS resources to support these tasks and provide AHS support to reconstitution operations as well as continued support to RSOI. See FM 4-02 for additional information on AHS support.

TRANSPORTATION AND LOGISTICS CONSIDERATIONS FOR ROLE 3 MEDICAL TREATMENT FACILITIES

5-123. The hospital center and subordinate detachments require a significant amount of logistics and transportation support getting to and once in theater. When planning for placement of Role 3 MTFs, medical planners should consider these requirements (as shown in Table 5-2), external support available, and the amount of time it will take to deconstruct, move, and construct a hospital. Planners and commanders cannot expect a hospital to relocate from one location to another and be able to provide the full complement of Role 3 medical care in the new location in just two to three days. Executing the move of a hospital center may take a significant amount of time depending upon the distance required to move and training level of the unit. It is a significant undertaking that requires planning, coordinating for resources, evacuating all patients, systematically discontinuing services, disassembling and packing the facility, conducting the move, and then re-establishing the facility. Table 5-2 lists logistics and transportation planning factors for movement and sustainment of Role 3 MTFs.

Table 5-2. Hospital center logistics and transportation planning factors

HOSPITAL CENTER SECTIONS	Diesel (Gal/ Day)	Gas (Gal/ Day)	Power (Kw)	Water (Gal/ Day)	Operation Space (Acres)	Housing (Acres)	Comm Trucks (Asstd)	Rail (flatcar)	Air (C-17)
HHD, Hospital Center 27 Pax	10	0	118	Surgical 550	1.12	0.35	4	2	2
Hospital AUG DET 24 Bed, Surgical 66 Pax	360	97	380	Patient Care 2,654	1.09	0.2	13	6	6
Hospital AUG DET 32 Bed, Medical 45 Pax	240	75	263	UUL 2,040	0.23	0.2	12	6	6
Medical AUG DET 60 Bed, ICW 33 Pax	120	55	89	Laundry 2,779	0.32	0.14	5	3	3
Medical AUG DET 60 Bed, ICW 33 Pax	120	55	89	Shower 2,779	0.32	0.14	5	3	3
Field Hospital 166 Pax	1,006	176	755	4,675	6.78	0.39	37	15	13
Totals 536 Pax	2,862	635	2,450	20,152	16.64	1.81	113	50	46

AUG	augmentee	ICW	intensive care ward
C-17	transport aircraft	Kw	kilowatt
Comm Truck Asstd	commercial truck (assorted)	Pax	passengers
Det	detachment	UUL	universal unit listing (drinking, personal hygiene, food preparation, and non-potable water)
Gal	gallon		
HHD	headquarters and headquarters detachment		

ENABLE PROLONGED CARE

5-124. Contested domains may require formations conducting semi-independent operations to hold injured personnel beyond doctrinal evacuation timelines. Medical care provided during those extended periods is called prolonged care. Strategies to enable prolonged care include medical force multiplication measures, pushing advanced medical capabilities forward, and augmentation of operational medical organizations. Medical force multiplication consists of pushing advanced knowledge, skills, and materiel enablers forward to enhance medical capacity. Development of medical materiel solutions is also in progress to enable prolonged care and enhance enroute care capability. However, significant total medical force structure capacity shortfalls for treatment and medical logistics remain. Leveraging medical agreements established during competition and interoperability with unified action partners may mitigate some shortfalls. The use of tactical combat casualty care allows every Soldier and combat lifesaver to assist medical organizations with continued patient treatment while they are conducting prolonged care.

MEDICAL SUPPORT IN DENSE URBAN ENVIRONMENTS

5-125. Security and the limits of operational reach determine the medical support required in dense urban environments. Civil information obtained during competition and crisis is analyzed and evaluated into civil knowledge, which is integrated into the Army integrating processes. This action is accomplished by the civil affairs staff officers (G-9/S-9) at corps echelon and below, to include the J-9 at joint and theater levels.

PLAN, RESOURCE, COORDINATE, AND SYNCHRONIZE LARGE-SCALE CASUALTY EVENTS

5-126. Patient movement occurs at the tactical, operational, and theater strategic levels and requires the synchronization and integration of Service component resources as well as coordination with air evacuation liaison teams and HR casualty liaison elements for personnel accountability. Strategic medical regulating officers coordinate and synchronize multi-modal global patient movement options (USTRANSCOM, unified action partners, and the global patient evacuation enterprise) for projected and surging requirements. Operational medical regulating officers (TMC, MEDBDE [SPT], MMB) coordinate and synchronize medical evacuation operations with aviation and sustainment organizations. Tactical medical staff (brigade surgeon, BSB SPO-Medical, BSMC, battalion medical operations officer/ platoon leader) coordinate with the chain of command, organic sustainment assets (first sergeants, FSCs), and supporting assets for air and ground evacuation and medical evacuation operations. EAB casualty liaison elements and other HR squads leverage the liaison officer chain at Role 3 and Role 4 MTFs to maintain accountability and readiness status of personnel throughout the continuum of care.

5-127. Casualty information is collected from all available sources on the battlefield and reported through official channels as quickly as possible. The ASCC human resources operations center plans, coordinates, integrates, and synchronizes theater-level casualty reporting, and provides additional planning capacity and oversight. It establishes the theater casualty information center and oversees casualty reporting and policies developed by the ASCC G-1/AG. The casualty reporting mission needs to take priority, and additional requirements for information from higher levels may increase the complexity of the reporting requirements.

5-128. During large-scale combat operations, units will report all casualties to include American civilians, DOD, and DA Civilians, contractors authorized to accompany the force, and personnel of other Services. A casualty is any person who is lost to the organization by having been declared deceased, duty status-whereabouts unknown, excused absence-whereabouts unknown, missing, injured, or ill. Mortuary affairs collection teams may need to be collocated with the BSB due to large-scale combat operations casualty estimates. For additional information see, ATP 4-46.

5-129. When a casualty occurs, the commander of the unit in which a casualty occurs has the responsibility for initiating the casualty report using the tactical casualty report, or the Defense Casualty Information Processing System – Personnel Casualty Report spreadsheet for single casualty or multiple casualties. All persons with knowledge of a casualty will report to their chain of command using the tactical casualty report. The tactical casualty report or applicable Defense Casualty Information Processing System – Personnel Casualty Report spreadsheet (single casualty or multiple casualties) may be used to submit an initial report when a casualty incident is observed. Casualty information is frequently incomplete on the battlefield. This should not delay the initial report submission. Updated casualty information is provided as it becomes available. The G-1/AG and S-1 at echelon have overall responsibility for casualty reporting on behalf of their formations with the brigade S-1 having responsibility to submit the initial casualty report using Defense Casualty Information Processing System in accordance with the ASCC human resources operations center casualty reporting guidance to ensure all echelons have visibility. Human resources squads and teams performing casualty reporting missions work with the ASCC human resources operations center operating the theater casualty information center to provide accurate and timely casualty reporting and tracking information at Role 3 MTFs, theater mortuary affairs company HQ, General Officer commands, and the theater casualty information center to supplement casualty reporting information from G-1/AGs and S-1s at echelon. (NOTE: Role 1 tracking is performed at the battalion aid station whereas Role 2 reporting is performed at the BSMC.) Due to the personal nature of information within casualty reports, the theater CIC reports casualty information to the Casualty and Mortuary Affairs Operations Division using Defense Casualty Information Processing System as the official means of casualty reporting. In the absence of the ASCC human resources operations center, the senior element G-1/AG must immediately assume the role of the theater CIC.

Ethical Considerations for the Provision of Medical Support

5-130. International law, as it pertains to the treatment of detainees and civilians during conflict, helps to ensure the ethical treatment of all sick and wounded personnel. The determination of eligibility for medical treatment in Army MTFs is established in accordance with command guidance, practical humanitarian and medical ethical considerations, availability of U.S. medical assets (in relationship to the threat faced by the force), and potential training opportunities for medical forces. Any personnel requesting medical care should receive a timely medical assessment of their condition. Although individuals may not be eligible for treatment in accordance with Army regulations or command policy, life, limb, or eyesight-saving procedures will be provided to stabilize the individual for transfer to the appropriate civilian or other nation MTF. See FM 4-02 for additional detail.

5-131. The conduct of armed hostilities on land is regulated by both written and unwritten law. This law of land warfare is derived from two sources: customs and lawmaking treaties such as the Geneva and Hague Conventions. The rights and duties set forth in these conventions are part of the supreme law of the land; violation of any one of them is a serious offense. The following are several ethical considerations applicable to the conduct of AHS support:

- Self-defense, as defined by the Geneva Conventions, restricts medical personnel to the use of small arms for self-protection and defense of patients. The increased demand for medical support during large-scale combat operations will prohibit use of medical personnel for perimeter defense and other security details.
- Class VIII supplies and equipment are also afforded protective status under the provisions of the Geneva Conventions. Captured medical supplies and equipment are protected from intentional destruction. Units having custody of enemy supplies and equipment will turn them over to the supporting medical facility. Local or captured Class VIII materiel will only be used to support detainees.

5-132. The Geneva Conventions also stipulate that religious buildings, shrines, and other consecrated places of worship are only used for aid stations, medical installation, or for the housing of wounded personnel awaiting evacuation, if an emergency situation requires such use. See FM 6-27 and FM 4-02 for additional information.

Battlefield Flow

5-133. Casualty information is collected and reported through official channels as quickly as possible with the standard being that it is passed to the Casualty and Mortuary Affairs Operations Division normally within hours of knowledge of an incident. A casualty is any person who is lost to the organization by having been declared deceased, duty status-whereabouts unknown, excused absence-whereabouts unknown, missing, injured, or ill. Units will report all casualties to include American civilians, DOD and DA Civilians, contractors authorized to accompany the force, and personnel of other Services. The scope and scale of personnel losses expected during large-scale combat operations against a peer competitor has the potential to overwhelm the casualty reporting process timelines and negatively impact the notification process. Commanders should consider supplementing the casualty reporting system at critical nodes with HR squads/teams or ad hoc teams (immaterial of branch or military occupational specialty) with sufficient capability to gather and report casualty information in a timely manner.

Note. Based on guidance from the JTF, joint force land component command, or coalition forces land component command, the ASCC may delegate authority to corps-level commanders to release casualty reports directly to the Casualty and Mortuary Affairs Operations Division with a copy provided to the theater casualty assistance center.

5-134. Due to the personal nature of information within casualty reports, the theater casualty information center, established by the ASCC human resources operations center, reports casualty information to the Casualty and Mortuary Affairs Operations Division using Defense Casualty Information Processing System as the official means of casualty reporting. In the absence of the ASCC human resources operations center, the senior element G-1/AG must immediately assume the role of the theater casualty information center.

5-135. Soldiers may be evacuated to an MTF where the casualty liaison element, in coordination with the Soldiers' unit, may generate the Defense Casualty Information Processing System report for submission to the theater casualty information center. Information includes date and time of the casualty, circumstances, and location. Casualty liaison elements are allocated to the TPOC operating the theater casualty information center. See FM 1-0 for additional information.

Casualty Liaison Element

5-136. The casualty liaison element provides accurate and timely casualty reporting and tracking information at Role 3 MTFs, General Officer commands, and the ASCC human resources operations center. Casualty liaison elements facilitate real-time casualty information for commanders. Not only do casualty liaison elements provide accurate casualty information, but they also act as a liaison for each affected commander and unit. Casualty liaison elements provide updated status reports to affected units and inform them when Soldiers are evacuated from theater. They also assist with coordinating a Soldier's return to duty.

5-137. The casualty liaison element's primary function is to ensure timely reporting of casualty information to the theater casualty information center and the unit S-1. The theater casualty information center verifies the information and sends it to the Casualty and Mortuary Affairs Operations Division to coordinate notification actions through the appropriate CONUS and/or OCONUS casualty assistance center. Casualty liaison elements supporting G-1s assist commanders in maintaining accurate casualty information throughout the duration of an operation.

5-138. The casualty liaison elements begin coordination with patient administration sections to handle those casualties evacuated to military or civilian hospitals within their AO. Casualty liaison elements located at a Role 3 MTF review each patient's status, document newly arrived patients, and collect casualty-related information for entry into the Defense Casualty Information Processing System. The Joint Patient Tracking Application assists G-1s and S-1s with casualty tracking and Soldier location information.

5-139. Mass casualty incidents or transfer of injured personnel may require treatment at hospitals outside of Theater assets and in friendly host nation medical treatment facilities. The casualty liaison elements placed in those facilities where needed are essential for providing updated information on all incapacitated, injured, and ill personnel through the theater casualty information center to the Casualty and Mortuary Affairs Operations Division. The Casualty and Mortuary Affairs Operations Division then notifies the installation casualty assistance center, who in turn provides updated information to the primary next of kin. Casualty liaison elements also provide updated information as personnel transit through MTFs.

5-140. The Office of the Surgeon General is responsible for identifying the MTFs within the sustaining base to treat patients in the AO through MTF sourcing, and outside of the deployed AO for patients who evacuate from the deployed AO. Once identified, the theater casualty assistance center ensures the casualty liaison element network is established, positioned, and resourced to support the deployed AO for casualty reporting. See FM 1-0 for additional information.

SECTION II – SUSTAINMENT OF DEFENSIVE OPERATIONS

5-141. This section provides an overview of sustainment of defensive operations and addresses fundamental principles of sustainment during the defense. It also provides additional planning considerations needed for sustainment support of defensive operations. A *defensive operation* is an operation to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations (ADP 3-0). Although a defensive operation normally does not achieve victory, it sets the conditions necessary to regain the initiative and achieve other goals.

OVERVIEW OF SUSTAINING DEFENSIVE OPERATIONS

5-142. As a component of combat operations, the defense is a combination of highly complex tasks that place tremendous and continuous demands on Army sustainment organizations. Situational awareness, mission analysis, and detailed planning are keys to successful support operations. Commanders take advantage of the time available during a defense to build combat power. However, the time available is likely to be unknown

since the enemy typically has the initiative. As a result, sustainment organizations and the functions they execute play a critical role in supporting the defense and the success of subsequent future operations.

5-143. There are three types of defensive operations: area defense, mobile defense, and retrograde. An area defense orients on retaining terrain and denying enemy forces access to desired terrain while not destroying the enemy outright. A mobile defense defeats the attacking forces by permitting the enemy to advance into a position that exposes them to counterattack. A retrograde moves the friendly forces away from the enemy to gain time, preserve forces, place the enemy in unfavorable positions, or avoid combat under undesirable conditions.

5-144. Defending commanders combine the three types of defensive operations to fit the situation. All three types of defenses use mobile and static elements. In mobile defenses, static positions help control the depth and breadth of the enemy penetration and retain ground from which to launch counterattacks. In area defenses, commanders closely integrate patrols, security forces, and reserve forces to cover gaps among defensive positions. Commanders reinforce positions as necessary and counterattack as directed. In retrograde operations, some units conduct area or mobile defenses or security operations to protect other units that execute carefully controlled maneuver or movement rearward. These units use static elements to fix, disrupt, turn, or block the attackers. Mobile elements are used to counterattack and destroy the enemy.

5-145. Commanders execute defensive operations for various reasons, such as to retain decisive terrain or deny a vital area to the enemy, weaken or fix the enemy as a prelude to offensive actions, or increase the enemy's vulnerability by forcing the enemy to concentrate subordinate forces. The ultimate purpose of the defense is to create conditions for a counteroffensive whereby it allows Army forces to regain the initiative.

SUSTAINMENT FUNDAMENTALS FOR DEFENSIVE OPERATIONS

5-146. Enemy commanders look for opportunities to counter corps and division defensive operations. The enemy will seek to employ special purpose forces, irregular forces, electronic warfare, long-range artillery, rockets, missiles, information capabilities, and cyberspace electromagnetic activities to disrupt sustainment activities. The enemy may exploit use of electromagnetic signals such as cell phones and geotagged photos to assist in targeting of sustainment units and locations. Sustainment commanders must be aware of these unintended threats and focus on those efforts that would help set the conditions necessary to regain the initiative during defensive operations.

5-147. All sustainment functions are planned and executed to support defensive operations and build combat power to prepare for future offensive operations. The exact type and extent of support operations and the organizations executing them will vary by echelon based on the support requirement. Even though defensive operations may be the main effort, simultaneous offensive operations with their support requirements are also likely to be ongoing.

5-148. Sustainment commanders and staffs plan for increased requirements in Class IV, V, VIII, and IX items to support the defensive effort and build Class III (bulk and package) and Class V stocks to prepare to transition to offensive operations. Sustainment planners anticipate where the greatest need might occur during operations and consider pre-positioning sustainment stocks far forward to reduce response times for critical support. Planners also consider alternative methods for delivering sustainment in emergencies. Sustainment of defensive operations requires a coordinated planning effort designed to maximize synchronization, integration, and continuity of support at all echelons. Commanders and staffs at every echelon must anticipate operational requirements, be responsive in requisitioning and distributing resources, and be prepared to improvise tactics and techniques for execution that ensure responsiveness, even in unexpected situations.

Defense and Large-Scale Combat Operations in the Pusan Perimeter

On June 25, 1950, the 89,000 strong North Korean People's Army (NKPA) invaded the Republic of Korea (ROK) and quickly overwhelmed the ROK units. Throughout July, NKPA units pushed southward as the ROK army and recently arrived American units fought to slow their advance. By August 4, Eighth Army Commander, Lieutenant General Walton H. Walker, had established the 140-mile Pusan Perimeter which halted the NKPA. Walker's defensive line depended on holding the road and rail network that supplied the front. Over the course of the next 45 days, Walker had to hold the perimeter while his logistical support units re-established combat power to transition to the offensive and breakout of the perimeter.

The Pusan Logistical Command, established by Walker, served as the principal sustainment organization providing for all sustainment functions throughout the Battle of the Pusan Perimeter (August 4 - September 15). This logistical command centered on Pusan harbor, the most developed and biggest harbor on the peninsula. It was the center of the supply effort for United Nations forces within the Pusan Perimeter. Its four piers and intervening quays could berth 24 or more deepwater ships and could handle a capacity of 45,000 tons daily. Pusan also had a good transportation system of railroads running from the port to points north; it formed the backbone of the transportation system in Korea. On August 30, the 714th Transportation Railway Operating Battalion arrived in Korea and became responsible for operating the 500 miles of railway line within the Pusan perimeter.

Necessary munitions for the build-up came either from Japan, as part of the refurbishment operation for WWII vehicles and munitions, or shipped directly from the United States. By August, an average of 4,000 vehicles a month cleared the repair shops in Japan and were transported to Pusan through an expedited rail-shipborne system to deliver them in two days. Additionally, the Army shipped equipment from the Continental United States. In early August, a cargo ship arrived with 80 U.S. medium tanks capable of defeating the NKPA's T-34 tanks. By the third week of August, through resupply and the deployment of armor units, American tanks outnumbered the NKPA tanks by at least 5 to 1.

To provide health service support for the high rate of casualties among American and ROK forces, the Army established Mobile Army Surgical Hospital (M.A.S.H.) units. The 8055th M.A.S.H. was assigned to the 24th Infantry Division in July. Shortly thereafter, the 8063rd and 8067th began operations within the Pusan Perimeter. These units often received 100-200 casualties per day. From these units, hospital trains returned wounded soldiers to Pusan for further care. To provide for Class I supply, the Army had to rely on WWII-era K-rations available in Japan. None of the new C-rations were immediately available. The Quartermaster General issued orders that all available C rations in the U.S were to be immediately shipped to Korea to feed U.S. and ROK personnel.

By September 1, United Nations Command (including ROK and British troops) had 180,000 men based in the Pusan Perimeter. Shortly after the landings at Inchon on September 15, Pusan Logistical Command was redesignated as the 2nd Logistical Command for the remainder of the war. On September 20, American and ROK units began to move forward and two days later, Walker issued his operations order for a full-scale breakout of the Pusan Perimeter.

PLANNING CONSIDERATIONS FOR THE DEFENSE

5-149. Sustainment planning is both a continuous and a cyclical activity of the operations process. For sustainment planning, the most important factors are requirements, capabilities, and shortfalls. As outlined in the paragraphs below, planning considerations assist planners in identifying specific support or operational requirements based upon available information. Many planning considerations affect the ability to execute defensive operations. These considerations must be recognized, analyzed in the time available, and prioritized based on the commander's intent.

Sustaining Defensive Operations

- Plan Class IV for transitions from offense to defense.
- Expect increase in Class V.
- Plan for pre-positioning of supplies.
- Plan retrograde support.
- Increased demand for Class VII.
- Mass casualties.
- Large scale personnel replacements in a short period.

5-150. Planning considerations must encompass all warfighting functions to ensure the plan is integrated across all functions and domains. A planning consideration may have various levels of effects that drive support requirements across all warfighting functions. The following discussion describes considerations for each warfighting function during planning for sustaining large-scale defensive operations.

SUSTAINMENT PLANNING CONSIDERATIONS

5-151. The planning considerations listed below for sustainment are examples of what sustainment planners may consider during defensive operations. This list should not be considered all-inclusive. Considerations will vary for individual operations. The list provides some common planning considerations for sustainment during all defensive operations. If a defense operation has a special consideration, it is indicated in the list:

- Plan for execution of all sustainment functions and associated sub-functions at all echelons; personnel services, financial management, HSS, and logistics. This includes personnel replacement, casualty reporting, medical treatment, medical evacuation, medical logistics, hospitalization, and all logistics functions.
- Shift maintenance and recovery capabilities in the FSC. Maneuver brigade commanders, staff, and SPO offices should weight the main defensive effort by cross-leveling sustainment/logistics assets within the brigade.
- Prioritize main effort support for spoiling attacks, counter attacks, and follow-on offensive operations. Plan for all sustainment functions required to build combat power, personnel, supply, maintenance, and medical. Preposition supply Classes I, water, IIIB/P, IV, V, VIII, and IX centrally and well forward. Consider the use of combat-configured loads. Balance forward positioning of resupply and rapid mobility.
- Plan for additional transportation assets, to include force protection, that may need to be echeloned forward to support the maneuver brigade main effort for resupply, troop movement, and casualty evacuation.
- Ensure that proper handling and storage requirements are addressed for temperature-sensitive medical products when prepositioning Class VIII.
- Expect high demand for Classes IV and V to support defense preparation efforts. Ensure adequate transportation assets are available to move the required tonnage.
- Plan for heavy equipment transportation assets to support the retrograde defense operation. This transportation is required to move serviceable and unserviceable main battle tanks, infantry/cavalry fighting vehicles, Stryker systems, and other heavy equipment away from the enemy.
- Plan for the appropriate type of water distribution. During large-scale combat, sustainment planners should expect to distribute only bulk water from the corps' rear boundary forward to the forward line of own troops. Bottled water requires contracted support and, if used, should only be planned for the joint security area.
- Expect competition between the need to support unit mobility and the need to conduct distribution operations. Plan for mobility and transportation support to units fighting over a dispersed area in a static area defense, and in a dynamic mobile or retrograde defense.

- Plan for troop transportation assets to support the retrograde defense operation. This is required to move large numbers of personnel during the retrograde.
- Plan for back-haul of equipment and supplies during the retrograde. This is for serviceable and unserviceable equipment and repairable Class IX items.
- Echelon support for the retrograde task to ensure seamless movement from the main battle area to the support and rear areas.
- Expect high demand for obscurant supplies and equipment.
- Coordinate with the supporting DSSB to provide support to maneuver brigade units when the BSB is in retrograde movement.
- Expect an increase in demand for Class VIII (medical materiel and blood products). Establish blood product inventory levels (to include whole blood and dried plasma) by role of care as appropriate to ensure distribution requirements are identified.
- Plan for increased use of batteries for technologies that require them.
- Plan for limited visibility and limited distribution routes.
- Plan for maximum use of unit distribution for resupply.
- Plan for reinforcing support to aviation brigades for downed aircraft recovery operations.
- Expect increase in aerial delivery operations.
- Anticipate mass casualties and large-scale personnel replacements to include potential reconstitution of severely degraded units.
- Plan for continuous replacement operations, specifically the transportation and integration of replacement personnel into units in the tactical close area.
- Plan for primary, alternate, contingency, and emergency communications plans to ensure effective personnel asset visibility and delivery of LOGSTAT reports.

COMMAND AND CONTROL PLANNING CONSIDERATIONS

5-152. The planning considerations for command and control are listed below:

- Expect enemy attacks in the space and cyberspace domains (to include the electromagnetic spectrum) that will degrade communications and digital information transmission. Attacks in these domains affect sustainment operations in terms of satellite communications, positioning, navigation, timing, information collection, internet operations, computer systems, and voice communications. Commanders must develop and execute a primary, alternate, contingency, and emergency communications plan to ensure redundancy. In addition, fast-paced offensive operations conducted prior to the defense may have prevented sustainment information systems from functioning for a period of time, creating a lag in requisitions and data exchange. Commanders capitalize on the time available during the defense to ensure all required sustainment information is passed.
- Identify sustainment forces that will support the defense reserve force in all types of defense operations. Commanders will determine what risk is acceptable in attaching sustainment units to the reserve.
- Understand how terrain may limit or degrade communications and force retransmission stations. This is important for Sustainment Transport System operations. Understanding terrain can also provide some degree of protection from electronic warfare by masking antennas from the enemy while still providing line of site to friendly forces.
- Assess sustainment task organization frequently to ensure it is adequate and positioned properly to support the sustainment mission. Plan for replacement of units that are lost as a result of enemy attack.

MOVEMENT AND MANEUVER PLANNING CONSIDERATIONS

5-153. The planning considerations for movement and maneuver are listed below:

- Expect sustainment resupply and support elements to operate outside the unit boundaries and beyond the forward line of own troops while supporting covering, guard, and screening forces and counter and spoiling attack forces. Sustainment units must understand tactical enabling tasks and operational control measures used by maneuver forces in perimeter defense.

- Understand and anticipate how terrain, defensive obstacles, fire support coordination measures, movement restrictions, and terrain will affect the methods of resupply. These factors must be considered in all distribution management and movement control plans.
- Expect requirements for unmanned aircraft Class III(B), V, and IX repair parts to increase during defensive operations. Unmanned aircraft systems often require motor gasoline or aviation gasoline. This requirement must be included in LOGSTATs, requisitioning, storage, and distribution.
- Task and coordinate with movement control units for road usage or de-confliction during retrograde operations. This is critical to ensure the retrograde is not hindered by uncoordinated or conflicting unit movement on available routes. Commanders must identify main and alternate movement routes.
- Plan for support to SOF operating in the maneuver brigade area. This includes special ammunition and non-standard equipment maintenance.
- Plan for support to attack helicopter operations in the close area. This includes planning for fuel, maintenance, munitions, and placement of FARPs.
- Coordinate with the rear and support area terrain managers to deconflict airspace for aerial delivery, Air Force airland delivery, and aeromedical evacuation requirements.

INTELLIGENCE PLANNING CONSIDERATIONS

5-154. The planning considerations for intelligence are listed below:

- Intelligence is critical for planning sustainment operations in support of the defense. It starts with an understanding of the overarching operational and mission variables, but then extends to intelligence preparation of the OE products, detailed intelligence estimates, and other intelligence products that describe enemy capabilities and courses of action. From these products, planners can estimate friendly casualty rates and munition expenditure rates, identify protection requirements, and have a better understanding of where and when sustainment capabilities are needed. See ADP 2-0 and FM 2-0 for more information on the intelligence warfighting function.
- Like the other warfighting functions, there are some unique aspects of sustainment support to defensive operations that are critical to the intelligence warfighting function. Low-density intelligence and electromagnetic warfare maintenance is especially critical to the intelligence architecture and intelligence operations.

FIRES PLANNING CONSIDERATIONS

5-155. The planning considerations for fires are listed below:

- Forecast increased consumption of long range and precision munitions for division artillery and corps fires units.
- Anticipate frequent and rapid relocation of fires units in order to shift supporting units accordingly.
- Ensure the quantity and positioning of modular ammunition units at EAB are sufficient to support fires ammunition requirements.
- Ensure that ammunition transportation assets are adequate and properly positioned to support ammunition distribution for fires operations. The TSC must coordinate with the CCMD J-4 and strategic providers to ensure required munitions are being distributed to the theater.

PROTECTION PLANNING CONSIDERATIONS

5-156. The planning considerations for protection are listed below:

- Plan for establishing base cluster operations to create dispersion and facilitate concealment. Commanders should plan to disperse large, consolidated bases from which sustainment units operate into smaller bases to form a base cluster. This is for all bases, from the BSA to bases operating in the joint security area. Consider all security integration implications of the base cluster.
- Plan for positioning of EOD assets to render safe and dispose of explosive hazards threatening critical infrastructure, terrain, materiel, and nodes necessary for force generation, including the removal of lodged munitions in mortars, artillery tubes, long range fires and other weapons systems. Additionally, EOD assets support battle damage assessment and repair and hung/armed ordnance on aircraft.
- Expect direct enemy attack by small unit/special operations ground forces, attack aircraft, and long-range artillery. Commanders must ensure that base defense measures are adequate to detect and

defeat small unit operations (Level I or Level II threats). Units must use adequate cover and concealment measures to prevent detection by enemy forces. Cover and concealment measures must also address electromagnetic spectrum, acoustic, and thermal signatures generated by sustainment units. Dispersion mitigates effects of long-range fires and attack aircraft. See ADP 3-37 for more information.

- Plan for adequate convoy security for convoys supporting the mobile defense. This may be from internal sources or from coordinated external sources.
- Plan for CBRN conditions. CBRN defense plans should include assessment (threat assessments, detection methods, reconnaissance, and surveillance plans), protection, and mitigation strategies (dispersion, covers). This includes an increase in requirements for non-potable water and CBRN defense equipment. Sustainment planners should anticipate the effects of CBRN conditions. This includes impacts to supply routes and increased requirements for non-potable water and chemical defense equipment such as individual protective equipment, filters, and CBRN medical countermeasures. CBRN defense planning must include detailed procedures for assessing the threat, protecting people, resources, and equipment, and mitigating the impact. For more information see FM 3-11.
- Plan for processing contaminated human remains and equipment decontamination. In accordance with DOD and Federal policy, the safety of the living takes precedence over the evacuation of contaminated remains. If unable to be decontaminated for transport, contaminated human remains will not depart the theater of operations. Sustainment planners must identify and resource cold storage or execute interment operations. For more information on decontamination of human remains, see ATP 4-46.

ADDITIONAL PLANNING CONSIDERATIONS

5-157. The many implications for the tactics, techniques, and procedures used by sustainment forces supporting a defense are just as significant as commodity requirements. Sustainers anticipate how terrain, defensive obstacles, fire support coordination measures, and movement restrictions will affect sustainment operations. These factors are considered in all distribution management and movement control plans. Planners expect to weight sustainment operations support for spoiling attacks, counter attacks, and follow-on offensive operations. This may require sustainers to weight the main defensive effort by cross-leveling sustainment assets. In some cases, sustainers pre-position Class I, IIIB/P, IV, V, VII, VIII, and IX stocks and water centrally and well forward, but they always balance forward positioning of sustainment assets with the need for rapid mobility. While supporting covering, guard, and screening forces and counter and spoiling attack forces, sustainers plan for support elements to operate outside the unit boundaries and beyond the forward line of own troops. Sustainers also consider operational control measures to include passage of lines with maneuver forces in perimeter defense. Finally, sustainment leaders identify sustainment forces that will support the defense reserve force in all types of defensive operations. Commanders determine what risk is acceptable in attaching sustainment units to that reserve force.

5-158. Defensive operations also place a burden on medical resources due to the magnitude and lethality of forces involved. Medical units anticipate large numbers of casualties in a short period of time due to the capabilities of modern conventional weapons and the possible employment of weapons of mass destruction. These mass casualty situations can exceed the capabilities of organic and direct support medical assets. To mitigate this risk, planners should anticipate the possibility for mass casualty situations and coordinate with area support medical units to help absorb the acute rise in battlefield injuries. The command surgeon or medical operations officer at echelon works with the logistics, personnel, and operations officers to develop mass casualty plans and advise commanders on integrating all available resources into an effective plan. Casualty evacuation is a unit-level responsibility and must occur concurrently with operations.

5-159. Unit commanders must plan for and ensure the availability of casualty evacuation assets to augment available ambulances in the event of a mass casualty situation. Unit commanders must also ensure integration of the casualty evacuation plan with the medical evacuation plan. Evacuation of casualties during a mobile defense is especially challenging due to possible relocation of receiving MTFs and threats to evacuation routes. Units should always plan for mass casualty situations and have an evacuation plan, including identification of casualty evacuation assets and casualty collection points. The casualty evacuation plan should complement and be synchronized with the medical evacuation plan (ambulance shuttle system and

routes) for the use of both air and ground medical evacuation and casualty evacuation platforms in addition to lifts of opportunity. For additional information on mass casualty operations, see ATP 4-02.4, ATP 4-02.6, and ATP 4-02.13.

5-160. Fatality management plans must strive to support the defense in depth. Because of the fixed nature of fatality operations and evacuation routes, these operations and routes are more vulnerable to enemy action. Fatality management plans must identify both primary and secondary LOCs for evacuating the human remains of friendly, enemy, and local nationals. Planners must be aware of this and ensure that policies and procedures are established for the prompt, dignified return of these human remains to local government officials, Red Cross, Red Crescent, or family members. For additional information, see JP 4-0, ADP 4-0, and ATP 4-46.

5-161. Sustainment planners and maneuver commanders in the defense should be prepared to execute reconstitution operations to rebuild combat power. Commanders assess unit readiness and determine the most expedient method to bring the unit to an acceptable combat posture through reorganization or regeneration.

5-162. To support defensive operations, sustainment forces at all echelons consider echeloning support assets to expedite replenishment for critical support. Sustainment forces have limited protection capabilities and may be required to execute security tasks until the arrival of dedicated maneuver security elements.

ECHELONS ABOVE BRIGADE SUSTAINMENT

5-163. The companies operating at EAB provide all sustainment support to defense enabling units operating in the division support or rear areas. These companies also provide area support for units transiting these areas and provide sustainment support to the maneuver brigades. These units will normally be attached to a DSSB, CSSB, DSB, or a sustainment brigade. Functional companies may be attached to a functional battalion when available. Examples of functional battalions include the motor transport battalion, petroleum support battalion, and movement control battalion. Support is executed based on priorities and support relationships established in the order issued by the DSSB, CSSB, DSB, or sustainment brigade in support of the overall theater distribution effort.

Sustainment Functional Battalions

- Motor transport battalion
- Petroleum support battalion
- Movement control battalion

5-164. During the defense, commanders address several unique sustainment requirements. Commanders determine which supplies are needed, how often to supply, and which method of supply best supports defensive operations. Priorities for replenishment are normally bulk water, ammunition, and materials to construct obstacles for defensive positions. There is normally a reduced need for bulk fuel. There may also be an increased demand for decontaminants and CBRN collective and personal equipment.

5-165. Distribution is a critical aspect of sustaining defensive operations to ensure adequate resupply at all times. EAB sustainment units work within the distribution network to execute operations through the integration and synchronization of materiel management and transportation. Distribution builds and maintains combat power with the delivery of supplies, personnel, and equipment as replenishment support to a BSB and extends operational reach of maneuver forces, enables freedom of action, and prolongs endurance.

5-166. A composite or quartermaster supply company resupplies BSBs and EAB units conducting or supporting defensive operations. Resupplies include general supply, fuel, water, and retrograde support. Supply stocks are replenished by other supply companies executing supply support within the theater. The replenishment is delivered to the supply company via EAB transportation companies executing theater distribution, which supports the overall theater distribution plan.

5-167. Troop movements and resupply convoys with combat-configured loads are delivered to maneuver units on a scheduled basis during the defense. The composite or functional transportation companies provide heavy, medium, light, bulk water, and bulk petroleum transportation capability through various types of units. The transportation company role is to provide transportation support and execute convoys to move supplies, equipment, and personnel replacements in support of defensive operations.

5-168. Truck companies should expect to provide unit distribution to units in the brigade close area and even into the brigade deep area to support screening and security operations. Enemy attack aviation and long-range fires capabilities dictate well dispersed march orders. Movement into the brigade deep area requires additional convoy security.

5-169. During defensive operations, there are a number of different formations that require unique munitions support and capabilities. The field artillery brigade executing deep fires, air and missile defense units, combat engineers, and the CAB all have specific munitions requirements. The modular ammunition company provides ammunition support to these units while also providing ammunition resupply support to the maneuver brigade distribution company. The modular ammunition company must configure ammunition loads required to support the defense by type of ammunition and priority of movement.

5-170. Sustainment planners should expect high demands on all field services during defensive operations. There are various types of field service companies and the role of each in supporting defensive operations depends on the type of service the company is designed to perform. Food service support for EAB units is provided by the field feeding company. This support must be part of the planning process to ensure food service equipment and manpower is coordinated to support feeding operations. For additional information on field feeding, see ATP 4-41. Field service companies execute operations based on priorities and support relationships established in the order issued by sustainment commanders. The field service functions are critical to rebuild combat power, prepare for transition to offensive operations, and to restore unit morale.

5-171. Commanders provide maintenance support as far forward as possible during the defense. Maintenance collection points help reduce the need to evacuate equipment. The thrust of the maintenance effort is to fix as far forward as possible those systems that can quickly be returned to the unit in combat-ready condition. The support maintenance company performs field-level maintenance (including all low density) and limited recovery support to units on an area basis. The support maintenance company provides field maintenance support to EAB units that do not have organic maintenance capability. Test, measurement, and diagnostic equipment capabilities reside in the support maintenance company to provide calibration and repair support to divisional and EAB units. The support maintenance company and the maintenance surge teams are the only EAB units that perform field-level maintenance and limited recovery support to units on an area basis. The support maintenance company does not have technicians trained to make repairs on armored or Stryker brigade combat platforms. However, the maintenance surge team includes technicians that can make repairs on these combat platforms.

5-172. During defensive operations, financial management focuses on supporting contracting and local procurements by funding paying agents to pay local vendors for specific defense operations requirements. Other tasks executed during defensive operations include securing and safeguarding captured currency (enemy, allied, neutral, U.S., or mutilated currency), commercial vendor services and contract payments, disbursing and funding support, controlling currency (U.S. or local), providing detainees with pay support, special programs, and supporting monetary compensation/consolation. Paying agents require a CSB-trained and appointed field ordering officer in order to accomplish payment of local vendors.

5-173. HR planners should expect large numbers of casualties in a short period of time during defensive operations. They must be prepared to process mass casualties and large-scale personnel replacements (to include reconstitution) to maintain personnel accountability and build combat power to prepare for future offensive operations.

5-174. Medical planners stay in close coordination with the other sustainment planners when preparing for defensive operations. Medical evacuation personnel generally must negotiate extended LOCs to reach the patient, complete vital tactical combat casualty care, and evacuate the Soldier. The medical company (area support) provides Role 1 and Role 2 AHS support to units supporting defensive operations. The medical company (area support) is attached to an MMB and executes area medical support operations within an area identified in the OPORD issued by the MMB commander. The medical company (area support) can task organize and is tailorable to the OE and the mission requirements dictated by defensive operations. There are several EAB medical companies that support one or more medical functions and may provide area support or direct support to a maneuver commander. For additional information on EAB medical support, see FM 4-02 and ATP 4-02.6.

5-175. Evacuation of fatalities during the defense may be highly problematic. Limited availability of lift will be prioritized to life saving and defense enhancement. Task organized fatality management teams for echelons at or below brigade will have limited human remains storage. Planners will make every effort to conceal fatalities from the view of the living and safeguard human remains from access of scavengers.

MANEUVER BRIGADE SUSTAINMENT

5-176. All three types of maneuver brigades have companies that support brigade operations. The types and quantities of these companies is the same for each maneuver brigade, but the exact composition and capability of the supporting companies will differ based on the type of brigade. All maneuver brigades have a distribution company, a field maintenance company, a BSMC, and six forward support companies. Each FSC supports a specific maneuver battalion. These companies are organic to the BSB, and each has a specific role.

DISTRIBUTION COMPANY (ALPHA)

5-177. The distribution company's role is to provide supply distribution to maneuver brigade units executing defensive operations. It executes a combination of supply and transportation functions to accomplish supply replenishment to support defensive operations. The distribution company plans, directs, and supervises supply distribution in support of the maneuver brigade to ensure that anticipatory replenishment is executed in accordance with the support concept.

5-178. The distribution company commander and key leaders must constantly conduct distribution management to integrate supplies with available transportation assets and control their movement according to the distribution plan. During defensive operations, the BSB SPO anticipates the time requirements for increased fuel, munitions, barrier material, and potable water distribution. The DSSB replenishes the distribution company with all classes of supplies. The BSB SPO officer coordinates with the DSB SPO officer to ensure this support is in place.

5-179. Degraded LOCs during the defense may make it necessary for the distribution company to preposition sustainment stocks centrally and well forward within the main battle area. Planners should coordinate EAB throughput to reduce transportation requirements of limited organic assets. The BSB commander sets priorities of support for the distribution company based on the concept of operations. When requirements exceed the capability of the distribution company, aerial delivery or throughput resupply directly to units might be required to ensure timely delivery of supplies.

FIELD MAINTENANCE COMPANY (BRAVO)

5-180. The field maintenance company's role is to provide field-level maintenance support to the BSB and brigade combat elements not supported by an FSC. The field maintenance company provides repair capability for automotive, ground support equipment, communications and electronics, and armament. The field maintenance company also provides limited field-level maintenance support to the FSCs for low density commodities such as communications, electronics, and armament. Maintainers are pushed as far forward as possible to make repairs at the point of need. During the defense, the field maintenance company is critical to repair damaged equipment to build combat power.

5-181. Large-scale combat operations demand a maintenance system that is focused on returning systems to operational status quickly and as close as possible to the point of failure or damage. Properly planned and executed field maintenance allows rapid repair of non-mission capable weapon systems and critical equipment.

5-182. The field maintenance company may be required to use recovery assets to assist FSCs in recovering damaged equipment from the point of failure to a maintenance collection point or BSA. Recovery and evacuation vehicles should position themselves at critical locations on the battlefield to keep disabled vehicles from blocking movement routes. If necessary, equipment transporters and armored vehicles with inoperative weapon systems may be used to accomplish this.

5-183. During defensive operations, maintenance requirements may overwhelm field maintenance company capabilities. The commander establishes maintenance, recovery, and evacuation requirement priorities (including timelines) and destruction criteria for inoperable equipment within the OPORD based on

capabilities. Considerations should be given to weigh this priority with additional repair part capabilities to include authorized stockage list items, shop stock lists, line and shop replaceable units, and combat spares.

BRIGADE SUPPORT MEDICAL COMPANY (CHARLIE)

5-184. The BSMC provides Role 2 medical care to supported maneuver battalions with organic medical platoons. The BSMC provides Role 1 and Role 2 medical treatment on an area basis to those units without organic medical assets operating in the BSA. The medical company may execute Class VIII distribution to a maneuver brigade through the SSA in accordance with the support plan.

5-185. Medical support associated with defensive operations anticipates significant casualties just as in the offense. Integrated planning would include casualty evacuation use of planned evacuation routes, identified points in the ambulance shuttle system (such as ambulance exchange points), and should include the augmentation of medical devices and medical providers for the provision of en route care when available. The BSMC is organized to provide triage and management of mass casualty, tactical combat casualty care, initial resuscitation and stabilization, care for patients with disease and nonbattle injury, and battle wounded and injured Soldiers. The BSMC also provides operational public health, intervention for combat and operational stress reaction, and preparation of patients for further medical evacuation.

5-186. During the defense, medical evacuation from the forward security or striking force area poses significant challenges due to distance, limited situational awareness, and rapid changes in the tactical situation. In a mobile defense, considerations must be given to the fixing force, which will likely suffer higher casualty rates than the striking force as it absorbs the enemy's main attack. Defensive forces may be conducting noncontiguous combat operations with a high probability that movement routes are interdicted. This makes it imperative that the COP is available to ground and air ambulances and is accurate and updated frequently.

FORWARD SUPPORT COMPANY

5-187. The FSC provides support to a maneuver battalion during defensive operations. The FSC provides field-level maintenance and distribution support to the supported battalion. FSCs provide the BSB commander the ability to prioritize the logistics effort in support of defensive operations. They coordinate with the BSB commander and SPO to determine proper location of the field and combat trains. FSCs become the vital link from the BSB to the supported battalions and provide the brigade, battalion, and BSB commanders the greatest flexibility while supporting defensive operations.

5-188. FSC support occurs through disciplined LOGSTAT reporting and the use of command and control and sustainment systems to gain situational understanding, develop a COP of current and future operations, and plan for the supported maneuver battalion. This is imperative to synchronize the concept of operations with priorities of support to ensure continuity and responsiveness.

5-189. Commanders and sustainers plan for ongoing routine resupply while in the defense. Resupply during the defense should not be viewed as emergency resupply, but rather as planned and deliberately executed events to sustain operations. In addition to planned resupply, both commanders and sustainers need to be alert to lulls in the fight which provide unplanned opportunities to resupply units in the defense. FSC commanders and S-4s must plan to synchronize consumption rates and execute planned resupply and be prepared to execute emergency resupply as required in support of the maneuver battalion. All commanders designate priorities of support to subordinate units against the operational plan. Priority of support should not be determined by who has the least amount of supplies, but rather by which unit is currently the main effort or will become the main effort for the next phase of the operation.

5-190. The FSC positions maintenance assets as far forward as the tactical situation permits to return inoperable and damaged equipment to the operation as quickly as possible. For the armored brigade, the FSC is the sole source of maintenance support for the M1, M2/3, and M109A6 weapon systems. For the Stryker brigade, the FSC is the sole source of maintenance support for the Stryker systems. Commanders may utilize multiple maintenance collection points and array their mechanics on the battlefield. Commanders may further authorize battle damage assessment and repair, controlled exchange, or overrides in order to preserve combat power. Brigade commanders must weight the main defensive effort by cross-leveling FSC maintenance assets.

5-191. The FSC commander must anticipate operating in the brigade deep area if supporting guard or covering forces. The commander must also expect to operate in this area if supporting a mobile defense.

5-192. During defensive operations, the BSB distribution company should conduct continuous exchange of configured loads of supplies on flatracks, water tank racks (HIPPOs), modular fuel systems, and multi-temperature refrigerated container systems while retrograding empty FSC flatracks. This increases the supported maneuver commander's tactical flexibility and decreases sustainment transportation asset time on station when resupplying.

AVIATION BRIGADE SUSTAINMENT

5-193. Aviation brigades also have companies that support brigade operations. The types and quantities of the companies that make up the ASB are the same for each aviation brigade, but the exact composition and capability of the supporting companies will vary based on the type of aviation brigade. All ASBs have a headquarters and support company, a distribution company, a brigade signal company, and an aviation support company. These companies are organic to the ASB, and each has a specific role.

AVIATION SUPPORT COMPANY

5-194. Aircraft maintenance above the aviation operational battalion/squadron level is provided by the aviation support company. The aviation support company is the only unit staffed and equipped to perform ground recovery of brigade or squadron airframes. The aviation support company is generally responsible for dedicated recovery missions, both air and ground. Additionally, the aviation support company can facilitate self-recoveries and perform battle damage assessment and repair as part of a downed aircraft recovery team mission. Aviation support companies may provide personnel and equipment to augment the aviation maintenance company/troop performing downed aircraft recovery team missions when directed by the aviation brigade.

5-195. The aviation support company commander is responsible for forming a downed aircraft recovery team with rapid response times and robust capabilities mirroring the requirements of an aviation maintenance company/troop downed aircraft recovery team program. The aviation support company downed aircraft recovery team program should expand beyond the aviation maintenance company/team program by including the primary responsibility for conducting aerial and ground dedicated recovery missions. Additionally, the aviation support company generally supports recovery missions for aircraft in the aviation brigade area of coverage not assigned to the brigade, transitioning the operational area, or operating in the brigade area of coverage. The priority for the aviation support company downed aircraft recovery team program is dedicated aircraft recovery, with self-recovery and battle damage assessment and repair as contingency operations.

DISTRIBUTION COMPANY

5-196. The distribution company provides support for the aviation brigade and receives, temporarily stores, and issues Class III(B). The distribution company also establishes and operates Class III and Class V transload sites in the brigade sustainment area to resupply brigade operations. Utilizing brigade and battalion assets, the distribution company provides fuel to all brigade aircraft within the assembly area.

5-197. The distribution company also manages the SSA and is responsible for maintaining the authorized stockage list. During defensive operations, the flow of critical Class IX repair parts into the SSA is critical to enable the rapid repair of airframes and maintain or improve the combat power of the aviation brigade.

FORWARD SUPPORT COMPANY

5-198. Aviation battalion FSCs are organized with a company headquarters, distribution platoon, and a ground maintenance platoon. The distribution platoon provides aircraft refuel capability, ammunition specialists, water, and transportation. All aviation battalions have an organic FSC. Attack and cavalry aviation battalion FSCs also have a Class V section. When missions dictate, FSCs can be augmented by the ASB with personnel and equipment.

5-199. During defensive operations, the FSC may be tasked with establishing and operating multiple FARPs to meet mission requirements and will require additional support from the ASB and DSSBs to distribute Class III (bulk and package) and Class V forward. The enemy situation will dictate the duration a FARP will remain operational; it will move often to avoid detection and improve survivability.

AVIATION MAINTENANCE COMPANY/TROOP

5-200. The aviation maintenance company/troop manages the battalion/squadron maintenance program, operates a centralized tool room, and performs field-level maintenance and scheduled services. The primary mission of the aviation maintenance company/troop is to sustain combat power in support of the battalion/squadron mission. The aviation maintenance company/troop conducts field-level maintenance, troubleshoots airframe and component malfunctions, performs maintenance and repair actions, removes and replaces aircraft components, and performs maintenance test flights and maintenance operational checks.

5-201. The aviation maintenance company/troop provides sustainment support by processing, requesting, and storing Class IX shop stock and bench stock. Supply personnel operate unit-level Army logistics information systems and requisition and manage the battalion/squadron Class IX (Air) serviceable spares. The aviation maintenance company/troop performs unit-level repairs on aviation life support systems. Aviation maintainers operate and maintain assigned ground support equipment.

5-202. During defensive operations, the aviation maintenance company/troop must remain mobile and be prepared to move often to provide responsive support and repair to the supported battalion/squadron. The aviation maintenance company/troop possesses enough organic vehicles to transport 75 percent of its table of organization and equipment in a single lift and will require external support coordinated through the battalion and brigade staff to move the remaining 25 percent.

5-203. Maintenance assets will move as far forward as the tactical situation permits to repair unserviceable and damaged aircraft to return them to the fight as quickly as possible. The aviation maintenance company/troop utilizes field maintenance teams and split-based operations to conduct both scheduled and unscheduled maintenance to meet the maintenance requirements for their supported battalion/squadron. When mission requirements exceed aviation maintenance company/troop capacity, the company coordinates with the ASB to receive additional field maintenance teams from the ASB's aviation support company.

AREA DEFENSE

5-204. *Area defense* is a defensive operation that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright (ADP 3-90). The focus of the area defense is on retaining terrain where the bulk of the defending force positions itself in mutually supporting, prepared positions. Units maintain their positions and control the terrain between these positions.

SUSTAINMENT PREPARATION FOR AREA DEFENSE

5-205. To the extent possible, sustainment operators deliver combat-configured loads to maneuver units on a scheduled basis during the area defense. Combat-configured loads are packages of potable and non-potable water; CBRN defense supplies; barrier materials; ammunition; POL; medical supplies; and repair parts tailored to a specific size unit. This eliminates the need to request supplies and reduces the chance that a lapse in communications will interrupt the sustainment flow and jeopardize the integrity of the defense. The commander resupplies the supported maneuver unit using this push system until it requests otherwise. Commanders use sustainment information systems to accurately tailor these combat-configured push packages to the demands of the supported maneuver units.

5-206. In contiguous operations, the commander positions echelon sustainment facilities farther away from the forward edge of the battle area in a defense than in the offense to avoid interfering with the movement of units between battle positions or the forward movement of counterattack forces. These facilities are located far enough behind friendly lines that likely enemy advances will not compel the relocation of critical sustainment capabilities at inopportune times. However, those sustainment capabilities supporting the unit are located close enough to provide responsive support. In noncontiguous operations, the commander positions sustainment facilities in bases and base clusters within the perimeters of ground maneuver units to provide security and avoid interrupting their sustainment functions.

5-207. Commanders provide maintenance support as far forward as possible at maintenance collection points to reduce the need to evacuate equipment. The thrust of the maintenance effort is to fix as far forward as possible those systems that can be quickly returned to the unit in combat-ready condition, as sustainers focus on preparing the defensive force to go on the attack. Commanders ensure that multifunctional forward

logistics elements contain the maximum variety of maintenance personnel with appropriate equipment, such as repair sets, kits, and outfits to rapidly repair weapon systems.

5-208. Medical support associated with the defense anticipates significant casualties, just as in the offense during large-scale combat operations. The BSMC and medical company (area support) provide Role 1 and Role 2 medical support. The BSMC provides support to maneuver brigades, and the medical company (area support) is and EAB asset operating under the command and control of the MMB. During large-scale combat operations, the Role 2 medical companies prepare for the defense by positioning assets to best support the flow of patients without impeding combat operations. The BSMC also reviews and integrates the medical evacuation and casualty evacuation plans for units in the area defense.

5-209. The conduct of troop movements and resupply convoys is critical to a successful defense. Staffs balance terrain management, movement planning, and traffic-circulation control priorities. Staffs also plan multiple routes throughout the AO and closely control their use. The commander may allocate mobility resources to maintain main supply routes to support units and supplies moving forward and to evacuate personnel and equipment to the rear. The commander coordinates air and ground movements supporting the commander's scheme of maneuver with any other affected Services. Commanders also coordinate such movements with any affected organic and external Army aviation, fire support, air defense, and ground maneuver units.

5-210. During the preparatory phase of the defense, sustainment operators normally pre-position supply stocks, particularly ammunition and barrier materials, in the battle positions of defending forces. Sustainment operators also establish maintenance and casualty collection points. Sustainment operators must address these and other sustainment preparations in the planning process to avoid compromising the operation.

SUSTAINMENT SUPPORT DURING AREA DEFENSE

5-211. The sustainment mission in an area defense requires a careful balance between forward positioning of supplies and maintaining the responsiveness and rapid mobility necessary to ensure survivability of sustainment assets. The area defense typically requires less fuel consumption, provides more time for maintenance repairs, and requires less complex casualty evacuation procedures due to the static nature of this defense.

5-212. Priorities for replenishment are normally ammunition and materials to construct obstacles and defensive positions. Maintenance and medical support, with their associated repair parts and medical supplies, are located as far forward on the battlefield as possible. There may be an increased demand for decontaminants and CBRN collective and personal protective equipment. The commander considers stockpiling or caching ammunition and limited amounts of petroleum products centrally within the main operational area.

5-213. The supply of obstacle materials in a defense can be a significant problem that requires detailed coordination and long lead times. Push packages of these supplies ensure units engaged in defensive operations receive needed supplies. The commander plans for the transportation and manpower required in obtaining, moving, and uncrating barrier material and associated obstacles-creating munitions such as demolition charges and mines.

5-214. The use of echelon support greatly enhances sustainment capabilities during the area defense. The sustainment commander ensures the echelon sustainment officers (G-1/S-1, G-4/S-4, G-8/S-8, and surgeon) and the commanders of the sustainment units supporting the defending force understand the commander's tactical intent. These officers and commanders can then establish support priorities in accordance with the commander's intent and plan sustainment operations to ensure the supportability of operations.

MOBILE DEFENSE

5-215. *Mobile defense* is a type of defensive operation that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force (ADP 3-90). The mobile defense focuses on defeating or destroying the enemy by allowing enemy forces to advance to a point where the enemy is exposed to a decisive counterattack by the striking force. The *striking force* is a dedicated counterattack force in a mobile defense constituted with the bulk of available combat power (ADP 3-90). A fixing force supplements the

striking force. The commander uses the fixing force to hold attacking enemy forces in position, to help channel attacking enemy forces into ambush areas, and to retain areas from which to launch the striking force.

SUSTAINMENT PREPARATION FOR MOBILE DEFENSE

5-216. The main battle area is where corps and division commanders want to destroy an attacking enemy force by employing a combination of fixing and striking forces. The sustainment commander supports main battle forces by pre-positioning tailored supplies to expedite the construction of countermobility and protective positions, forward positioning maintenance and recovery assets to regenerate combat power, and expediting personnel fills and returns-to-duty to reconstitute fighting formations.

5-217. The fixing force typically consists of one-third to one-half of the defender's combat power. It shapes the enemy penetration or contains the enemy's advance through a combination of an area defense and a delaying action to establish conditions for a successful attack by the striking force. It typically has most of the countermobility assets of the defending unit. The sustainment commander supports tempo by delivering mission-essential tailored supplies and materiel as far forward as possible by employing unit distribution to deliver preplanned and preconfigured packages of essential items.

5-218. The striking force typically consists of one-half to two-thirds of the defender's combat power. It decisively engages the enemy as attacking forces become exposed in their attempt to overcome the fixing force. The striking force is normally fully tasked organized with all functional and multifunctional support and sustainment assets before its actual commitment. The sustainment element should be task organized into a forward logistics element resourced with fuel, munitions, medical treatment, medical evacuation, and maintenance recovery assets. The forward logistics element is capable and prepared to rapidly replenish the striking force prior to commitment, evacuate personnel and systems, and sustain mission-essential capabilities throughout the battle. Additionally, sustainment must be prepared to support the transition to a spoiling attack with refueling, rearming, casualty evacuation, and battle damage assessment and repair of combat capability to extend operational reach.

SUSTAINMENT SUPPORT DURING MOBILE DEFENSE

5-219. The sustainment mission of a mobile defense requires sustainment planners look beyond the fixing force's shaping operations to support the striking force's decisive counterattack. The greater the distance the striking force must cover when moving from its assembly area to its final objective, the greater the amount of supplies needed to support that move. The mobile defense typically requires more fuel, provides less time for maintenance repairs, and requires more complex casualty evacuation procedures due to the dynamic nature of this defense.

5-220. Commanders establish casualty evacuation procedures for both the fixing force and the striking force and ensure that all unit personnel are trained in casualty response procedures, tactical combat casualty care (self-aid, buddy aid, and combat lifesaver), evacuation of the sick and wounded, and medical aspects of injury prevention. The fixing force will likely suffer a higher percentage of casualties than the striking force as it absorbs the enemy's attack. When the striking force must move a considerable distance from its sustaining base, the commander should consider establishing a forward logistics element that includes a medical capability.

RETROGRADE

5-221. *Retrograde* is a type of defensive operation that involves organized movement away from the enemy (ADP 3-90). The enemy may force these operations, or a commander may execute them voluntarily. The higher commander of the force executing the retrograde must approve the operation before its initiation in either case. Retrograde is a transitional operation; it is not conducted in isolation. It is part of a larger maneuver scheme designed to regain the initiative and defeat the enemy.

SUSTAINMENT PREPARATION FOR RETROGRADE

5-222. The sustainment provided is mobile enough to cope with demands of the fluid tactical situation that typically occurs during a retrograde operation. The sustainment commander prevents unnecessary supplies from accumulating in areas that will be abandoned. Only essential medical and logistics support should be located in the area involved in the retrograde operation.

5-223. The maneuver commander establishes maintenance, recovery, and evacuation priorities and destruction criteria for inoperable equipment in the OPORD. Maintenance requirements generally overwhelm the organic capabilities of forward units during a retrograde operation. Forward units place as many maintenance, recovery, and evacuation assets forward as possible to augment or relieve combat elements of the burden of repairing unserviceable equipment. Recovery and evacuation vehicles position themselves at critical locations to keep disabled vehicles from blocking movement routes. Forward units use all available means to accomplish this, including using equipment transporters and armored vehicles with inoperative weapon systems. When recovery and evacuation are impossible, units destroy inoperable equipment to prevent capture. When possible, units destroy the same vital components in each type of system to prevent the enemy from rapidly exploiting captured friendly systems through battlefield cannibalization.

5-224. The commander assigns transportation priorities for the movement of combat troops and their supplies, the movement of obstacle materials to impede the enemy, and the evacuation of casualties and repairable equipment. The commander keeps main supply routes open and decontaminated as necessary. Units control the back-haul of transportation assets before the retrograde begins, reducing the amount of transportation needed to support the operation. Tasking of and coordination with movement control units for road usage or de-confliction during retrograde operations is critical to ensure the retrograde is not hindered by uncoordinated or conflicting unit movement on available routes.

5-225. Commanders designate and reserve routes for flow of dislocated civilians to mitigate interference and enable freedom of action, retaining use of the unit's main supply routes as much as possible.

5-226. Assignment of medical evacuation precedence is necessary. The precedence provides the supporting medical unit and controlling headquarters with information to use in determining priorities for committing their evacuation assets. For this reason, correct assignment of precedence cannot be overemphasized; over classification has often been an issue during operations. Patients are evacuated as quickly as possible, consistent with available resources and pending missions. Medical elements supporting the retrograding force must provide rapid evacuation of casualties to medical facilities. Medical evacuation requirements are especially demanding in the large AOs common to the retrograde. Commanders may augment the ground ambulance capabilities of supporting forward medical units.

5-227. Military police elements are involved primarily in security and mobility support operations to support and preserve the commander's freedom of movement. This includes enabling logistics operations in contested environments through the conduct of area security and logistics security. For additional information, see FM 3-39. The commander may augment supporting military police forces to establish traffic control posts and route and convoy security. Military police also provide support through the execution of detainee and dislocated civilian operations.

5-228. Finance companies can send the workload from commercial vendor services and other functions back to units outside the immediate AO for processing. Payments and disbursements done remotely can be effective if needed during large-scale defensive operations and mobile defense. For additional details, see ADP 4-0 and FM 1-06.

SUSTAINMENT SUPPORT DURING RETROGRADE

5-229. The sustainment mission of a retrograde typically requires the sustainment of forces engaging the enemy, the organized movement away from the enemy, and the protection of sustainment capabilities and resources in echeloned support. Regardless of the type of retrograde, all echelons of sustainment must have contingency plans to ensure an uninterrupted flow of support to the maneuver units tactically employed in defensive combat while at the same time displacing and/or preparing to displace the supporting unit. Plan for heavy equipment transportation assets to support retrograde operations.

5-230. During retrograde operations, sustainment units echelon their movements to maintain adequate support to the committed force. Sustainment units also maintain maximum dispersion consistent with control and local security. Their goal is to provide uninterrupted support and maximum protection during the time it takes to conduct the retrograde operation. By echeloning support, the commander reduces the amount of time each sustainment unit spends moving, preventing it from performing its primary support tasks. To reduce congestion and interference with the operations of combat, functional, and multifunctional support units, the commander should displace supporting sustainment assets as early as possible—normally during periods of

limited visibility. The early displacement of sustainment units can also prevent revealing friendly future operations to the enemy.

5-231. Commanders anticipate the effects of retrograde movements on sustainment elements to ensure adequate support for the operation and the prompt evacuation of casualties. Retrograde movements generally result in increased distances between sustainment and combat units, which makes providing this support more difficult. Retrograde operations generally require more Class III and possibly more Class V supplies than during the other defensive operations. Increased supply of bulk fuel and ammunition combine to increase the demand for transportation assets and space on main supply routes. This, in turn, increases the need for movement control and pre-positioned services and supplies. Sustainment units carry and cache necessary fuel and ammunition stocks as required by the specific situation.

DEFENSIVE OPERATIONAL FRAMEWORK CONSIDERATIONS

5-232. In the defense, commanders typically retain the deep and rear areas, but they divide the close area into two distinct portions: the security area and main battle area. Commanders use this approach to synchronize operations, including those in air, space, and cyberspace, to defeat an enemy force throughout its depth. See FM 3-0 for additional information on defensive operational framework considerations.

EXTENDED DEEP OPERATIONS

5-233. Operational and strategic-level deep operations are typically outside an assigned land AO for a corps or division, but parts fall within the senior Army formation's area of interest and area of influence. Army long-range fires, cyberspace, space, and other global capabilities support attacking targets in the extended deep area to set conditions for friendly defensive operations. Long-range artillery and ground-based missile capabilities can range enemy long-range missile batteries, manufacturing and economic nodes, critical infrastructure such as airfields and ports, strategic communications nodes, and strategic sustainment and reserve locations.

DEEP OPERATIONS

5-234. Deep operations are used to attrit, isolate, disrupt, and disorganize attacking formations and create windows of opportunity in which to act decisively against lead enemy echelons. The Army employs rocket artillery, rotary-wing aviation, unmanned aircraft systems, SOF, space and cyberspace capabilities, electromagnetic warfare, and influence activities to conduct deep operations.

5-235. Sustainment capability employed to sustain deep operations is organic to Army organizations that execute long-range fires, rocket artillery, rotary-wing aviation, cyberspace, space and other multidomain effects that support attacking targets in the deep area. Specific organizations include the multi-domain task force BSB, CAB ASB, fires brigade BSB, and FSCs supporting the long-range fires battalion, rocket artillery, and rotary wing aviation.

SECURITY AREA OPERATIONS

5-236. During the defense, the security force occupies an assigned area far enough forward of the forward edge of the battle area to protect main battle area units from surprise. Security forces provide early warning to give main battle area units time to reposition forces against enemy maneuver and to mitigate the effects of enemy medium-range fires. The Army employs maneuver brigades task organized with fires, engineers, and aviation to increase the ability of guard or covering forces to slow and disorganize the enemy, degrade the enemy's security forces, and gain additional time for the defending commander.

5-237. Sustaining security area operations is a challenge due to long LOCs and tempo of operations. Sustainment capability employed to sustain security area operations is organic to Army maneuver brigades and organizations that provide fires, engineer, and aviation support in the security area. Specific organizations include the maneuver brigade BSBs and FSCs supporting the field artillery, aviation, and engineer battalions.

MAIN BATTLE AREA OPERATIONS

5-238. The main battle area is where the commander intends to deploy the bulk of the unit's combat power and defeat an attacking enemy force. The commander positions forces in the main battle area to block enemy

penetrations, choosing terrain that puts enemy forces at the greatest possible disadvantage. The Army employs maneuver brigades to defeat the enemy attacking force.

5-239. Sustaining main battle area operations includes increased requirements in Class IV, V, and IX items to support the defensive effort and build Class III (bulk and package) stocks to prepare to transition to offensive operations. Sustainment capability is organic to maneuver brigades, fires, engineer, and aviation support in the main battle area. Specific organizations include the maneuver brigade BSBs and FSCs supporting the field artillery, aviation, and engineer battalions.

REAR OPERATIONS

5-240. Rear operations maintain freedom of action in the security and main battle areas and prevent culmination. The rear command post enables this freedom of action by planning and directing sustainment, conducting terrain management, providing movement control, and providing area security of the rear area.

TRANSITION TO OFFENSE

5-241. The ultimate goal of defensive operations is to defeat the enemy's attacks and transition, or threaten to transition, to the offense. Transitions must be deliberately planned, and units must take actions to prevent the enemy from regaining momentum. As friendly forces meet their defensive objectives, forces consolidate and reorganize for offensive operations or prepare to facilitate forward passages of lines for fresh formations. Sustainment forces must also be prepared to support the transition to offensive operations.

5-242. Sustainment commanders must be prepared to sustain offensive objectives established by maneuver commanders during transitions. Sustainment planners must understand that perfect conditions may not exist during a transition, but they must still be prepared to sustain combat power. During transitions, it is essential for sustainment planners to provide maneuver commanders with freedom of action and prolong endurance necessary to sustain the pace of offensive operations.

SECTION III – SUSTAINMENT OF OFFENSIVE OPERATIONS

5-243. This section provides an overview of sustainment of offensive operations and the fundamental principles of sustainment during the offense. It also covers additional sustainment planning considerations unique to offensive operations. It concludes with a discussion of sustainment support of offensive operations.

5-244. An *offensive operation* is an operation conducted to defeat or destroy enemy forces and gain control of terrain, resources, and population centers (ADP 3-0). The intent of an offensive operation is to impose the commander's will on the enemy. Against a capable, adaptive enemy, offensive operations are the most direct and sure means of seizing, retaining, and exploiting the initiative to achieve objectives.

5-245. The key to successful offensive operations is to achieve all desired objectives prior to culmination. This requires the force in the offense to have some combination of relative advantage in the physical, information, or human dimensions. Typically, offensive operations require advantages in multiple domains, but commanders may achieve those advantages through deception operations and surprise rather than the physical means of combat power alone.

OVERVIEW OF SUSTAINING OFFENSIVE OPERATIONS

5-246. There are four types of offensive operations: movement to contact, attack, exploitation, and pursuit. These operations enable commanders to impose their will on the enemy and deprive the enemy of resources, seize decisive terrain, deceive or divert the enemy, develop intelligence, or hold an enemy position.

5-247. Sustainment commanders and their staffs prepare to support each offensive operation. Sustainment determines the depth, duration, and endurance of Army operations and plays a key role in enabling a successful attack. Failure to provide adequate sustainment during offensive operations can result in a tactical pause, culmination of offensive operations, and prevent consolidation of gains. Operational and sustainment planners at each echelon of command work closely to synchronize sustainment support to allow commanders the freedom of action to maneuver and provide extended operational reach for the offense.

SUSTAINMENT FUNDAMENTALS FOR OFFENSIVE OPERATIONS

5-248. Offensive operations involve an intense tempo, requiring sustainers to continually update their running estimates to anticipate friction points on the battlefield. Sustainers need to be able to accurately envision the offensive operation in time and space to accurately forecast operational requirements. Continuous coordination between planners at the various echelons is required for mission success.

5-249. If offensive momentum is not maintained, the enemy may recover from the shock of the first assault, gain the initiative, and mount a successful counterattack. Maintaining an understanding of offensive operations and future operations allows sustainment planners to simultaneously transition between offensive operations and consolidation of gains. What starts out as a movement to contact could rapidly turn into a lengthy pursuit of enemy forces requiring extended operational reach to capitalize on opportunities. This requires robust planning and consideration for all possible outcomes.

Sustaining Offensive Operations

- Continually update running estimates.
- Simultaneously support the offense and consolidate gains.
- Understand enemy threat and challenges.
- Increased Class III (bulk and package), Class VIII, and Class IX requirements.
- Increased casualties and personnel replacements over extended battlefield.

5-250. Offensive operations require situational understanding of the enemy threat. Sustainment commanders should not assume unobstructed LOCs and should anticipate challenges across multiple domains. These commanders prepare for challenges of degraded sustainment systems, interdicted LOCs, and challenges from an enemy that has equal or overmatch capabilities. Sustainment commanders and planners prepare to push forward critical supplies in an OE where degraded systems and communications exist.

5-251. The continued forward movement of units and sustainment support is critical if the force is to maintain the initiative and combat power necessary for the successful execution of offensive operations. Maintaining the initiative in the close area often results in significant numbers of bypassed enemy forces and remnants of defeated units as friendly forces maneuver deep into enemy areas by avoiding enemy units in well prepared positions. The fluidity and rapid tempo of operations pose challenges when planning for the area security of support and rear areas.

5-252. Enemy commanders look for opportunities to counter, or at least hinder, the performance of corps and division offensive tasks. Enemy commanders attempt to strike deeply into friendly support and rear areas using multiple combinations of lethal and nonlethal effects from multiple domains. The enemy will seek to employ special purpose forces, irregular forces, electromagnetic warfare, long-range artillery, rockets, missiles, information capabilities, unmanned aerial systems, and cyberspace electromagnetic activities to disrupt sustainment activities. Sustainment commanders remain aware of conventional enemy units and other elements bypassed during the advance of friendly forces and the threat presented by their presence in support and rear areas.

5-253. Sustainment units synchronize with maneuver units to ensure security of support and rear areas. Corps and division headquarters must plan to keep command posts operating, sustainment capabilities functional, respective LOCs open, and supply stocks at an acceptable level. The conduct of noncontiguous operations increases the difficulty of these tasks, as does the lack of friendly host-nation security forces.

5-254. Sustaining the offense is a high-intensity operation. Sustainment commanders and staffs must plan for increased requirements in Class III (B), VIII, and IX and personnel replacements to sustain the pace and tempo of operations. Plan and rehearse command and control, forward positioning, orders issuance, personnel accounting, logistical support, processing and transportation of replacements, and most critically, maneuver unit rapid integration of replacements. Sustainment planners anticipate where the greatest need might occur during offensive operations and consider positioning sustainment units in close proximity to operations to reduce response times for critical support. Planners also consider alternative methods for delivering sustainment in emergencies. Extended LOCs require analysis of how to best emplace forward sustainment elements to support the commander. It is important to clearly lay out key actions for rehearsal during offensive operations (for example, casualty evacuation routes, ambulance exchange or loading points, LRPs,

support area displacement times and locations, detainee collection points and holding areas, and fuel and ammunition supply points) to foresee potential problems and develop means to mitigate them.

PLANNING CONSIDERATIONS FOR THE OFFENSE

5-255. Sustainment planning is both a continuous and a cyclical activity of the operations process. For sustainment planning, the most important factors are requirements, capabilities, and shortfalls. As outlined in the paragraphs below, planning considerations assist planners in identifying specific support or operational requirements based upon available information.

5-256. Many planning considerations impact the ability to execute offensive operations. These considerations should be recognized, analyzed in the time available, and prioritized based on the commander's intent.

5-257. Planning considerations must encompass all warfighting functions to ensure the plan is integrated across all functions and domains. A planning consideration may have various levels of effects that drive support requirements. Planning considerations for offensive operations should include, at a minimum, the following considerations organized by warfighting function.

SUSTAINMENT PLANNING CONSIDERATIONS

5-258. The planning considerations listed below for sustainment are examples of what sustainment planners may consider during offensive operations. This list is not considered all-inclusive, and considerations will vary for individual operations. The list provides some common planning considerations for sustainment during all offensive operations. If an offensive operation has a special consideration, it is indicated in the list:

- Plan for execution of all sustainment functions and associated sub-functions at all echelons; personnel services, financial management, HSS, and logistics. This includes personnel replacement, casualty reporting, medical treatment, medical evacuation, medical logistics, and all logistics functions.
- Forecast expected number of casualties and prepare appropriate medical treatment, surgical, and evacuation capabilities. Planners must also assess the best positioning of medical units to ensure support to offensive operations.
- Anticipate conducting large-scale personnel replacement operations in support of units with high casualties.
- Unit reorganization is a routine process that occurs on an objective. Reorganization activities should include the integration of replacement personnel when able.
- Regeneration of units is an exceptionally intensive form of reconstitution requiring the direction of maneuver commanders two levels up and substantial sustainment support.
- Commanders, staffs, and SPO officers at all echelons should weight the offensive effort by cross-leveling sustainment assets. This includes maintenance and recovery capabilities.
- Plan for all sustainment functions required to build combat power: personnel, supply, maintenance, and medical. Preposition supply Classes I, water, IIIB/P, IV, V, VI, VIII, and IX as far forward as the tactical situation permits. Consider the use of combat configured loads. Balance forward positioning of resupply and rapid mobility.
- Expect high demand for Classes III (B), IX and V to support offensive preparation efforts. Ensure adequate transportation assets are available to move the required tonnage.
- Expect higher demand in shelf-stable operational rations to support feed-on-the-move capability during offensive efforts. Ensure required distribution and transportation assets are coordinated and synchronized at all echelons of support.
- Plan for heavy equipment transportation assets to support evacuation of combat platforms. This transportation is required to move unserviceable main battle tanks, infantry and/or cavalry fighting vehicles, Stryker systems, and other heavy equipment to maintenance collection points located behind offensive operations.
- Ensure field maintenance capability is adequate to repair or evacuate damaged equipment to meet the readiness requirements and the maneuver commander's intent. This requires planned coordination between the maintenance and transportation units and likely requires movement control points along routes.
- Anticipate time needed to execute logistics as distances increase.

- Anticipate requirements to provide subsistence, medical, transport, and shelter to detainees and dislocated civilians.
- Financial managers at each echelon are responsible for capturing increased costs, applying available resources to validate requirements, identifying unfunded requirements, and securing funding for reconstitution requirements.
- Plan for increased consumption of fuel and ammunition by aviation brigades.
- Forecast for placement of HR assets to support numerous functions to include intertheater and intratheater transient personnel accountability, casualty tracking at Role 3 MTFs, and postal operations where the OE allows. The theater gateway will typically be placed by the ASCC at the primary intertheater APOD. TG PATs will be placed where the intertheater transient passenger flow dictates. Reception, staging, and onward movement activities will be supported by transportation and sustainment capabilities.
- Plan for the appropriate type of water distribution. During large-scale combat, sustainment planners should expect to distribute only bulk water from the corps rear boundary forward to the forward line of own troops. Bottled water requires contracted support and, if used, should only be planned for the joint security area.
- Commanders, staffs, and sustainment planners at all echelons must be prepared to support regeneration and reorganization as part of reconstitution operations.
- Plan for the execution of fatality operations for fatalities as a result of large-scale combat operations. Planners should also prepare for temporary interment when directed by the CCDR.

COMMAND AND CONTROL PLANNING CONSIDERATIONS

5-259. The planning considerations for command and control are listed below:

- Expect enemy attacks in the space and cyberspace domains (to include the electromagnetic spectrum) that will degrade communications and digital information transmission. Attacks in these domains affect sustainment operations in terms of satellite communications, positioning, navigation, timing, information collection, internet operations, computer systems, and voice communications. Commanders must develop and execute a primary, alternate, contingency, and emergency communications plan to ensure redundancy.
- Identify sustainment forces that will support reserve forces in all types of offensive operations. Commanders will determine acceptable levels of risks prior to attaching sustainment units to the reserve.
- Understand how terrain and distance may limit or degrade communications and force utilization of retransmission stations. This is important for Sustainment Transport System operations.
- Assess sustainment task organization frequently to ensure it is adequate and positioned properly to support the sustainment mission. Plan for replacement of units that are lost or degraded due to enemy attack.

MOVEMENT AND MANEUVER PLANNING CONSIDERATIONS

5-260. The planning considerations for movement and maneuver are listed below:

- Expect sustainment resupply and support elements to operate in the deep and close areas while supporting offensive operations. Sustainment units must understand operational control measures to include passage of lines and crossing of boundaries with maneuver forces in the offense.
- Understand and anticipate how terrain, enemy action, fire support coordination measures, and movement restrictions will affect the methods of resupply. These factors must be considered in all distribution management and movement control plans.
- Expect an increase in items (Class III, V, VIII, and IX) required to support offensive operations. Ensure adequate transportation assets are available to move supplies and equipment forward in the operational area.
- Coordinate with movement control units for road usage or de-confliction during offensive operations. Commanders must identify main and alternate movement routes.
- Plan to support SOF at all echelons. This includes delivery of non-standard ammunition and non-standard equipment maintenance.

- Plan for support of Army aviation operations at all echelons. This includes planning for fuel, maintenance, munitions, and placement of FARPs.
- Coordinate with the rear and support area terrain managers to deconflict airspace for aerial delivery, Air Force airland delivery, and aeromedical evacuation requirements.
- Prioritize the use of transportation assets needed to support movement and maneuver requirements against transportation assets needed for sustainment requirements.

INTELLIGENCE PLANNING CONSIDERATIONS

5-261. The planning considerations for intelligence are listed below:

- Intelligence is critical for planning sustainment operations in support of the offense. It starts with an understanding of the overarching operational and mission variables but then extends to intelligence preparation of the OE products, detailed intelligence estimates, and other intelligence products that describe enemy capabilities and courses of action. From these products, planners can estimate friendly casualty rates and munition expenditure rates, plan protection operations, and have a better understanding of where and when sustainment capabilities are needed. See ADP 2-0 and FM 2-0 for more information on the intelligence warfighting function.
- Like the other warfighting functions, there are some unique aspects of sustainment support to offensive operations that are critical to the intelligence warfighting function. Low-density intelligence and electromagnetic warfare maintenance is especially critical to the intelligence architecture and intelligence operations.

FIRES PLANNING CONSIDERATIONS

5-262. The planning considerations for fires are listed below:

- Forecast increased consumption of long-range and precision munitions for maneuver units. The TSC must coordinate with the ASCC G-4/CCMD J-4 and strategic providers to ensure increased amounts of munitions are being distributed to the theater supporting offensive operations.
- Anticipate frequent and rapid relocation of fires units in order to shift supporting units accordingly.
- Ensure the quantity and positioning of modular ammunition units at EAB are sufficient to support fires controlled supply rate and required supply rate requirements.
- Ensure that ammunition transportation assets are adequate and properly positioned to support ammunition distribution for fires operations.

PROTECTION PLANNING CONSIDERATIONS

5-263. To fully understand and inform the scheme of protection developed in the protection cell, planning considerations should include at a minimum:

- Plan for CBRN. This includes increased requirements for non-potable water and CBRN defense equipment. Planning must include detailed procedures for processing contaminated human remains and equipment decontamination.
- Expect direct enemy attack by small unit and/or special operations ground forces, attack aircraft, and long-range artillery. Commanders must ensure that sustainment units supporting offensive operations are adequate to defeat enemy small unit operations (Level I or Level II threats). Dispersion mitigates effects of long-range fires and attack aircraft. See ADP 3-37 for more information.
- Plan for adequate convoy security for convoys supporting offensive operations. This may be from internal sources or from coordinated external sources.
- Anticipate the hasty construction of detainee collection points and holding areas at sustainment nodes. Maximize the use of all types of empty transportation returning to the rear for detainee movement.

ADDITIONAL PLANNING CONSIDERATIONS

5-264. Sustainment forces must anticipate longer LOCs, potentially degraded communications, bypassed enemy forces, and movement restrictions during offensive operations. These factors should be considered in all distribution management and movement control plans. This may require sustainment commanders to weight the main offensive effort by prepositioning personnel replacements, Class III, V, VIII, and IX stocks,

and water centrally and well forward. The sustainment commander must balance forward positioning of sustainment assets with the need for freedom of action and operational reach.

5-265. Refuel on the move can be tailored to many tactical situations, but the primary purpose is to extend reach and tempo for the offensive operation. The key to success in a refuel on the move is rapid simultaneous execution. This means that units should organize their movement so that vehicles not receiving fuel can remain outside the refuel on the move area. Vehicles that will receive fuel enter the area and quickly move to their designated fuel points without dismounting ground guides. Once halted, vehicles rapidly refuel in accordance with the plan and depart together once complete. Figure 5-7 displays an example of a long site refuel on the move configuration.

5-266. When vehicles enter a refuel on the move site for refueling, a predetermined amount of fuel is issued (usually timed) and the vehicles move out to return to their convoy or formation. The rapid employment of the refuel on the move distinguishes it from routine convoy refueling operations.

5-267. Ideally, refuel on the move operations utilize rear fuel assets while forward assets remain full. In the maneuver brigade concept, the distribution company would conduct the refuel on the move while the forward support companies pass through remaining full. The concept can be extended based on the size and scope of the operation; for example, the DSSB can be the force conducting the refuel on the move for the whole division, while the entirety of the maneuver brigade's fuel assets push through remaining topped off.

5-268. Any level unit can conduct refuel on the move operations to meet mission requirements. Typically, an FSC will conduct refuel on the move operations to support maneuver units between engagements or to increase time on target while maneuver units peel back and flow through the refuel on the move and return to the current engagement. A refuel on the move can be as simple as utilizing heavy expanded mobility tactical trucks or modular fuel systems, or as complex as needed, utilizing any equipment available to support the largest of movements. For additional information on refuel on the move operations, see ATP 4-43.

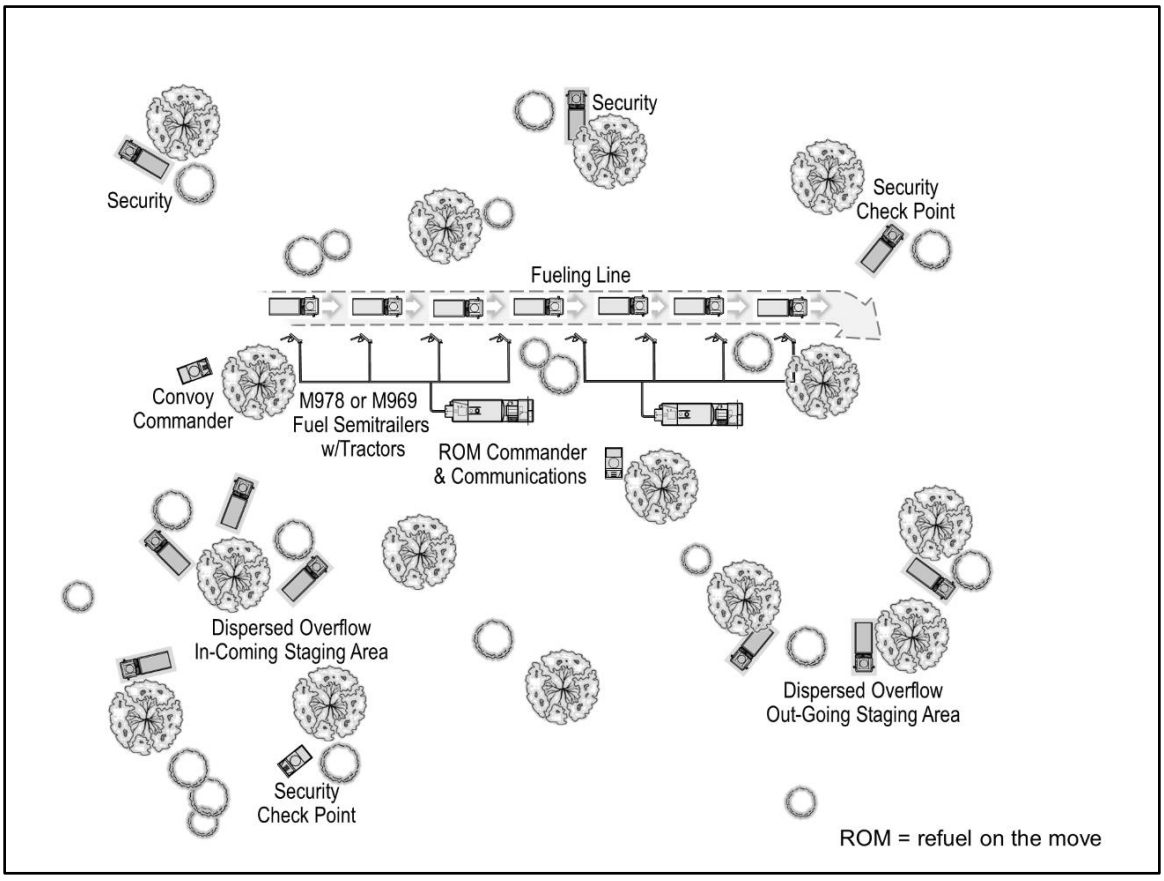


Figure 5-7. Example of a long site refuel on the move configuration

5-269. Sustainment planners and maneuver commanders conducting offensive operations should be prepared to execute reconstitution operations to rebuild combat power. Commanders assess the unit's readiness capability and determine the most expedient method to bring the unit to an acceptable combat posture through reorganization or regeneration. For additional information on reconstitution, see ATP 3-94.4.

5-270. While it is advantageous to locate sustainment as far forward as possible in support of offensive operations, sustainment planners must be aware of various threats. Planners should anticipate encounters or direct action from bypassed enemy forces, SOF, and long-range artillery. Sustainment assets must be mobile and able to move with advancing maneuver forces. Planners must avoid large, consolidated bases and form dispersed, temporary base clusters. This applies to all bases in corps and brigade security areas.

5-271. The fluidity and rapid tempo of operations pose challenges when planning for the area security of support and rear areas. If the corps or division is to maintain the initiative and combat power necessary for the successful performance of offensive operations, the continued forward movement of units and sustainment support is critical. Sustainment personnel must also plan and prepare for supporting consolidation of gains and security of the support area. Maneuver commanders will assign the rear area to a maneuver brigade or division as an AO. Those forces will clear their AO of stay-behind forces and bypassed enemy units to ensure friendly freedom of action as their parent corps or division continues to advance. These forces should be combined arms organizations specifically task organized for the consolidation of gains requirements in their AO. These units begin performing selective stability tasks once the units establish area security within the rear area.

5-272. Risk, uncertainty, and chance are inherent in all military operations. Sustainment professionals must seek to understand, balance, and take risks rather than avoid risks to ensure sustainment of the operational force. Sustainment commanders must assess and mitigate risk continuously throughout large-scale combat operations. The following is a sample list of risk considerations during offensive operations:

- Are sustainment forces properly dispersed and camouflaged? Are movements into and out of sustainment areas coordinated to avoid drawing attention to the area?
- Does the force have a sufficient number of mobile fueling vehicles to maintain offensive momentum? At what point will a loss of tankers cause mission failure?
- Are sufficient quantities of the correct Class V available for rapid replenishment? Are munition caches established forward and their contents dispersed?
- Are sustainment systems hardened against cyber-attack? How do you validate requirements received through electronic systems? Does the threat have the capability to change information verses directed denial of service attacks?
- Do medical units have sufficient Class VIII to address mass casualty events? Do units have enough blood and refrigerated storage/wet ice to support patients?
- Are sufficient recovery vehicles available and placed to support the rapid transportation of disabled vehicles to maintenance collection points?
- Does the enemy have plans to leave stay behind forces to interdict sustainment lines of supply? Do friendly forces have sufficient EOD assets available and positioned to remove enemy ordnance or improvised explosive devices emplaced on the main supply routes?
- Are reinforcements available by skill/grade and accessible in sufficient quantity to replace losses and maintain units at strength? Which units are the resourcing priority at what points during the operation?

5-273. These considerations and others should be addressed, and mitigation strategies/alternatives developed as part of the sustainment plan.

5-274. Offensive operations place a burden on medical resources due to the magnitude and lethality of forces involved. Medical units and commanders at all levels must anticipate increased numbers of casualties as corps and division forces advance. Planning for casualty evacuation is a unit-level responsibility. Evacuation of the sick and wounded must occur concurrently with operations and requires total force participation or support in terms of transportation. Nonmedical vehicles (both air and ground) can be used to transport casualties with little or no change in configuration. Units should plan for and train on appropriate use of organic vehicles (both air and ground) and equipment (litters) for movement of casualties. See ATP 4-02.13 for additional information on casualty evacuation. Casualty liaison elements must coordinate with Role 3 hospitals to ensure accurate tracking and personnel accountability.

5-275. EOD commanders must provide support during large-scale offensive operations by detecting, identifying, evaluating, rendering safe, and conducting disposal or disposition of explosive ordnance, including CBRN weapons of mass destruction. Planners should consider requirements to mitigate explosive ordnance encountered during offensive operations. EOD facilitates technical collection of captured enemy materiel related to ordnance or weapons systems. Commanders and planners must incorporate EOD requirements within their Class V forecasts. Explosive ordnance filled with insensitive high explosives requires significantly more Class V for safe disposal.

SUSTAINMENT DURING OFFENSIVE OPERATIONS

5-276. The objective of sustainment during the offense is to support operations and enable maneuver forces to conduct the four offensive operations: movement to contact, attack, exploitation, and pursuit. Sustainment units supporting offensive operations are focused on sustaining and maintaining the combat power necessary to defeat, destroy, or dislocate enemy forces. Successful sustainment commanders and planners will act, rather than react, during offensive operations. To support offensive operations, sustainment forces at all echelons consider echeloning support assets to expedite replenishment of critical support.

ECHELONS ABOVE BRIGADE SUSTAINMENT

5-277. During the offense, LOCs lengthen and requirements for many classes of supply and replacement of personnel increase. Certain aspects of the distribution network like rail, pipelines, or inland waterways may not be feasible during the offense. The fast pace of the offense generally requires ground or air resupply. Offensive operations inherently create a need for emergency resupply, but it is vital that sustainers ensure the economy and efficiency of the distribution network. Motor transport is the primary mode of transportation during the offense. Its flexibility in allowing multiple stops and rerouting assets enables dynamic battlefield support. Use of trailer transfer points can speed up throughput velocity of critical supplies to an offensive operation.

5-278. During the offense, Class V supply is critical for maintaining momentum. Depending on the operation, consumption rates may double or triple normal consumption. In addition to accounting for volume, sustainment planners also forecast the various types of ammunition used by the corps and division in the offense. For example, fighting a peer with air capabilities requires large quantities of air defense munitions. Units fighting enemy infantry in restricted and urban terrain use large quantities of small arms and artillery ammunition, as well as water. Units attacking enemy armored forces require large quantities of anti-armor munitions. Sustainment planners proactively prepare to support maneuver units in the offense with configured loads of ammunition, along with fuel and repair parts. Considerations for storage points include proximity to main and alternate supply routes, supported units, terrain, and security. Additionally, ammunition holding area personnel displace forward as the offense progresses to ensure responsive support.

Echelons Above Brigade Sustainment

- Lengthening lines of communications.
- Critical need for Classes III, VIII, and IX.
- Increased use of aerial delivery.
- Coordinated medical support.
- Increased maintenance and recovery requirements.
- Transport, life support, and integration of personnel replacements.

5-279. In the offense, combat intensity and the depth of the AO increase. Aerial delivery may reduce the impact of these factors, allowing the combat commander to take the initiative while reducing the likelihood of overextending their supply lines. During periods of air superiority and while operating in areas with limited enemy air defense capability, the use of aerial delivery reduces the ground threat to transportation and distribution operations and can be used to extend LOCs. In addition, if forces become isolated, aerial delivery can be used as the primary means of resupply. It is also an effective method of resupplying combat outposts where it is difficult for ground transportation and distribution lines to reach.

5-280. Medical planners should closely coordinate with other sustainment planners when preparing for an offensive operation. Medical planners also work closely with staffs within the other warfighting functions to determine the scope of the operation, develop estimates for the quantity and types of support required, and develop a priority of support based on the anticipated need. Medical evacuation is an integral planning factor when preparing for an offensive operation. Two basic problems confront the supporting evacuation units in

offensive operations—maintaining contact with the supported unit and maintaining mobility of the MTF supporting operational formations.

5-281. Logistics planners include shower and laundry as considerations in their planning. A field service company can be placed as far forward as the supported maneuver brigade. The goal is to provide a minimum of one shower and one change of clothing at least every seven days. Planners assess the feasibility of these provisions and implement them where and when the operation allows.

5-282. Maintenance personnel place maximum effort on preparing equipment for combat. Maintenance assets move closely behind the combat unit's main body to ensure rapid recovery, repair, and return of damaged or disabled equipment. Maintenance assets position themselves to support combat units out of enemy observation. Risk is high when performing on-site maintenance and recovery operations as combat forces are advancing rapidly. Planners balance risk with support requirements to ensure critical capabilities are not lost.

5-283. Critical Class IX items should be identified and placed forward as far as possible to reduce the strain on transportation networks. Sustainers should anticipate increased consumption of Class IX items due to substantial maneuvering while on the offense. The use of predictive logistics sensors and data tools will support determining consumption amounts. Logistics packages offer the most common and efficient means of Class IX resupply for tactical units. The increased requirement for transportation assets will inherently increase maintenance requirements across the board.

5-284. During offensive operations, financial management focuses on securing and safeguarding captured currency (enemy, allied, neutral, U.S., or mutilated currency) as well as supporting contracting and local procurements. This is accomplished by funding paying agents to pay local vendors for specific offensive operations requirements. LOCs between supported units can often be challenged during offensive operations, so finance units must remain mobile and effectively respond to requests for support. Other tasks executed during offensive operations include commercial vendor services and contract payments, disbursing and funding support, controlling currency (U.S. or local), providing detainee pay support, special programs, and supporting monetary compensation and consolation.

5-285. HR planners should expect large numbers of casualties over extended battlefield depth during offensive operations and must be prepared to process mass casualty reports and large-scale personnel replacements to sustain combat power. Replacements must be forecasted and any lack of replacement capacity briefed to maneuver commanders as risk to mission. A high tempo during large-scale combat operations, coupled with potentially degraded systems and communications, will negatively impact PERSTAT and casualty reporting.

5-286. Replacement operations entail the coordinated support, accountability, and delivery of individual and unit replacements from the point of origin to requesting commanders in deployed units. The TSC commander ensures that replacements are delivered from higher to lower echelons as far forward on the battlefield as possible based on distribution priorities established by the theater commander. Normally, replacements are processed through the theater gateway under the command and control of the TSC. Allocation decisions are relayed from the ASCC through the TSC and ESC to the sustainment brigade responsible for theater distribution. The sustainment brigade then coordinates transportation for movement of replacements to prioritized units at echelon.

BRIGADE COMBAT TEAM SUSTAINMENT

5-287. The BSB plans for increased requirements of fuel, ammunition, medical, and repair parts during offensive operations. It will prioritize support according to division priorities, including transportation of replacements to attrited units. It will plan to support maintenance and recovery of brigade assets in the offense. Medical evacuation also poses significant challenges in the brigade AO. Sustainment planners must be prepared to support the ambulance shuttle system on any asset to reduce turnaround time of assets supporting medical evacuation. Increased distances due to rapid changes in the tactical situation will require the BSB to move with the offense.

5-288. Regularly scheduled combat configured loads with packages of potable water, ammunition, fuel, medical materiel, and repair parts tailored to the maneuver brigade ensure offensive momentum and freedom

of action. If communications are degraded, the BSB will automatically push critical supplies to units in the offense.

Distribution Company

5-289. The distribution company provides the vital link between the supported unit and the echeloned support above it. During offensive operations, the distribution company executes a combination of supply and transportation functions to deliver all classes of supplies to supported units. To shorten times between deliveries, the distribution company may pre-position sustainment stocks centrally and as close to supported units as the tactical situation permits. The distribution company should expect to replenish mechanized units conducting offensive operations twice daily.

5-290. Continuous exchange of configured tactical logistics packages on BSB distribution company flatracks, water tank racks, and tank rack modules should be employed within the distribution network to maintain the tempo and responsiveness needed during offensive operations.

5-291. Planners should coordinate EAB throughput directly to units to reduce transportation requirements of limited organic assets. The BSB commander sets priorities of support for the distribution company based on the concept of operations.

Field Maintenance Company

5-292. During offensive operations, the field maintenance company will be responsible for fixing or recovering damaged BSB equipment. Repairs will be conducted if the tactical situation permits and if the repair can immediately return equipment to the offensive operation. Commanders emphasize the use of self and like-vehicle recovery methods to the greatest extent possible. These practices minimize the use of dedicated recovery assets for routine recovery missions. When priorities dictate, the BSB may coordinate with EAB to supplement BSB assets with additional repair part capabilities and combat spares.

5-293. The field maintenance company may be required to use recovery assets to help recover damaged vehicles and equipment to a maintenance collection point or BSA. Recovery and evacuation vehicles should position themselves at critical locations on the battlefield to keep disabled vehicles from blocking movement routes. This may also be accomplished by using equipment transporters and armored vehicles with inoperative weapon systems. Equipment such as radios and other electronics will be evacuated to the field maintenance company for repair.

Brigade Support Medical Company

5-294. Medical treatment and medical evacuation are more challenging due to the nature and tempo of offensive operations. Medical evacuation from the maneuver brigade to the corps or division becomes more difficult due to lengthening LOCs, changes in the tactical situation, and changes in situational awareness. More casualties are expected to occur during movement to contact and attack. The BSMC provides Role 2 medical treatment and evacuates patients from the lower roles of care. The BSMC is dependent on EAB medical evacuation units to evacuate patients to the Role 3 MTF. During large-scale combat, ground ambulances will be the primary method and air ambulances will be the preferred method used to evacuate patients within the division close area of operation. The BSMC maintains situational awareness of ground and air ambulances in the brigade AO. Ambulance exchange points or ambulance loading points should be established to account for lengthened LOCs and reduce ambulance turnaround time.

Forward Support Company

5-295. The FSC will adapt to changing mission and operational variables during the offense. The commanders of the supported maneuver unit and BSB will determine the best placement of the FSC during the offense. The FSC should anticipate operating near the forward line of troops and beyond it if the tactical situation dictates. The extended distances at which the FSC must operate during the offense will impact operational readiness rates and place additional fatigue on equipment and personnel.

5-296. The FSC should plan for ongoing routine resupply while in the offense. Resupply during offensive operations should be planned and deliberately executed events to sustain the offense. In addition to planned

resupply, both commanders and sustainers need to be alert to lulls in the fight which provide unplanned opportunities to resupply as well as other methods for resupply during the offense to maintain momentum. FSC commanders and S-4s must plan to synchronize consumption rates and execute planned resupply and be prepared to execute emergency resupply as required in support of the maneuver battalion. Leaders designate priorities of support to subordinate units against the operational plan. Priority of support should not be determined by who has the least amount of supplies, but rather by which unit is currently the main effort or will become the main effort for the next phase of the operation.

5-297. Sustainment planners should prepare tactical logistics packages and push packages containing fuel, ammunition, repair parts and water during offensive operations. During delivery of configured loads, return of vital distribution assets (for example, flat racks and containers) should be done through retrograde of materiel. This increases the supported maneuver commander's tactical flexibility and decreases the resupply time.

5-298. The FSC conducts repairs as far forward as possible. If the tactical situation permits and a repair can immediately return equipment to the offensive operation, it should be repaired at or just behind the forward line of own troops. If the equipment requires maintenance, then it may be evacuated to the maintenance collection point. If the tempo requires the maintenance collection point to displace, the decision has to be made by the commander whether to move the disabled equipment, leave it behind with a team of mechanics and security, or destroy it. The latter is the least preferred method.

AVIATION BRIGADE SUSTAINMENT

5-299. The ASB plans for increased requirements of fuel, ammunition, and repair parts to meet the demands of the aviation brigade. The high tempo and dispersed formations will require the use of multiple FARPs to support aviation battalions and squadrons. To support the increased requirements, the ASB SPO officer coordinates with the DSB to conduct unit distribution directly to the FARPs or to predetermined LRPs. Conducting EAB throughput distribution directly to a unit reduces transportation requirements of limited organic assets and will allow the ASB's distribution company to execute emergency resupply operations or prepare to relocate the ASB.

5-300. Downed aircraft recovery missions will exceed the capacity of the aviation maintenance and aviation support companies and require support from the DSB to assist with aircraft recovery and evacuation to sustainment-level maintenance activities as needed. The aviation maintenance company attempts to rapidly and accurately diagnose aircraft damage or serviceability to repair aircraft at forward locations with forward maintenance teams. When the time and situation allow, forward maintenance teams repair on site rather than evacuate aircraft; these repairs include battle damage assessment and repair.

MOVEMENT TO CONTACT

5-301. *Movement to contact* is a type of offensive operation designed to establish or regain contact to develop the situation (ADP 3-90). Commanders conduct a movement to contact when an enemy situation is vague or not specific enough to conduct an attack. A movement to contact seeks to make contact with the enemy with the smallest friendly force possible. Movement to contact may result in a meeting engagement. A *meeting engagement* is a combat action that occurs when a moving force, incompletely deployed for battle, engages an enemy at an unexpected time and place (ADP 3-90).

PREPARATION FOR MOVEMENT TO CONTACT

5-302. Sustainment forces should be within supporting distance to facilitate a flexible and mutually supporting response. Preparations should be made to push as far forward as possible those supplies that are needed by the covering, guarding, and screening forces of the security elements. Pre-positioned supplies along supply routes will provide options and flexibility to decrease the distance for echeloning sustainment support. Sustainment planners should anticipate increased requirements for fuel, munitions, and maintenance during movement to contact.

5-303. The division or corps headquarters staff coordinates with the supporting sustainment organization to ensure the tactical commander's sustainment requirements are met. The corps or division echelon staff informs the commander of any shortfalls in available sustainment support so the movement to contact concept of operations and tactical plan can be modified to meet sustainment capabilities.

5-304. The maneuver brigade commanders consider recommendations from their BSB commanders and tailor unit organic sustainment assets to the mission. Commanders decentralize the execution of sustainment, but that support must be continuously available to the main body. This includes using daily preplanned logistics packages with standardized allocation of supplies to replenish stocks. Special logistics packages can also be dispatched as needed.

5-305. During a movement to contact, main supply routes frequently become extended as the operation proceeds. Aerial resupply may be necessary to support large-scale movement to contact or to maintain the momentum of the main body, but it is inadequate for a mechanized force on its own. Combat trains containing fuel, ammunition, medical, and maintenance assets move with their supported battalions or company teams. Fuel and ammunition stocks remain loaded on tactical vehicles in the combat trains to instantly move when necessary. Battalion field trains move with a higher support echelon, such as the BSB, in the main body of each maneuver brigade.

SUSTAINMENT SUPPORT DURING MOVEMENT TO CONTACT

5-306. Movement to contact has the potential to place increased demands on maneuver brigade and EAB sustainment. Once forces make contact, the commander makes the decision to attack, defend, bypass, delay or withdraw, which allows sustainers to refine their running estimates. The security force and main body should be weighted with priority for sustainment support.

5-307. Maneuver brigade sustainment support must be tailored to fit the mission and task organized appropriately. The distribution company anticipates requirements and consumption rates for fuel and ammunition. SPO officers coordinate for unit distribution. Pre-positioned supplies along supply routes provide options and flexibility to decrease the distance for echeloning sustainment support. Aviation support and reconnaissance are essential to large-scale movements to contact. Sustainment planners should anticipate increased requirements for aviation fuel, ammunition, and maintenance during movement to contact. Sustainment planners must understand the tactical situation and place critical support assets in accordance with the corps and division plan for movement to contact to support the mission plan. Supporting forces should be placed at a distance that facilitates a flexible response to requests for support.

ATTACK

5-308. An *attack* is a type of offensive operation that defeats enemy forces, seizes terrain, or secures terrain (FM 3-90). Attacks incorporate coordinated movement supported by fires. A commander may describe an attack as hasty or deliberate, depending on the time available for assessing the situation, planning, and preparing.

PREPARATION FOR AN ATTACK

5-309. In an attack, the commander tries to position sustainment units well forward. From these forward locations, the units can sustain the attacking force and provide priority of support to the main effort. As the attacking force advances, sustainment units and capabilities displace forward as required to shorten supply lines, using displacement techniques designed to ensure uninterrupted support to maneuver units. The use of a forward logistics element can further ensure continuous support to maneuver units. See ATP 4-90 for additional information.

5-310. Even in fluid situations, attacks are best organized and coordinated in assembly areas. Unless already in an assembly area, the attacking unit moves into one during the preparation phase. While in the assembly area, preparations are made to synchronize and coordinate the attack prior to moving into attack positions. Units should be replenished with fuel and ammunition as the unit moves in the assembly area or prior to movement into attack positions or crossing the line of departure. These preparations include protecting the force, performing reconnaissance, moving sustainment support forward, conducting rehearsals, refining the plan, and positioning the force and sustainment assets for subsequent actions to maintain momentum, prolong endurance, and ensure freedom of maneuver.

5-311. The commander emphasizes simple and rapidly integrated fire support plans during rehearsals. This ensures overall coordination and synchronization with maneuver and sustainment assets. As part of the rehearsal process, the commander reviews the anticipated battle sequence with subordinate leaders to ensure

all units understand the plan, the relationship between fire and movement, and the synchronization of sustainment assets to support.

5-312. During an attack, sustainment planners should anticipate increased requirements for fuel, ammunition, maintenance, casualty operations, and replacement operations due to the rapid tempo and violent nature of these operations. Aerial resupply may be necessary to support a large-scale attack or to maintain the momentum of the main body. Combat trains containing fuel, ammunition, medical, and maintenance assets move with their supported battalion or company team. These stocks remain loaded on tactical vehicles in the combat trains in order to instantly move when necessary.

5-313. The commander ensures that attacking maneuver forces have the functional and multifunctional support and sustainment assets necessary to conduct the operation and maintain the attack's momentum as part of the preparation process. That support and sustainment effort must anticipate branches and sequels to ensure the uninterrupted advance of the maneuver force.

SUSTAINMENT SUPPORT DURING AN ATTACK

5-314. Attacking forces place large demands on maneuver brigade and EAB sustainment. Sustainment units are placed as far forward as prudence allows. From these forward locations, sustainment units can sustain the attacking force and provide priority of support to the main effort.

5-315. Sustainment planners must understand how a corps and division will conduct an attack. Operations will utilize capabilities ranging from long-range precision fires systems to attack helicopters and will employ the majority of combat power. Maintenance requirements and equipment readiness should be addressed prior to beginning an attack. Sustainment planners should anticipate placing fuel, ammunition, and repair parts as far forward as possible to support forces in an attack. As the attacking force advances, sustainment units and capabilities displace forward as required to shorten supply lines, using displacement techniques designed to ensure uninterrupted support to maneuver units. The size of the force a command devotes to the echelon support area security mission depends on the threat in the attacking force's support area.

EXPLOITATION

5-316. *Exploitation* is a type of offensive operation following a successful attack to disorganize the enemy in depth (ADP 3-90). Exploitation is the bold continuation of an attack to maximize success. Exploitation is an inherently dynamic task that requires a decentralized approach to execution. Sustainment commanders must understand the appropriate application of the mission command philosophy prior to execution and support of exploitation. Exploitation forces drive swiftly for deep objectives, seizing enemy command posts, severing enemy escape routes, and striking at enemy reserves, artillery, and logistics units to prevent the enemy from reorganizing an effective defense.

PREPARATION FOR EXPLOITATION

5-317. The forces conducting an attack are also the forces that initially exploit that attack's success. An exploitation force proceeds directly from the attack and is normally planned as a sequel to an attack. Exploitation forces should be large and reasonably self-sufficient combined arms organizations, such as maneuver brigades. Exploitation forces receive support from joint fires, Army aviation, and echelons above corps electromagnetic warfare and offensive cyberspace operations assets when striking at deep objectives to prevent the enemy from reorganizing an effective defense.

5-318. The units that create an opportunity to exploit should not be expected to continue the exploitation to an extended depth. If the initial attacking units incur significant loss of combat power, then the commander replaces them with other subordinate units to continue the exploitation. During exploitation preparation and execution, the commander balances the force conducting the exploitation's need for speed and momentum against its need for security as it begins to move beyond supporting range of the rest of the force. The commander must be careful not to allow a force conducting exploitation to move outside of supporting distance of the main body.

5-319. An exploitation demands a force with a significant mobility advantage over the enemy. This mobility advantage may be provided by forces with tracked or wheeled armored combat vehicles. Attack helicopters and air assault assets may constitute a portion of the exploiting force's combat power. These forces are

extremely useful in capitalizing on their mobility to attack and cut off disorganized enemy elements. Forces can also seize or control key terrain or vital enemy transportation nodes along the exploiting force's route of advance. The commander integrates combat engineers into the exploiting force to help breach obstacles, keep ground forces maneuvering, conduct countermobility operations, and keep supply routes open.

5-320. The commander must anticipate the exploitation and ensure the sustainment plan supports the force throughout the duration of the exploitation. This includes designating future main supply routes, LRPs, maintenance collection points, casualty collection points, MTFs, and ambulance exchange points. In sustaining the exploitation, fuel consumption and vehicle maintenance are primary concerns of sustainment planners. Supplies necessary to sustain the force and the transportation assets to carry those supplies become increasingly important as an exploitation progresses.

5-321. In an exploitation, security of routes will also become a problem as supply lines lengthen. The largest possible stocks of fuel, spare parts, and ammunition should accompany the exploiting force so that momentum does not slow for lack of support. Aerial resupply may be necessary to move critical supplies forward during the exploitation. Aviation units will utilize FARPs to reduce aircraft turnaround times during these resupply missions.

5-322. The exploitation force typically covers a wider front than an attacking force. This may cause both sustainment support and fire support assets to operate outside of normal supporting range to their supported elements. Sustainment operators must be prepared to bound their sustainment assets farther forward and move them more often than in an attack. Like sustainment support, fires support assets must also displace forward to ensure the continued provision of fires on and beyond enemy formations. To provide the required support, these fire support units can be attached to subordinate elements of the exploiting force. The commander can also use available air interdiction and close air support by fixed-wing aircraft to augment or replace Army fire support assets during exploitation. Sustainers can normally plan on subordinate forces using less ammunition during an exploitation than in an attack because fleeing enemy forces are normally not in prepared positions.

SUSTAINMENT SUPPORT DURING EXPLOITATION

5-323. Sustainment support to exploitation forces continue to require large demands. Maneuver commanders maintain control of forces during exploitation to avoid the overextension of forces, which in turn, may be limited more by vehicle failures and the need for fuel than by combat losses and ammunition. A commander may replace a unit during exploitation to maintain speed and momentum when it reaches a pre-established diminished combat power.

5-324. Transportation assets and supplies are necessary to sustain maneuver forces and become increasingly important as an exploitation progresses. When possible, EAB sustainment assets should follow an exploiting force along LOCs for distribution. Organic maintenance teams within the attacking maneuver brigades repair disabled vehicles or send them to collection points along designated main supply routes for evacuation and repair.

PURSUIT

5-325. *Pursuit* is a type of offensive operation to catch or cut off a disorganized hostile force attempting to escape, with the aim of destroying it (ADP 3-90). Pursuit is the relentless destruction of retreating enemy forces who have lost the capability to effectively resist. Pursuit is an inherently dynamic task that requires a decentralized approach to execution. Sustainment commanders must understand the appropriate application of the mission command philosophy prior to execution and support of pursuit. Pursuit requires great energy and resolution on the part of an attacking commander. Fatigue, dwindling supplies, diversion of friendly units to other tasks, and approaching darkness may all be reasons to discontinue an attack, but commanders must insist on continuous pursuit as long as the enemy is disorganized and friendly forces can continue.

PREPARATION FOR PURSUIT

5-326. Engineer mobility and countermobility assets are instrumental in sustaining the rate of advance and hindering the enemy's withdrawal, reposition, or counterattack. Engineers prepare the route of advance and support the lateral dispersion of units transitioning to the pursuit. During the pursuit, the commander must plan for engineers to provide assault bridging and emergency road repairs to sustain the tempo of the pursuit.

The commander also plans to use engineer assets to block any bypassed enemy withdrawal routes by using antivehicle mines, demolitions, and obstacles. Heavy engineer breaching demands to support maneuver include increased amounts of demolitions, mine-clearing line charges, and special-purpose charges.

5-327. The commander uses all available sustainment assets to provide essential support to the force pursuing the enemy. Sustainment units should plan for an increased demand for fuel and maintenance as the tempo of operations increases. Sustainment units should be highly mobile and able to provide endurance and reach during the pursuit. Priority for sustainment normally goes to units having the greatest success. Sustainment planners need to anticipate success since the depth of the pursuit depends on the capability of sustainment assets to support. Sustainment planners supporting the encircling force need to be prepared to provide casualty evacuation over possibly unsecured LOCs. The commander may also need aerial resupply or heavily guarded convoys to support this force. Security for sustainment convoys and LOCs becomes a major planning consideration.

5-328. Conducting a pursuit is a prudent risk. Once the pursuit begins, the commander maintains contact with the enemy and pursues retreating enemy forces without further orders. The commander maintains the pursuit as long as the enemy appears disorganized and friendly forces continue to advance. Sustainment capabilities will have a tremendous impact on the ability to mount a successful pursuit. Like exploitation, pursuit tests the audacity and endurance of those capabilities. Pursuit requires great energy and resolution on the part of the attacking force. Extraordinary physical and mental effort is required to sustain the pursuit, transition to other operations, and translate tactical success into operational or strategic victory.

Sustainment Support During Pursuit

5-329. Pursuit requires increased consumption of fuel and ammunition. Equipment failures and increased maintenance requirements may also occur during pursuit. Sustainment planners must anticipate these requirements and push packages of fuel, ammunition, and repair parts to corps and division forces in the pursuit. Sustainment planners must also be prepared to support the direct-pressure force and encircling force during the pursuit. Sustainment commanders must advise maneuver commanders of the limit of advance where the maneuver commander could outrun supply.

5-330. The direct-pressure force conducts hasty attacks to maintain enemy contact and its forward momentum until the complete destruction of the retreating enemy force. In the pursuit, the direct-pressure force usually conducts the main attack until the enemy force has been destroyed or encircled. The direct-pressure force consists of armor units and requires increased amounts of fuel and ammunition. An enveloping force gets to the enemy's rear area as swiftly as possible by the most advantageous routes to cut off the enemy's retreat and blocks the enemy's escape. The encircling force is required to be mobile to cut off the enemy's retreat. The encircling force will require increased amounts of fuel and repair parts.

OPERATIONAL FRAMEWORK CONSIDERATIONS

5-331. In the offense, commanders must design attacks that defeat enemy forces across all echelons while enabling subordinate disciplined initiative. When designing attacks, commanders divide the task of defeating an enemy force and maintain an integrated approach through deep, close, and rear operations including air, space, cyberspace, and maritime capabilities across the operational framework. See FM 3-0 for additional information on offensive operational framework considerations.

Extended Deep Area

5-332. The extended deep area is an important part of any formation's area of interest because it contains enemy capabilities that can inflict damage on friendly forces and affect friendly forces' operational reach and endurance. Commanders integrate the effects and activities of SOF and partner irregular forces in extended deep areas.

Deep Operations

5-333. Deep operations focus on parts of an assigned area that are not in direct fire contact with the main body of the formation but may be in the future. At division and corps, which have assigned and attached long-range fires capabilities, the deep area extends beyond the forward line of troops to a distance that corresponds with the ability of Army and joint capabilities to reach. Divisions and corps integrate SOF,

depending on command and control relationships, with deep operations to degrade the enemy's will to fight, destroy high-payoff targets, and disrupt enemy defensive infrastructure and sustainment.

5-334. Sustainment capability is organic to Army organizations that execute long-range fires, rocket artillery, rotary wing aviation, and cyberspace, space, multidomain effects, and special operations units that support attacking targets in the deep areas. Specific organizations include the ARSOF GSB, multi-domain task force BSB, CAB ASB, fires brigade BSB, and FSCs supporting the long-range fires, rocket artillery, rotary-wing aviation, and special forces battalions.

CLOSE OPERATIONS

5-335. Close operations occur where forces at divisions and lower echelons maneuver, and where forces at the maneuver brigade and lower echelons conduct most direct fire engagements. Maneuver brigades and lower echelon formations destroy or render enemy forces combat ineffective through movement and fires during close operations.

5-336. Close operations require graphic control measures to synchronize the application of combat power, to ensure integration of subordinate units, to maintain maximum pressure on the enemy, and to mitigate the risk of fratricide within the friendly force. Maneuver brigades have limited ability to control long LOCs, and their tempo and endurance is affected by time and distance of resupply, casualty evacuation, and other sustainment considerations.

5-337. Sustainment capability is organic to Army organizations that execute close operations to destroy or render enemy forces combat ineffective. Specific organizations include the maneuver brigade BSBs and FSCs supporting combined arms battalions, infantry battalions, and cavalry squadrons.

TRANSITION TO DEFENSE AND STABILITY

5-338. When offensive operations culminate before enemy forces are defeated, friendly forces rapidly transition to the defense. Commanders may deliberately transition to the defense when enemy forces are incapable of fully exploiting an opportunity, or when they believe they can build combat power to resume the offense before enemy forces can react effectively. Depending on where culmination occurs, friendly forces may have to reposition forces on defensible terrain and develop a form of defense and scheme of maneuver based on an assessment of the mission variables.

5-339. Successful offensive operations end because Army forces have achieved their assigned objectives. A successful offense can also require a transition to a defensive posture dominated by stability operations and a strategic environment moving toward post-conflict political goals. As a transition to stability operations occurs, leaders focus on stability tasks and information activities to inform and influence populations and conduct security force assistance. Effective collaboration with diplomatic and humanitarian organizations enhances the ability to achieve stability mechanisms.

TRANSITION TO POST-CONFLICT COMPETITION

5-340. Army forces conclude armed conflict by establishing conditions that are favorable to the United States on the ground. Army forces support these conditions throughout armed conflict by consolidating gains and prosecuting operations with the desired end state in mind. As hostilities end, stability tasks dominate operations with the purpose of transitioning responsibilities to legitimate authorities in a secure environment. Army forces provide the joint force with the option of establishing a military transitional government before transitioning full governing responsibility to host nation or other provisional governments.

5-341. To achieve unity of effort, sustainment commanders synchronize efforts with U.S. and foreign government agencies, international agencies, nongovernmental organizations, other unified action partners, and contractors. As the security situation improves, Army forces may transfer responsibility for minimum-essential stability operations to other forces or appropriate civilian organizations while transitioning to the performance of primary stability tasks. Sustainment forces should anticipate this transition to avoid mission failure. Sustainment forces must be prepared to support the Department of State as the lead agency in stabilization activities transition to post-conflict competition. For additional information on stability operations and interorganizational coordination, see JP 3-07, JP 3-08, and ADP 3-0.

Chapter 6

Sustainment Operations in a Maritime Environment

This chapter describes sustainment operations in a maritime environment. It begins with a discussion on the characteristics of the maritime environment and the challenges they pose. It also discusses planning considerations for sustainment in a maritime environment.

SECTION I – MARITIME ENVIRONMENT OVERVIEW

6-1. The *maritime domain* is the oceans, seas, seabed, bays, estuaries, islands, coastal areas, rivers and littorals and the airspace above and the water below (JP 3-32). Sustainment operations within the maritime environment will pose significant challenges and require significant synchronization and coordination.

6-2. Successful movement and maneuver between the oceans, seas, bays, estuaries, islands, and coastal areas will require support of joint, allied, and multinational partners. The oceans of the world are connected by various waterways, straits, and sea lines of communication. These can become avenues of approach or chokepoints and enable or hinder sustainment operations and movement and maneuver. Leaders must understand this challenge and work with joint, allied, and multinational partners to overcome this possibility. Control of these waterways, straits, and certain critical land masses will be essential to the sustainment of operations in the maritime environment.

CHARACTERISTICS OF THE MARITIME ENVIRONMENT

6-3. The maritime environment contains various land masses, with some being as large as the British Isles in the North Atlantic and others being as small as the Marshall Islands in the South Pacific. Islands within the maritime environment can have varying environmental conditions that range from jungle to Arctic conditions. Mountains can be found in all environmental conditions. Leaders and forces must understand and be prepared for the various environmental conditions and the challenges each present. Leaders must also understand and prepare for the increased distance between maneuver forces and sustainment forces when operating in a maritime environment. The varying environmental conditions and distances through which forces must be sustained may require increased reliance on joint, allied, and multinational partners for support.

6-4. In the maritime environment, occupying any land mass or island may provide a position of relative advantage by either force. Leaders must account for extended distances when providing materiel and services to allied and friendly forces. The increased operational distances in a maritime environment may reduce or slow support operations and provide opportunities for counteraction by adversaries. Sustainment planners must be closely linked to operational planning and anticipate support requirements to ensure commanders maintain freedom of action when operating in a maritime environment.

LITTORAL REGIONS

6-5. The littoral region comprises two segments of the OE: seaward and landward. The seaward segment is the area from the open ocean to the shore, which must be controlled to support operations ashore. The landward segment is the area inland from the shore that can be supported and defended directly from the sea (JP 3-32). FM 3-0 provides additional detail on the five categories of littorals listed below:

- Enclosed and semi-enclosed seas.
- Islands.
- Archipelagoes.
- Open seas.
- Marginal seas.

6-6. Army landing craft are specifically designed to dramatically increase the ability to access austere points in the littorals that are currently unavailable to land forces. They can deliver cargo from advanced bases and deep-draft strategic sealift ships to harbors, inland waterways, remote or unimproved beaches and coastlines,

and denied or degraded ports (ATP 4-15). The shallow draft, adaptable cargo space, and ramp of these vessels support delivery and follow-on support of land forces at a wide variety of points and locations. Army landing craft can accomplish this without the need for improved port facilities and the added footprint of terminal service operators. These vessels include the following:

- Logistics Support Vessel.
- Landing Craft, Utility 2000.
- Landing Craft, Mechanized 8.
- Maneuver Support Vessel-Light.

6-7. Mines are one of the greatest threats Army watercraft may encounter while operating in the littorals. There are many varieties of shallow water, magnetic influence, and bottom mines that pose risks for watercraft. Leaders must account for these and other threats and plan measures to mitigate these risks. ATP 4-15 provides additional information on threats faced by watercraft. Potential sources for security in the littorals and mine clearance services include the United States Coast Guard, United States Army divers, the United States Navy, and the host nation. Additional threats that landing craft may face include—

- Small watercraft armed with weapons.
- Vessel ramming.
- Aircraft.
- Unmanned aerial systems and loitering munitions.
- Stand-off attacks (snipers, missiles, torpedoes).

ARCTIC REGION

6-8. The maritime environment includes littoral regions within the Arctic. Title 15 USC, Section 4111 defines the Arctic as all U.S. and foreign territory north of the Arctic Circle and all U.S. territory north and west of the boundary formed by the Porcupine, Yukon, and Kuskokwim Rivers; all contiguous seas, including the Arctic Ocean and the Beaufort, Bering, and Chukchi Seas; and the Aleutian Islands chain. The vastness of the Arctic can be described as including eight countries, three CCMDs, and two primary transit routes (the Northwest Passage and the Northern Sea Route). Harsh environmental conditions in the land, sea, and air domains present challenges for the conduct of sustainment operations. Some of the environmental conditions include, but are not limited to—

- Extreme cold temperatures.
- Seasonal changes in terrain.
- Unpredictable and rapidly changing weather.

6-9. The extreme cold temperatures in the Arctic can slow the pace of sustainment operations and impact personnel by causing cold weather injuries. Sustainment leaders must understand the requirements and conduct extensive planning to protect personnel and materiel from the effects of cold weather. Buildings, shelters, and tents used for maintenance and storage operations will have increased heating requirements. Sustainment operations in the extreme cold of the Arctic require special POL products, traction enhancement devices (for example, chains and snow tires), and crew heaters. Embarked vehicles and equipment must be prepared for Arctic operations prior to arrival, and considerations must be given to keeping engines warm and out of the weather, started at regular intervals, or the additional fuel additives or recirculation cycles that may be needed to prevent congealing of fuel. Vessels may also require special preparation for Arctic operations, and planners must consider the maritime ice capabilities and restrictions of vessels and crew.

6-10. Seasonal changes provide another challenge to sustainment operations in the Arctic. Mobility is at its highest during the winter months when the ground LOCs are frozen solid. During the spring thaw, many of the roads become nearly impassable due to melting snow and ice and thawing permafrost. These challenges with roads continue in the summer months as well. Regardless of season, sustainment leaders must be aware of the mobility challenges in the Arctic.

6-11. Sustainment operations in the Arctic can be severely impacted when ports of debarkation become unusable or unavailable due to changing conditions. Changes in sea ice can either reduce availability of ports or open additional passageways for transit through the Arctic. The ability of Army watercraft to execute logistics over-the-shore operations provides sustainment planners with options to overcome loss of port facilities in the Arctic. Army watercraft also provide the ability to support the maneuver of forces and movement of materiel along open waterways, rivers, and estuaries in the Arctic. This capability is only

increased when Army watercraft are combined with watercraft capabilities from joint, allied, and multinational partners.

PLANNING CONSIDERATIONS FOR THE MARITIME ENVIRONMENT

6-12. Sustainment operations in a maritime environment come with additional planning considerations not always present in other environments or domains. These considerations include planning for deployment of Army watercraft and actions to counter enemy threats.

CONSIDERATIONS FOR EMPLOYING ARMY WATERCRAFT

6-13. Employing Army watercraft will be dependent on joint, allied, and multinational partners for success. Army forces must be able to maintain control of land and air domains in order to successfully operate in the maritime environment. Control of the air and land domains is key to generating, applying, and sustaining combat power. Army watercraft and other sustainment forces must have a COP that can be shared between allies and partners in order to maintain situational understanding and enable decision making. Sustainment planners must be prepared to execute primary, alternate, contingency, and emergency communications plans to maintain situational awareness between allies and partners during crisis and conflict.

6-14. Sustainment leaders must consult maritime subject matter experts to understand navigation requirements for inland waterways and understand tidal information and its effect on employment of watercraft. The maritime OE and vessel support requirements are complex and require expertise for planning and execution of sustainment in and across the maritime domain. Such expertise can be found in SDDC and the TBX. TSC and ESC SPOs may also have Army maritime subject matter experts assigned. Sustainment leaders must also consider impacts of population density on watercraft employment. In a maritime environment, civilian populations using inland waterways and littoral regions for commerce, trade, and transit may slow the pace and speed at which watercraft may operate. Poor soil composition, steep coastal terrain, and densely populated areas along inland waterways and in the littorals have the potential to change or limit where vessels can discharge or where logistics over-the-shore operations can occur.

6-15. Army watercraft capabilities are essential for sustainment operations in a maritime environment. Seaport opening operations facilitate the arrival and throughput of equipment and units and are conducted in coordination with strategic and theater resources. USTRANSCOM and Military Sealift Command support the flow of personnel and materiel into a theater. SDDC supports all aspects of strategic seaport management in a permissive maritime environment and provides asset visibility information per the CCDR's priorities. The TBX provides the CCDR with capabilities to conduct austere seaport operations in a nonpermissive maritime environment.

6-16. The joint task force-port opening is a USTRANSCOM capability that is available to CCDRs to execute limited capability rapid port opening activities during contingency operations. The TBX is a FORSCOM organization that may be attached to a TSC and work in coordination with SDDC to support port management for an operation at the strategic port. In addition, the Army has an on-call mission to support joint task force-port opening as required. For additional information, see JP 3-02, JP 3-32, JP 3-36, JP 4-0, JP 4-18, FM 3-0, ATP 4-15, and ATP 4-13.

6-17. Leaders and planners must plan for the execution of all sustainment elements (logistics, financial management, personnel services, and HSS) and all sub-functions during operations in a maritime environment. The logistics element of sustainment involves planning and executing the movement and support of forces. The financial management element of sustainment leverages fiscal policy and economic power to sustain military operations. The personnel services element mans the force and maintains Soldier and family readiness. The HSS element of sustainment ensures the behavioral and physical well-being of forces during operations.

PLANNING CONSIDERATIONS FOR ARMY WATERCRAFT

6-18. Planning considerations for the use of Army watercraft must encompass all warfighting functions to ensure the plan is integrated. The following discussion describes considerations that must be taken into account while planning watercraft operations in a maritime environment.

Sustainment Planning Considerations

6-19. The following are sustainment planning considerations for operations in a maritime environment. The following examples are not all-inclusive, and considerations will vary based on operational requirements:

- Plan for delivery of all elements of the sustainment warfighting function (logistics, financial management, personnel services, and HSS) required to build and sustain combat power.
- Preposition supply Classes I, IIIB/P, IV, V, VIII, IX, and water as far forward as the tactical situation permits.
- Consider maximizing the use of combat configured loads to deliver combat power.
- Anticipate time needed to execute logistics as distances increase.
- Ensure watercraft maintenance capability is adequate to sustain and repair watercraft forward in theater to meet readiness requirements and the maneuver commander's intent.
- Plan for continuous replacement operations, specifically the transportation and integration of replacement personnel into units in the tactical close area.
- Submit personnel replacement priority requests based on forecasted casualty estimates to enable forward positioning of personnel replacements.
- Plan for primary, alternate, contingency, and emergency communications plans to ensure effective personnel asset visibility and delivery of LOGSTAT reports.
- Forecast expected number of casualties and prepare appropriate medical treatment, surgical, and evacuation capabilities. Planners must also assess the best positioning of medical units to ensure support to operations.
- Utilize sea-basing to facilitate support operations over strategic distances.

Command and Control Planning Considerations

6-20. Planning considerations for command and control are listed below:

- Expect enemy attacks in the space and cyberspace domains (to include the electromagnetic spectrum) that will degrade communications and digital information transmission. Attacks in these domains affect sustainment operations in terms of satellite communications, positioning, navigation, timing, information collection, internet operations, computer systems, and voice communications.
- Develop and execute primary, alternate, contingency, and emergency communications and navigation plans to ensure redundancy.
- Understand how the maritime environment impacts communications and may limit transmission of information. Operations in maritime environments may occur over vast distances. Actions by the enemy, degraded communications, and loss of satellites may disrupt command and control of dispersed forces.
- Assess task organization to ensure watercraft capabilities are positioned properly to support the mission. Leaders must understand watercraft capabilities to match them against requirements.

Movement and Maneuver Planning Considerations

6-21. Planning considerations for movement and maneuver are listed below:

- Expect watercraft to operate over extended distances and understand the impacts of turnaround times on operations.
- Understand how enemy action, enemy fire, and obstacles will impact movement of watercraft.
- Prioritize use of watercraft needed to support movement and maneuver requirements against watercraft needed to support sustainment requirements.
- Plan to support the movement of forces and cargo along inland waterways.

Intelligence Planning Considerations

6-22. Some planning considerations for intelligence are listed below:

- Understand intelligence preparation of the OE products, detailed intelligence estimates, and other intelligence products that describe enemy capabilities and courses of action within a maritime environment.
- Ensure intelligence estimates are used in planning operations in a maritime environment.

Fires Planning Considerations

6-23. Some planning considerations for fires are listed below:

- Anticipate supporting the required relocation of fires units between land masses to support operational requirements.
- Ensure that watercraft transporting ammunition are properly positioned to support fires operations.
- Anticipate increased requirements to move munitions for maneuver units.
- Ensure that watercraft transporting ammunition have the correct documentation and approval for partner-nation port entry.

Protection Planning Considerations

6-24. Some planning considerations for protection are listed below:

- Expect attack using artillery, aircraft, mines, and ground forces. Commanders must ensure defense forces are adequate to survive effects.
- Plan for convoy security along the sea LOCs. This must include attacks from the air as well as the water.
- Plan for dispersion as much as possible to accommodate operations.
- Maximize the use of available space on Army watercraft for detainee movement.
- United States Army EOD is not trained or equipped for explosive ordnance in maritime or littoral environments. Plan for render safe capability, such as U.S Navy EOD, to be low density and in high demand.

SUSTAINMENT ACTIONS TO COUNTER ENEMY THREATS

6-25. Leaders must understand enemy courses of action and how they can be used to disrupt sustainment in a maritime environment. Potential employment of capabilities across all domains will challenge sustainment forces from home station to forward locations. Enemy forces may use submarine or mine warfare to interdict or disrupt watercraft operations. Leaders must be prepared to coordinate with joint, allied, and multinational partners for assistance with securing sea LOCs. Types of capabilities that joint, allied, and multinational partners can provide include mine sweeping, sensor technology, and aerial reconnaissance.

6-26. Leaders must understand that gains in the development of precision sustainment and predictive logistics technologies can increase decision dominance and responses to potential enemy threats. The ability to deploy autonomous watercraft for resupply can impose dilemmas on enemy targeting and cause diversions from intended actions. Predictive logistics will also drive development of advanced power solutions that enable employment of autonomous vehicles in support of maritime operations.

6-27. Leaders must also understand the use of antiaccess and area denial techniques in the maritime environment to disrupt sustainment operations. These techniques can range from use of missile defense and artillery systems to deny access to key terrain or waterways to using enemy special operations and naval forces. Use of SOF to destabilize or disenfranchise regional partners can impact employment of Army watercraft and sustainment forces in a maritime environment. Additional details for enemy antiaccess and area denial techniques can be found in FM 3-0.

6-28. Leaders must consider deception as a way to impose multiple dilemmas on the enemy. Deception contributes to creating multiple dilemmas, achieving operational surprise, and maintaining the initiative. Deception efforts by tactical formations seek to delay enemy decision making until it is too late to matter, or to cause an enemy commander to make the wrong decision. Deception requires an understanding of how to surprise enemy forces; time to plan, prepare, execute, and assess a deception operation; and the ability to properly resource the deception effort. The use of autonomous aerial delivery systems and future development of autonomous watercraft can be used as part of deception in the maritime environment. Leaders can employ autonomous vehicles in locations other than where operations are intended to cause the enemy to react in an unplanned manner. See JP 3-13.4 and FM 3-13.4 for information on deception. See FM 3-0 for more information on imposing dilemmas.

THE OPERATIONAL FRAMEWORK IN A MARITIME ENVIRONMENT

6-29. While the operational framework also applies to the maritime environment, the varying distances of maritime surface areas and sizes of land masses challenge what constitutes deep, close, and rear operations. Sustainment of operations in a maritime environment will be noncontiguous, with sustainment and operational forces physically separated by bodies of water. Sustainment forces must be prepared to simultaneously support offensive and defensive operations in the maritime environment. Army watercraft may be required to support amphibious landings and RSOI operations while defending against surface and sub-surface threats. Coordination with joint, allied, and multinational partners will be essential in sustaining operations across the operational framework in a maritime environment.

6-30. The unified command plan designates the AOR. Within that AOR, a larger maritime OE might have several JOAs to facilitate command and control and resource prioritization. A JOA is established for operations within an AOR that are specialized or limited in scope or duration. The JFC will designate joint security areas and direct military operations as a JTF. In a maritime environment, the joint security area can be separated by water over a large distance and may not be in areas that are actively engaged in combat. A theater Army headquarters or TSC may be required to conduct theater sustainment operations from a single designated joint security area or from multiple locations, depending on mission requirements.

ASSIGNING AN AREA OF OPERATIONS

6-31. An *area of operations* is an operational area defined by a commander for the land or maritime force commander to accomplish their missions and protect their forces (JP 3-0). Sustainment forces must be prepared to support multiple Aos within a maritime environment. Large islands may allow a contiguous AO with forces operating adjacent to one another. Smaller islands may require a noncontiguous AO with forces operating in a dispersed nature.

SUSTAINING DEEP OPERATIONS

6-32. Sustaining deep operations in a maritime environment will require sustainment forces to be prepared to support information collection, SOF, and fires. Sustainment leaders must be prepared for the employment of enemy antiaccess and area denial capabilities such as aerial assets, mines, submarines, and the use of fires to limit or restrict movement of sustainment forces. Sustainment planners should plan for increased ammunition requirements for long range fires to negate enemy actions and the use of joint and other assets to maintain freedom of movement and access to sea LOCs.

SUSTAINING CLOSE OPERATIONS

6-33. Sustaining close operations will require sustainment planners to support corps and division units executing offensive operations. The use of joint, allied, and multinational assets will be key in sustaining close operations that may be conducted in multiple locations within a maritime environment. Close operations may have some forward forces operating isolated and disconnected from support. Sustainment planners must consider this condition and develop methods to sustain these units. Methods could include increasing combat loads, using aerial delivery, and staging supplies using ISBs.

SUSTAINING REAR OPERATIONS

6-34. Sustaining rear operations will require sustainment planners to be prepared to set and sustain theater operations. Rear operations in a maritime environment will present unique sustainment challenges and circumstances to Army forces. Sustainment leaders must understand that time and distance will impact the ability to sustain forces separated by distance and water. RSOI could occur thousands of miles away from where a unit would be employed in combat. The use of ISBs may shorten distances between rear operations and forward-located forces. The use of aerial delivery may prove essential in providing critical supplies. Sustainment planners should also consider coordination with joint, allied, and multinational partners for use of watercraft and aerial assets to support operations in a maritime environment.

6-35. Protection of sustainment forces operating in the maritime environment will be a critical consideration for planners. Sustainment operations in the rear will face challenges from both waterborne and airborne threats. Potential means of interdicting or disrupting rear operations include the use of mines and submarine

warfare to disrupt sea LOCs and the use of air assets and missiles to attack from a distance. Sustainment leaders must consider methods for securing sea and aerial LOCs from the rear area. These methods may include incorporation of naval assets to protect sea LOCs and air and missile defense systems to protect against aerial threats.

SUPPORT AREA OPERATIONS

6-36. Support area operations are a critical part of rear operations. A support area is where units position, employ, and protect base sustainment assets and LOCs required to sustain, enable, and control operations. Support area operations include sustainment for the echelon and relevant security operations. Support area operations enable the tempo of deep and close operations. They require detailed planning to coordinate among the various units providing sustainment, protection, and security.

6-37. In a maritime environment, the support area may be on an island where operations are occurring, or it may be separated by water and located on a different island. Support area operations in a maritime environment require detailed planning. Commanders must balance requirements to protect rear and support area operations with the tempo and needs of units in close and deep area operations. See FM 3-0 for additional considerations when conducting support area operations. These critical areas may be vulnerable to enemy attack, and they require increased protection from potential enemy fires, submarines, and air threats. Some planning considerations for establishing support areas in a maritime environment include, but are not limited to—

- Enemy maneuver and fires units that threaten current and future support area operations.
- Additional forces required to protect the support area.
- Command and control nodes that will occupy the support area.
- Command and support relationships between units in the support area.
- Transportation networks (road, rail, inland waterways, and air) into and out of the area.
- Protection from enemy indirect fire assets.
- Survivability.
- Dispersion, terrain management, and defensive responsibilities.

SECTION II – SUSTAINMENT CONSIDERATIONS FOR THE MARITIME ENVIRONMENT

6-38. Operations in a maritime environment will more than likely be joint in nature and involve naval and air components. Such operations provide unique considerations for sustainment units. Sustainment forces must be prepared to operate in a dispersed nature on individual islands. Sustainment leaders must be prepared for the challenges of command and control, supporting joint offensive operations, and sustaining large-scale combat operations.

MARITIME COMMAND AND CONTROL

6-39. The theater Army will continue to be the senior Army headquarters in the CCMD. Its operational responsibilities include command of forces, direction of operations, and control of assigned operational areas. In a maritime environment, the theater Army will serve as the joint force land component commander for joint operations and provide the JFC with recommendations on allocation and employment of Army forces in the AOR. Given the size of an AOR for most maritime environments and the distance between land areas, there may be multiple active JOAs, each with separate headquarters.

6-40. The theater Army will continue to provide mobility to maneuver forces and conduct sustainment operations in the maritime environment through its assigned JTF headquarters or TSC. The headquarters supporting operations must be prepared for the challenges of lengthened LOCs and the dispersed nature of sustainment operations in the maritime environment. Sustainment leaders must be prepared to command and control sustainment units that may be supporting either offensive, defensive, or stability operations.

6-41. Sustainment leaders must be prepared for the communication and information challenges of operating in a maritime environment. Lengthened LOCs and activities of adversaries may impact communications and the ability to command and control sustainment forces. Leaders must understand these challenges and come up with unique solutions to overcome them.

SUPPORT OF JOINT OFFENSIVE OPERATIONS

6-42. Sustainment forces, particularly Army watercraft, must be prepared to support the JFC in execution of certain forcible entry operations. In a maritime environment, sustainment forces will more than likely be expected to support amphibious operations. For additional information, see FM 3-0.

FORCIBLE ENTRY OPERATIONS

6-43. Forcible entry operations in any OE follow the same phasing model. Those phases are preparation and deployment, assault, stabilization of the lodgment, introduction of follow-on forces, and termination or transition operations. Army sustainment forces should be prepared to support any phase of the operation:

- **Preparation and deployment phase**. Sustainment forces must be prepared to support movement planning. Movement support during this phase may include conducting site surveys by watercraft or aircraft and movement from marshalling areas to ISBs and ports of debarkation.
- **Assault phase**. Naval, air, and special operations forces will comprise the initial entry forces responsible for seizing airfields and ports. Army sustainment forces must be prepared to support the movement of reinforcing entry forces to support initial entry forces.
- **Stabilization of the lodgment phase**. During this phase, sustainment forces must be prepared to support increasing logistics requirements as the lodgment becomes stabilized and follow-on forces continue to arrive. Army watercraft will be essential in supporting this phase in the maritime environment.
- **Introduction of follow-on forces**. Once the lodgment has been established, follow-on forces will continue to flow into the area. Army sustainment forces should be prepared to support not only the follow-on forces moving into the lodgment, but also forces already on ground and future operations.

6-44. JP 3-18 provides additional information on forcible entry operations and requirements for the joint force in each phase.

AMPHIBIOUS OPERATIONS

6-45. *Amphibious operations* are military operations launched from the sea by an amphibious force to conduct landing force operations within the littorals (JP 3-02). Amphibious operations are joint in nature and comprised of an amphibious task force and landing force. The amphibious task force is comprised of naval, Military Sealift Command, and Maritime Administration assets. The landing force is comprised of Army and Marine Corps assets. Amphibious operations can be conducted during any part of a joint operation or campaign.

6-46. Planning for an amphibious operation is continuous, and it requires collaborative, parallel, and detailed planning by all participating forces. The organization of any amphibious operation should be sufficiently flexible to meet the planned objectives in each phase of the operation and account for unforeseen developments. Army sustainment forces should be prepared to support any phase of an amphibious operation. This support can be in the form of logistics over-the-shore operations, port operations, movement control, and medical support to forces that are part of the amphibious operation. Army sustainment also plans and prepares to support during operations by providing intratheater ship-to-shore transport, to include coordinating for fires support from joint forces during resupply and rearming amphibious and landing forces while contested.

SUSTAINING LARGE-SCALE COMBAT OPERATIONS IN A MARITIME ENVIRONMENT

6-47. Movement via water remains the principal method for moving military personnel, equipment, and materiel in support of operations. In a maritime environment, maneuver via water will also be required to support and sustain operations. Sustaining large-scale combat operations in a maritime environment will present unique challenges to sustainment forces. The availability of shipping assets and the capability to transfer or move materiel and personnel between land masses or from ship to shore will be critical in the maritime environment. Army watercraft assets are suited for movement of materiel between ports, from a port into an austere port or bare beach, or from ship to shore through logistics over-the-shore operations. Sustainment planners must also be prepared for the potential requirement to move personnel from ship to

shore via watercraft in support of operations and support multiple logistics over-the-shore operations over greater distances in a maritime environment. This may include the backhaul of detainees from forward areas. This backhaul of detainees to division and corps rear areas is vital for intelligence gathering and for their safety. See FM 3-63 for more information on maritime detainee transport. Military Sealift Command and Merchant Marine vessels, which transport cargo and materiel, require secure facilities that allow for discharge of materiel and cargo. In addition to infrastructure requirements, the security and vulnerabilities of ports of debarkation must be considered and continually assessed in order to support operations in a maritime environment.

6-48. Sustainment of large-scale combat operations in a maritime environment will require innovative ways and means of conducting sustainment operations. Sustainment leaders cannot assume secured port facilities or modern infrastructure will be available. The following paragraphs will describe how sustainment planners should be prepared to conduct RSOI and theater sustainment.

RECEPTION, STAGING, ONWARD MOVEMENT, AND INTEGRATION

6-49. The theater Army will be responsible for controlling theater opening and RSOI in a maritime environment. The theater Army executes RSOI through the TSC and its subordinate sustainment organizations. Sustainment planners executing RSOI in a maritime environment must be prepared for the unique challenges of a non-permissive OE. Secured infrastructure, staging areas, and tactical assembly areas may not be available or accessible. Sustainment planners must be prepared to consider other courses of action to conduct RSOI, enabling the joint force to deploy and then rapidly posture for employment. These courses of action include, but are not limited to—

- Conducting reception and staging activities prior to entry into the theater or JOA.
- Using ISBs to facilitate combat configuration of forces enroute to the POD.
- Using agile or offshore basing options to facilitate RSOI.
- Conducting onward movement of forces directly from home station after integration (for example, conducting expeditionary deployment, such as the Global Response Force).

THEATER SUSTAINMENT OPERATIONS

6-50. In a maritime environment, the CCDR exercises DAFL over assigned forces and can assign lead Service responsibilities. When this responsibility is assigned to the Army, the TSC and/or ESC is capable of leading the synchronization and integration of common support capabilities for the joint force. To do this, the TSC may establish boards, bureaus, centers, cells, and working groups to assist with synchronization and integration of capabilities. These boards, bureaus, centers, cells, and working groups will be essential in managing the dispersed sustainment operations conducted in the maritime environment. These operations include—

- Executing JLOTS operations.
- Conducting intertheater and intratheater transportation.
- Conducting maintenance operations.
- Conducting general engineering operations.
- Providing HSS.

Joint Logistics Over-The-Shore

6-51. JLOTS operations will be the key to sustaining operations in a maritime environment. Sustainment leaders and planners in the boards, bureaus, centers, cells, and working groups at the TSC must be prepared to monitor JLOTS operations that may be occurring on multiple islands. Planners should always consider potential peer threat methods and the capacity of the JLOTS operation. JLOTS may be challenged by the peer threat methods of systems warfare and preclusion. Peer threats may employ systems warfare to destroy key port infrastructure capabilities and access points needed for successful JLOTS operations. Preclusion methods such as antiaccess and area denial may be employed to limit projection of forces into an area and reduce freedom of action.

6-52. Bulk petroleum may need to be received via JLOTS operations. Such operations use an offshore petroleum discharge system or other bulk liquids transfer system to deliver fuel to tactical storage facilities located immediately ashore. The offshore system delivers fuel to a tactical or commercial terminal, normally

operated by a petroleum pipeline and terminal operating company. Fuel may then be moved forward through the use of trucks, rail, or installed pipeline systems that can quickly establish inland product distribution. If the theater is not an active theater of war, it should have an established operating stock level and pre-positioned war reserve stock. For additional information see JP 4-03.

6-53. Interoperability of fuel transfer systems should be considered and resolved in the planning process for at least the following interfaces:

- Tanker or oiler to Navy receiving ship, United States Coast Guard receiving ship, seaport load and off-load facilities, and JLOTS systems.
- Airbase fuel storage and dispensing systems to receive fuel from commercial or military sources and issue fuel to Service component and multinational aircraft.
- Shore distribution systems to tactical fuel systems and equipment such as the Inland Petroleum Distribution System and the Early Entry Fluid Distribution System, amphibious assault fuel system, and fuel tanker vehicles.

No system or set of systems should be planned to be utilized together without proper interoperability validation through the appropriate spill contingency plan.

6-54. Planners should also be prepared for the challenges of bringing APS ashore in a maritime environment. APS downloads will require deep draft facilities. These facilities may not be present at desired locations within the maritime environment. When access to secure port facilities is unavailable, sustainment planners should consider plans to use offshore anchorages, unimproved port facilities, and bare beaches and shallow draft lighterage to download and convey APS in maritime environments. Planners should consider the employment and sequencing of engineer units to prepare beaches, inland roadways, and ISBs.

Intertheater and Intratheater Transportation

6-55. The maritime environment will present challenges in managing intertheater and intratheater assets, requiring the simultaneous management of air, land, and maritime transportation assets. Maritime transportation capabilities enable the ability to sustain port and inland waterway operations during RSOI, sustainment, and contingency operations. The TMCE is assigned to a TSC DMC, normally augmenting the transportation operations branch. The TMCE provides movement management, container management, highway regulation, and coordination for personnel and materiel movements into, within, and out of the theater for the theater Army or joint force commander. For additional information on the TMCE, see ATP 4-16.

6-56. Effective management and employment of intertheater and intratheater transportation assets in a maritime environment will be critical, and both branches within the TMCE will play a vital role. The intertheater operations branch plans, coordinates, implements, and monitors intertheater movement programs while serving as a liaison between strategic transportation partners and the TSC and ESC. The intertheater operations branch also provides representation on intertheater transportation coordination boards and meetings, conducts transportation planning, and coordinates exceptional movement requirements. The intratheater operations branch plans, implements, and monitors intratheater movement programs and commits transportation surface, ground, and air assets in support of RSOI operations and contingency operations. The intratheater operations branch also conducts transportation planning, supports contingency operations, and conducts exceptional movement requirements.

6-57. To manage daily transportation requirements in maritime environments, movement and distribution boards will be essential. These boards should cover major internal and external movement requirements to plan and coordinate for maritime transportation capabilities to support deployment, onward movement, inland waterway operations, redeployment, and distribution operations. Distribution boards receive input from movement boards, which then update theater movement controllers on distribution priorities, major unit moves, changes to main and alternate supply routes, and area security status to include security challenges associated with water transport movements. Ultimately, both boards play a critical role in ensuring the safety and timely distribution of personnel and supplies within the maritime operating environment.

Maintenance Operations

6-58. Sustainment leaders must be prepared for supporting maintenance operations in a maritime environment. Most of the maintenance conducted in the maritime environment may be field-level maintenance conducted on dispersed islands. Successful maintenance operations will depend on the ability to anticipate maintenance requirements, track and analyze maintenance reports, properly identify and diagnose maintenance faults, apply the appropriate maintenance capability, and manage Class IX. Maintenance managers must accurately report Class IX requirements, and distribution managers must be prepared to support providing Class IX using available assets to overcome separation by distance and water.

General Engineering

6-59. General engineering in a maritime environment will consist of activities that improve infrastructure and modify, protect, and maintain the physical environment. General engineering capabilities can be employed to improve port facilities, airfields, and other basing requirements needed for operations. Engineer divers can be used to conduct hydrographic surveys to support vessel operations in littorals and conduct ship husbandry requirements. Leaders must prioritize requirements for general engineer support and synchronize distribution capabilities to ensure materials are available for support.

Health Service Support

6-60. As with other environments, planning HSS support in maritime-dominated environments should address relevant aspects that may affect support to friendly forces. MTFs positioned at existing bases within the range of adversary long-range fires should establish primary and alternate survivability positions that will provide for the defense of themselves and their patients. Role 2 personnel may be required to defend themselves and their patients against amphibious assaults and vertical envelopments by enemy forces seeking to control a particular land mass as well. Role 2 MTFs operating on islands with austere infrastructure and resources require significant sustainment during prolonged operations that may delay medical evacuation. Every opportunity to clear patients from the MTF must be taken advantage of to prevent the MTF from being inundated with patients in a prolonged care situation.

6-61. Scarcity of land may make it difficult for MTFs to maintain proximity to the force they are supporting. Additionally, MTFs may not have the space available to set up as they would in another environment. Site layout and selection are critical because the AHS principles and medical functions do not change, but they must adapt to the environment. For example, the Role 2 may still conduct medical evacuation from the Role 1 MTF with their direct support ambulance squad. However, instead of the evacuation going from the Role 1 MTF to a traditional land ambulance exchange point, the ambulance exchange point may occur on the beach front with the ambulance offloading patients to a landing craft or aeromedical evacuation platform that then moves the patients to a hospital afloat. If aeromedical evacuation is used, aviators must become deck certified. Medical regulating and resupply of Class VIII stocks from the United States Navy requires a more joint perspective. The principles and techniques are the foundation of planning; however, the execution is adapted to the environment. For additional information, see FM 4-02 and ATP 4-02.6.

SECTION III – ARMY WATERCRAFT OPERATIONS

6-62. Army watercraft support CCDR requirements by maintaining the desired flow of forces, cargo, and sustainment into a theater in a maritime environment. Army watercraft expand the CCDR's ability to move and maneuver through the maritime environment by enabling and sustaining operations through fixed, degraded, and austere ports and inland waterways, including the use of logistics over-the-shore operations. The following paragraphs describe the capabilities of Army watercraft in the maritime environment followed by a notional example of watercraft supporting operations in the corps area. See ATP 4-15 for additional information on Army watercraft and their capabilities.

NOTIONAL ARMY WATERCRAFT OPERATIONS IN THE CORPS AREA

6-63. Army watercraft are essential for conducting sustainment operations in a maritime environment as they are designed to perform missions specifically related to intratheater operational maneuver of combat power and sustainment. Army watercraft are a critical link between maritime strategic lift and land-oriented tactical movements. They must integrate across all Services and multinational partners in a denied, degraded, contested logistics environment with limited communications.

6-64. Army watercraft operations must integrate into the joint movement and maneuver plan and cannot rely solely on other Services for protection to operate safely in the contested maritime domain. Army watercraft provide the ability to move forces through sea LOCs and along the littorals in the division close area while creating multiple dilemmas for enemy forces, as they can conduct movement of forces in support of close operations and rear operations. The logistics support vessel; landing craft, utility-2000; and maneuver support vessels provide the best capabilities to conduct this movement and maneuver due to their range and payload capabilities.

6-65. Figure 6-1 depicts Army watercraft supporting the operational maneuver of Army forces against enemy forces in the corps and division AOs. Watercraft move forces and equipment from the joint security area into the division support areas, BSAs, and to division and corps deep areas to conduct operations. The figure also depicts watercraft supporting movement and maneuver within the corps and division boundaries. Logistics over-the-shore operations using vessels, bridging, and causeway systems are conducted in the corps and division boundaries to facilitate operations due to potential threats within the AO. Command and control of watercraft are provided by the harbormaster command and control center from either the division or brigade AO.

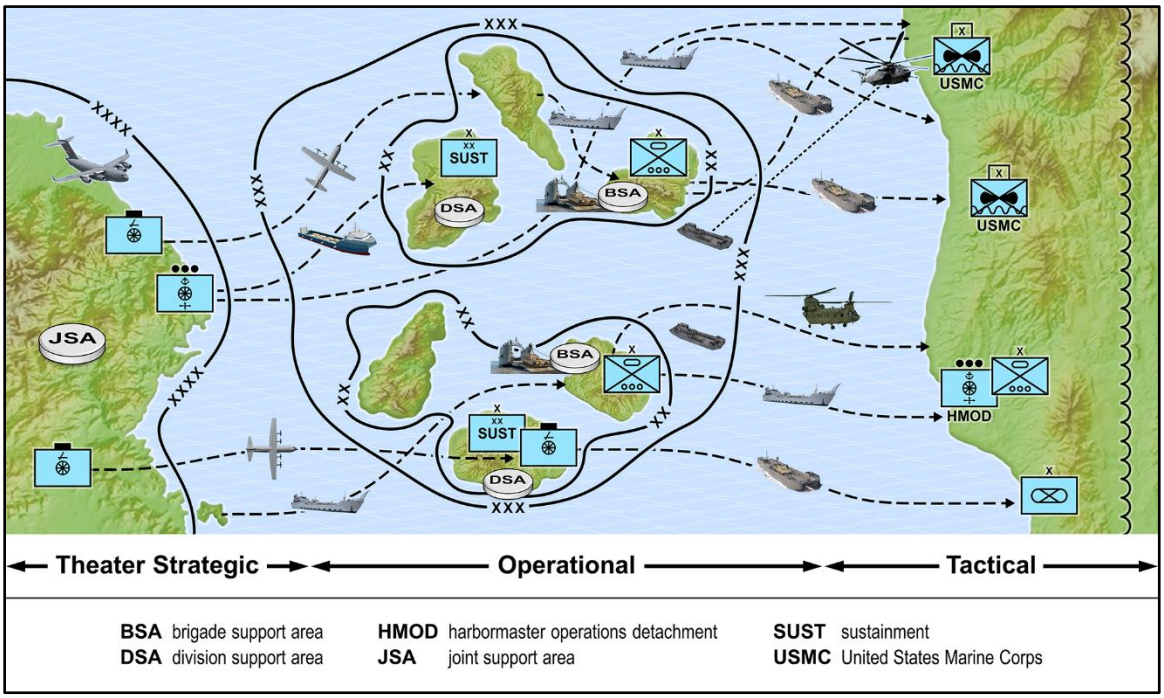


Figure 6-1. Notional Army watercraft operations in the corps and division area

NOTIONAL RIVERINE OPERATIONS

6-66. Riverine operations are operations conducted by forces organized to cope with the unique characteristics of a riverine area and/or to achieve or maintain control of the riverine area. Riverine operations can originate from an existing AO, an afloat base at sea, or from the littorals. Riverine operations can be

conducted jointly or individually by Army and Navy forces. See ATP 3-18.12, ATP 4-15, and JP 3-32 for additional information on riverine operations.

6-67. Figure 6-2 depicts a notional example of Army watercraft executing riverine operations from the littorals in a maritime environment. In this example, the landing craft, utility and maneuver support vessel, light demonstrate the Army's ability to conduct riverine operations to move troops and cargo from afloat and the littorals to inland locations. Army watercraft also provide the capability to support the egress of troops and cargo using inland waterways once operations are complete.

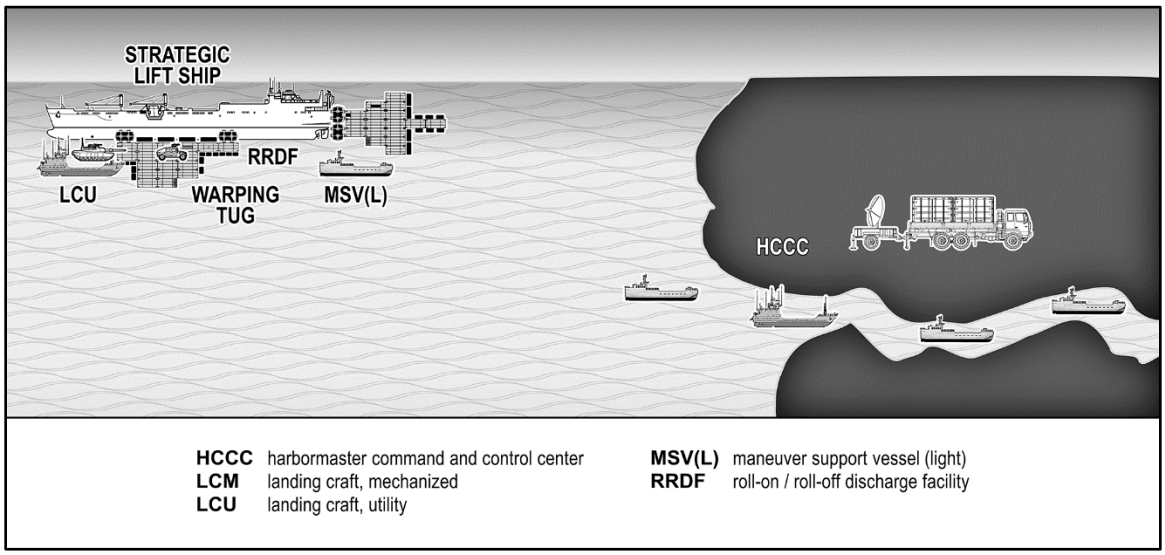


Figure 6-2. Notional Army watercraft conducting riverine operations

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Chapter 7
Leadership and Training for Sustainment Operations

This chapter describes the operations process and the sustainment commander's importance in driving the process. It describes how sustainment commanders use operational art, and it also discusses how sustainment commanders can adapt their formations for missions and transitions. It concludes with training considerations for sustainment units and sustainment leader development.

THE OPERATIONS PROCESS

7-1. The operations process is the Army's framework for planning and organizing operations. Sustainment commanders must be familiar with every aspect of the operations process and ensure it is fully executed within the time available. Using the operations process ensures that sustainment commanders drive the detailed planning necessary to understand, visualize, and describe the OE. It also allows commanders to make critical decisions to direct, lead, and assess synchronized and integrated operations. The following paragraphs provide additional information on the operations process. For detailed information, refer to JP 5-0, ADP 5-0, and FM 5-0.

PLANNING

7-2. *Planning* is the art and science of understanding a situation, envisioning a desired future, and determining effective ways to bring that future about (ADP 5-0). Planning can be both conceptual and detailed. Conceptual planning involves developing an understanding of the OE, defining the end state, and developing an operational approach to achieve that end state. Detailed planning develops the operational approach into a complete plan. Sustainment commanders must be skilled in the art and science of planning. They must understand the maneuver objectives and be able to conceptualize a sustainment plan that supports those objectives. They must also be able to quickly translate the conceptual plan into a detailed plan for subordinates to follow. Sustainment commanders and planners must identify potential friction points and codify them into a decision support matrix. Also, developing pre-determined branches and sequels to the plan can expedite the implementation of changes. Planners should also seek to clearly define, and receive approval for, delegation of authority as it pertains to some of the decisions on the decision support matrix. Commanders must exercise their discretion when delegating authorities, but doing so can rapidly enhance the responsiveness of executing changes to the established plan.

7-3. Planning is continuous. During preparation and execution, sustainment commanders will be required to assess and continually update and refine orders as the tactical situation and OE change. Input received from subordinate leaders on how things can be done differently also influences how commanders plan and prepare.

PREPARATION

7-4. *Preparation* consists of those activities performed by units and Soldiers to improve their ability to execute an operation (ADP 5-0). Preparation creates conditions that improve opportunities for success. Sustainment commanders and leaders at all levels can improve sustainment support through rehearsals, training, and inspections. Sustainment commanders use preparation to move from planning to execution of operations.

EXECUTION

7-5. *Execution* is the act of putting a plan into action by applying combat power to accomplish the mission and adjusting operations based on changes in the situation (ADP 5-0). Commanders, staffs, and subordinate leaders focus on translating decisions into actions during execution. Sustainment commanders must ensure that the actions executed by sustainment forces support the operational plan and provide freedom of action, extend operational reach, and prolong endurance. Sustainment commanders and their staffs must continually assess the effectiveness of support and adjust as necessary.

ASSESSMENT

7-6. Assessment is a continuous activity that supports decision making throughout the operations process. Sustainment commanders and their staffs are required to continually assess the situation before and throughout operations to understand conditions and required decisions. Sustainment commanders should use continuous assessment to make decisions and anticipate and adapt to changes in the OE and operations. Effective sustainment commanders communicate up and down the chain of command to share information and observations and maintain situational awareness. They use assessments to review assumptions, revise running estimates, and understand risk. Sustainment commanders must also understand the importance of assessing operations in other domains to anticipate and prevent issues that could impede operations.

SUSTAINMENT COMMANDER'S ROLE IN THE OPERATIONS PROCESS

7-7. The sustainment commander's role in the operations process is to lead Soldiers and organizations while providing purpose, direction, and motivation to accomplish operations. Commanders accomplish this through understanding the problem, visualizing the end state, describing the visualization, and directing actions. Commanders must use running estimates throughout the operations process to support understanding, visualizing, describing, and directing. Figure 7-1 describes the operations process and the commander's role.

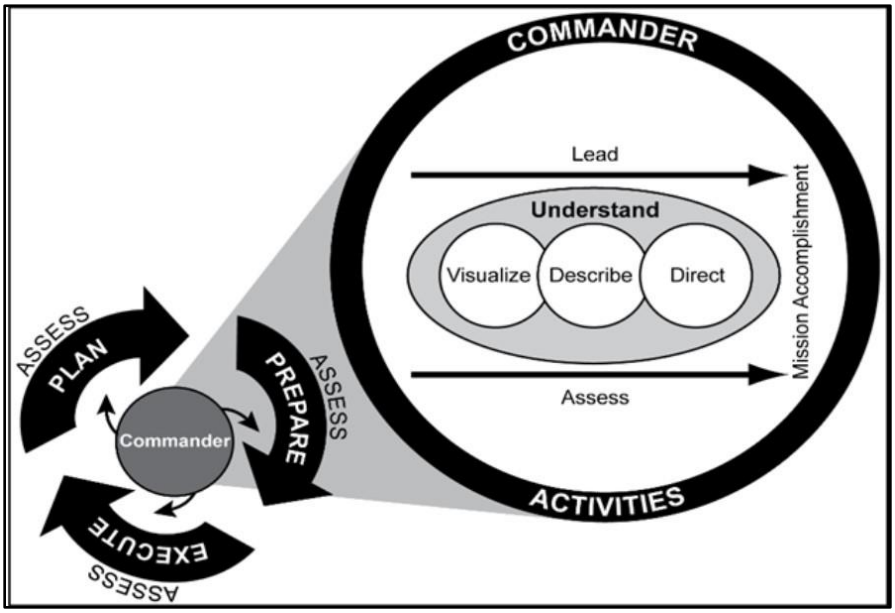

Figure 7-1. The operations process

UNDERSTAND

7-8. Sustainment commanders collaborate with their staffs, other commanders, and unified action partners to build a shared understanding of their OEs and associated problems. The OE includes portions of all five domains and all three dimensions—human, physical, and information. Sustainment commanders must understand how sustainment capabilities are employed across the domains and the effects they produce across the dimensions. Commanders must continually assess their understanding of the OE and problem and adjust as necessary. A commander must understand the OE and accurately frame the problem to effectively visualize the desired end state and operational approach.

VISUALIZE

7-9. As sustainment commanders build understanding about their OEs, they start to visualize the desired end state and the operational approach to achieve it. Sustainment commanders use the shared understanding they gained with their staff to effectively visualize the desired end state and how the operational approach they envision their organization taking will achieve it.

DESCRIBE

7-10. Sustainment commanders must be able to describe the purpose and intent of operations to their staff and subordinate commanders to create a shared understanding. They can use collaboration and dialogue to ensure subordinate commanders understand the visualization well enough to plan and conduct operations. Sustainment commanders should continue to refine visualization during the planning and execution of operations. Updates to the visualization must be communicated and balanced with the time subordinate leaders have to understand and act.

DIRECT

7-11. Sustainment commanders direct operations to achieve results and accomplish missions. Effective decision making and timely sharing of information ensures sustainment provides maneuver commanders with freedom of action to act decisively. Sustainment commanders who can quickly sense, understand, decide, act, and assess provide maneuver commanders with the endurance and operational reach to challenge enemy forces when they choose. A knowledgeable and capable staff are essential to effective decision making and directing operations.

LEAD

7-12. Leadership is the most essential dynamic of combat power. Sustainment commanders lead by the personal example they set, the quality of guidance they provide, and the actions they take during operations. Sustainment commanders must be able to lead and make decisions in situations that require rapid adjustment in brief periods of time. Fortitude and personal presence are required of sustainment commanders when making challenging decisions and help overcome the friction inherent in all military operations.

ASSESS

7-13. Commanders, supported by their staffs, assess the situation before execution and throughout operations to understand conditions and determine what decisions they must or are likely to make. These decisions are facilitated by commander's critical information requirements that identify critical information needed for decision making. Sustainment commanders must be able to compare the current operation to what was anticipated, remain alert to variance from expectations, and watch for information indicating threats or opportunities. The ability to continually assess sustainment operations is essential in anticipating changes and quickly adapting forces and support provided to counter those changes.

SUSTAINMENT COMMANDER AND OPERATIONAL ART

7-14. Army commanders, both maneuver and sustainment, must use operational art to develop a vision of how to establish conditions that accomplish their assigned missions and objectives. Commanders and staffs use operational art to develop strategies and operations to organize and employ tactical forces. Using their collective skill, knowledge, experience, creativity, and judgement, commanders and staffs integrate ends, ways, and means, to achieve objectives. Army commanders use operational art to pursue strategic objectives through the arrangement of tactical action in time, space, and purpose all while accepting and accounting for risk. Operational art is what allows commanders to translate their operational approach into a clear and concise concept of operations that is disseminated in an OPORD.

7-15. The Army design methodology can be used to shape an operational approach. Through this methodology, commanders and staffs gain an understanding of the current state of the OE to include current conditions. It allows them to envision a desired end state that must be achieved, identify problems that will prevent achieving the end state, and then develop a broad, general plan to solve those problems. From this point, commanders use the military decision-making process to develop a detailed plan that includes a concept of operations. Maneuver and sustainment commanders use the elements of operational art to understand the OE and develop a concept of operations. These elements can be used selectively in any operation as required, and not all apply at all levels of warfare. The elements are—

- End state and conditions.
- Center of gravity.
- Decisive points.
- Lines of operation and lines of effort.

- Tempo.
- Phasing and transitions.
- Culmination.
- Operational reach.
- Basing.
- Risk.

7-16. Commanders, both maneuver and sustainment, must consider these elements in planning. With proper consideration, each element can be used to develop a concept of operations that synchronizes and integrates sustainment with the other warfighting functions. Examples of how this can be done are shown below:

- Determine what sustainment capability is required and where it must be located in order to achieve the desired end state. Establish desired conditions such as required quantities of supplies or operational readiness rate.
- Determine if sustainment should be considered a critical requirement for the operation. Identify the components of the sustainment support structure such as supply storage and distribution that are critical and could cause failure if destroyed. Apportion protection capabilities to the sustainment assets as required.
- Analyze the effects of sustainment in allowing a commander to maintain combat power and reach decisive points. An example might consist of analyzing the CL III(B) and CL V status or maintenance and personnel status and determining if the status is adequate to reach the point.
- Determine how sustainment affects both lines of operation and lines of effort. Ask if sustainment will impact the ability to reach and control a geographic objective. The same should be done for lines of effort. Commanders should analyze how sustainment affects fires, protection, and movement and maneuver. Furthermore, commanders should determine if sustainment support is a line of effort required to establish the desired end state.
- Analyze how sustainment will affect the desired tempo of the operation and if sustainment will allow maneuver forces to maintain a higher tempo than the enemy. Understanding the status of CL III(B) is critical to controlling the tempo since fuel directly impacts movement and maneuver. Commanders must also ensure the maneuver tempo does not outpace the sustainment support.
- Analyze the effect sustainment has on completing the current phase of an operation and transitioning to the next phase. The commander and staff should use sustainment estimates to determine if the support concept is achieving the desired results in terms of the operational objectives. Identify the changes to the plan and the specific support required to complete the phase.
- Know the point at which the operation will culminate due to sustainment limitations or inadequate sustainment support. As an example, lack of personnel replacement might cause the operation to culminate sooner than planned. Sustainment commanders and staffs should be able to determine the culmination point and communicate it to the maneuver commander for consideration. This information can be used to plan a deliberate transition from offense to defense.
- Know the culminating points for supply since the culmination point is normally the limit of a unit's operational reach. Supply, maintenance, personnel replacements, and medical support all directly affect endurance and the ability to employ combat power for extended periods.
- Consider what type of basing is required to execute sustainment support. See ATP 3-37.10 for more information on basing. This includes proper positioning, dispersion, security, and command and control required to control the bases.
- Determine the amount of risk to accept when committing sustainment forces. Commanders must balance the risk with the potential favorable outcome. As an example, a commander might commit an entire fleet of tactical fuel vehicles to reach a decisive point in the operation but must accept the fact that doing so jeopardizes future operations if the fuel assets are destroyed by enemy action.

ADAPTING SUSTAINMENT FORMATIONS FOR MISSIONS AND TRANSITIONS

7-17. Conducting successful sustainment operations requires commanders, staffs, and subordinate leaders that can anticipate changes and quickly adapt formations and operations to meet those changes. The responsibility for anticipating and quickly adapting to changes begins with the sustainment commander.

Sustainment commanders develop staffs and subordinate leaders that create agile and adaptive units, inspire resilience in assigned personnel, and maintain focus on the mission in the face of adversity. (See Chapter 2, section VI for various command and support relationships that can be used when adapting formations.)

7-18. Quickly changing conditions and sudden transitions in operations may impact the teamwork and cohesion of a formation. Both require adaptation and sustainment leader attention. Examples of changes and adaptations include—

- Changes to sustainment task organization.
- New sustainment missions or changes in guidance.
- Changes to operational plans and changes in sustainment missions and support requirements.
- Periods of intense hardship and fatigue.
- Sustainment mission failures or setbacks.
- Reconstitution.

7-19. Sustainment commanders must develop subordinate leaders that can adapt to the changes in the OE and the nature of large-scale combat operations. Training is the vessel to prepare for these changes and sustainment leaders must be adept at training task-organized formations and subordinate leaders. Sustainment units that can successfully adapt to changing situations depend on leader development and a command climate that encourages subordinate leader learning, independent thinking, and taking the initiative. (FM 6-22 provides additional information on leader development in a learning environment.) Sustainment leaders establish conditions for subordinate adaptation by—

- Developing sustainment leadership experience.
- Fostering shared understanding.
- Communicating with staff and subordinates.
- Developing teams.

DEVELOPING SUSTAINMENT LEADERSHIP EXPERIENCE

7-20. The Army develops leaders who are agile, adaptive, and innovative through a mix of education, training, and experience. This encourages leaders who act with boldness and initiative to execute missions according to doctrine and orders. The goal is to develop Army leaders who clearly provide purpose, direction, motivation, and vision to their teams and subordinates while executing missions to support their commander's intent. Sustainment commanders and leaders develop subordinates by preparing them and challenging them with greater responsibility, authority, and accountability. Sustainment leaders should prepare subordinates to succeed at the next level of responsibility, since large-scale combat operations may require them to replace sustainment leaders above them. It is the professional responsibility of all sustainment leaders to develop subordinates. See FM 6-22 for more information on leader development.

7-21. Sustainment commanders and leaders can develop subordinates during training by accepting subordinates' risk and providing accurate feedback at the conclusion of training. Sustainment leaders should allow subordinates to accept risk on their behalf during training. They should also ensure subordinates make analytic risk decisions while informing higher headquarters of the risks they are accepting. Doing so provides a valuable teaching tool to learn what risks are acceptable, which are not, and how to better analyze and assess risk.

7-22. This method of coaching builds a leader's trust in a subordinate's judgement and initiative. It also builds the subordinate's trust in the leader. During operations, sustainment leaders must intervene when subordinates take risks that exceed potential benefits. Sustainment leaders must inform leaders either at the time of the decision or during an after-action review.

7-23. Instilling risk acceptance into sustainment leaders at all levels comes with accepting mistakes made in sincerity during training. Sustainment commanders that allow subordinates to learn from bad decisions create a learning climate that allows learning while gaining experience to thrive under pressure. Sustainment leaders should enforce the importance of bias towards action by highlighting decision making during operations. However, commanders should not constantly endorse or support mistakes that result from repeated lack of judgement or inability to learn. Commanders must not tolerate subordinates repeatedly failing to exercise the initiative and constant errors or inaction. To ensure subordinates learn from mistakes, sustainment commanders must—

- Publicly discuss a mistake during after-action reviews; this includes the mistakes of the leader as well.
- Make an immediate correction to enable a shared understanding by the team when there is no time for an after-action review.
- Correct systemic problems that enabled the mistake.

7-24. Sustainment commanders must prepare subordinates to take their place as required. Training events, exercises, and professional development sessions are ways to reinforce the vision and need for initiative. Over time, this prepares leaders for assumption of greater responsibility during combat. Sustainment leaders must also create a climate that fosters a shared understanding of the intent and desired end state.

FOSTERING SHARED UNDERSTANDING

7-25. A shared understanding enables a mission command approach to command and control. Sustainment commanders should communicate intention two levels down and sustainment leaders must look two levels up to understand the commander's intent, priorities of effort, and end state. Sustainment commanders can ensure a shared understanding of their intent through a continuous dialogue with subordinates. When done in an environment of mutual trust and understanding, the sustainment commander's intent frees them up to move about the battlefield knowing that subordinates understand the end state and what must be done. A shared understanding allows sustainment leaders to operate knowing subordinates will report information promptly and accurately.

7-26. Sustainment leaders must educate themselves and subordinates in Army, joint, and multinational doctrine. Training using the applicable tactics, techniques, and procedures creates a shared understanding, develops the team, and builds trust commanders need to achieve unity of effort. This will be essential when units are placed with different task organizations and command structures during an operation.

COMMUNICATING WITH STAFF AND SUBORDINATES

7-27. Sustainment commanders must be proficient in the use of written orders when exercising command and control of forces. Written orders before and during early stages of an operation promote consistency, provide a common frame of reference, and support a shared understanding between staff and subordinates. During operations, oral communications are more importance when time and the changing situation dictate speed of decision making. Oral communication also offers sustainment commanders an opportunity for personal interaction while leading. Face-to-face communication with staff and subordinates is the most effective means of communication but is not always practical. The pace of operations and changes in the OE can limit face-to-face interaction. Communications at the tactical level during large-scale combat operations will be mostly dependent on radio communications or Joint Battle Command-Platform messages. Sustainment commanders must understand that the military bearing they display and their tone of voice will impact subordinates.

7-28. Effective sustainment leaders should take steps to encourage communication between subordinates and staff. Leaders should make themselves open to receiving new information, good or bad, without harsh or over reactions. These types of barriers can reduce the ability to receive accurate and timely information. Failure to receive and act on this information can lead to mission and operational failure.

DEVELOPING TEAMS

7-29. Developing successful sustainment teams is a continuous process that begins at home station and continues through deployment and operations. For sustainment commanders, developing an effective team requires a shared understanding across all domains and effective communications with their staff and subordinates. Often, sustainment units serve or are deployed with different subordinate units or placed under an unfamiliar higher echelon. Sustainment leaders can build trust in these situations through interaction with subordinates and higher echelons to collaborate and get a shared understanding of each other's capabilities.

7-30. Sustainment units may participate in operations with different command structures than at home station. Sustainment commanders must be prepared to communicate with those command structures to share vision and understanding. This communication between leaders and staffs can foster team building. It also provides an opportunity to identify scenarios where they may train together in the early stages of an operation.

7-31. Sustainment commanders should circulate with subordinate units to assess capabilities and readiness, learn task organizations, and motivate Soldiers. Sustainment commanders that build relationships with subordinate units and unified action partners also increase situational understanding while strengthening the team. This increased situational understanding is essential in visualizing and describing the end state.

7-32. Different cultures and levels of training between the Army and unified action partners can impact building successful teams. Sustainment leaders should strive to understand these differences in order to build civil-military teams. To assist with building these partnerships, sustainment leaders should—

- Have unified action partners represented, integrated, and actively involved in planning and coordinating activities.
- Share an understanding of the situation and problem.
- Collectively determine resources, capabilities, and activities required to achieve goals.
- Work for unity of effort towards a common goal.

7-33. Successful sustainment operations require sustainment leaders working with partners to develop a shared understanding and commitment to the solution. Achieving unity of effort and building a successful team requires sustainment leaders with cultural understanding and the ability to communicate. Without those skills, collaboration and team building with unified action partners will be difficult.

TRAINING CONSIDERATIONS FOR SUSTAINMENT UNITS

7-34. Sustainment forces at each level of warfare continue to operate in complex and uncertain environments that present a number of challenges that leaders need to incorporate into training, embracing the principle of train as you fight.

SURVIVABILITY

7-35. Survivability is a key objective in all training, especially for sustainment formations, which are vulnerable due to size, limited protection resources, and the requirement to continue sustainment operations while simultaneously conducting force protection tasks. To increase survivability, sustainment units must focus training on defense of the support area, cover and concealment, aggressive reconnaissance and security operations, selection of terrain that masks sustainment formations visually and electronically, electromagnetic protection and emissions control measures, and dispersion.

7-36. Training on tactics, techniques, and procedures to avoid or withstand hostile actions or environmental conditions is critical to ensuring the survivability of sustainment units in support of Army operations. Sustainment units must be equipped, structured, trained, and prepared to execute these tasks to ensure units can complete sustainment missions when military police are unavailable.

7-37. The ability of sustainment units to defend the support area is a critical enabling task for conducting sustainment operations. Units cannot conduct support if they cannot defend the support area. Sustainment leaders must prioritize training to focus on the fundamentals of unit defense such as establishing a perimeter defense, developing engagement areas, integrating fires, employing obstacles, constructing fighting positions, and using camouflage for concealment.

7-38. Sustainment forces should assume that they are under constant observation from one of the enemy's land, maritime, air, or space-based reconnaissance and surveillance capabilities. Therefore, sustainment units must implement electromagnetic protection and emissions control measures to reduce and obscure emissions and signatures that the enemy can detect. The likelihood of enemy massed long-range fires increases during large-scale combat operations, particularly against command and control, sustainment nodes, and critical infrastructure. To survive and operate against massed long-range fires and in contaminated environments, commanders must plan for establishing base cluster operations to create dispersion. Leaders only concentrate forces when necessary and balance the survivability benefits of dispersion with the negative impact dispersion has on mission effectiveness. Dispersed formations improve survivability by complicating targeting and making it more difficult for enemy forces to identify lucrative targets.

MOBILITY

7-39. Operations over extended distances require all sustainment units be mobile. Sustainment units must be able to rapidly deploy, operate, and displace to complicate enemy targeting efforts and increase survivability

in a widely dispersed, fast paced, chaotic, and highly lethal OE. Sustainment commanders must plan for and maintain continuity of command and control during displacement or catastrophic loss. Leaders must ensure units replicate frequent survivability moves and split-based operations of sustainment units and headquarters on a continual basis during training. In addition, measures to reduce the sustainment footprint also improve the mobility of sustainment forces. Movements of large numbers of vehicles cannot be adequately trained by simulation alone.

DISTRIBUTION

7-40. Large-scale combat operations will require the distribution system to move a greater volume of personnel, equipment, and supplies than in other types of operations. The ability to synchronize the distribution system to deliver the right things to the right place at the right time is critical to ensuring freedom of action, extending operational reach, and prolonging endurance. To be effective, commanders and staffs must conduct distribution management to synchronize and optimize transportation, its distribution networks, and materiel management with the supported unit's concept of operation.

7-41. Operating in extreme geography and climate conditions and around dense urban terrain presents many challenges to sustainment units. Units must train for OEs characterized by congested and constrained routes, damaged infrastructure, and 360-degree threats from above and below ground. This may include using autonomous aerial or ground delivery systems, provisioning special equipment and ammunition requirements to supported SOF, and supporting the local populace and unified action partners. Sustainment Soldiers train to analyze and predict the demand shifts in a dense urban environment; for example, fuel demand for ground forces may decrease in an AO, while ammunition requirements (particularly small-arms and terminally guided and precision munitions) greatly increase. Understanding distribution modes and how to request them is a critical part of sustainment flexibility. Distributing supplies by air or waterway may be a better option in a situation when motor transport is not feasible. Sustainment forces cache commodities to maintain flexibility. The sustainment force also trains to sustain the force in austere areas where pre-positioning equipment may not be feasible, adequate bases may not be available, and the industrial base and infrastructure are poorly developed.

COMMUNICATIONS

7-42. Adversaries will attempt to disrupt, degrade, manipulate, or curtail communications and access to sustainment enterprise systems. In response to this threat, sustainment units train to operate during degraded or denied communications by using redundant manual and digital control systems. To maintain command and control with degraded communications, sustainment units should be trained and proficient in employing all available command and control systems, managing information with analog processes, maintaining manual running estimates, and maintaining an analog COP. Developing and maintaining good staff estimates provides sustainment staff flexibility to anticipate requirements during degraded or denied communications. Sustainment operations rely on effective enterprise resource planning systems which require access to the DOD Information Network. Degraded connectivity to a secure communications network poses risks to situational understanding, command and control, mission accomplishment, and continuity of operations. Setup of communications to gain access is an essential task that must be trained.

OPERATIONAL ENERGY

7-43. *Operational energy* is the energy required for training, moving, and sustaining military forces and weapons platforms for military operations (JP 4-0). It is the energy required for operations (air, maritime, land, space, and cyberspace) from competition and crisis to armed conflict at all levels of warfare. Operational energy considerations must be included during mission planning, preparation, and constantly assessed during mission execution. Tracking energy production, distribution, and consumption is critical for visualization, risk management, synchronized decisions, and mission success. In a contested logistics environment, reducing energy demand is critical for prolonged endurance, flexibility, resilience, survivability, and extended operational range for freedom of action and sustainment. The goal is reducing energy demands by advancing knowledge, development, and employment of current and future capabilities thereby increasing the Army's advantage. Sensoring and metering energy production, availability, and consumption is critical for visualization, risk management, synchronized decisions, and mission success. Energy data literacy integrated with data analytics creates a responsive energy management process that anticipates and simplifies overall sustainment requirements. Commanders and leaders at all levels should plan for, seek out, and employ

technologies and techniques that reduce and manage energy consumption. Improvisation techniques include efficient tactical power systems, micro-grids, battery management, rechargeable hybrid vehicle systems, environmentally generated energy, and power sources shared by multiple elements when and where feasible.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR

7-44. Operations must account for possible enemy use of CBRN weapons. Sustainment units must be prepared to operate in, around, and through contaminated environments. This is fundamental to deterring adversaries from employing weapons of mass destruction. Sustainment units should incorporate CBRN into all facets of training as a condition on the battlefield that the enemy will leverage to establish and maintain a position of relative advantage. Commanders incorporate CBRN conditions into training to ensure mission-essential task proficiency in a contested CBRN environment.

TRAINING SUSTAINMENT FORMATIONS

7-45. Unit commanders at all levels are the critical link for implementing unit training management to ensure progressive readiness and unit proficiency within their formations. Sustainment commanders achieve unit readiness through progressive, rigorous, and repetitive training conducted in a challenging and uncertain training environment. A commander's unit training plan must use a crawl-walk-run approach that progressively and systematically builds on successful task performance before progressing to more complex tasks. A progressive approach enables a logical succession, builds skills and knowledge from basic to advance tasks, and sets conditions for individual and collective training.

7-46. With the majority of the sustainment force structure being in the Reserve Component, commanders must ensure these formations are well trained and integrated into the multi-component sustainment force structure prior to deployment. Commanders also leverage opportunities to strengthen sustainment training relationships with other Services, interagency organizations, private industry, and multinational partners whenever feasible.

7-47. Commanders do not train sustainment units in isolation. Sustainment units do not operate independently, but as part of a larger force. Commanders must integrate and synchronize the employment of sustainment capabilities with the rest of the force to maximize combat power and achieve the overall objective of the operation. They develop organizational proficiency as part of a combined arms or joint team, supporting other warfighting functions to achieve specified outcomes by conducting multi-echelon training. Maneuver units and their supporting sustainment elements routinely train on resupply (including delivery of logistics packages), vehicle recovery, convoy operations, unit maintenance, casualty collection, HR support, and financial management team missions. Establishing FARPs and conducting refuel on the move operations to support extended moves for operations like attacks, mobile defenses, and defensive retrograde are other examples of key sustainment activities integrated into maneuver unit collective training events.

7-48. Commanders maximize institutional and operational training opportunities at home station and ensure use of current tools such as HQDA-approved mission-essential task lists, proponent-approved combined arms training strategies, individual critical task lists, unit task lists, and associated training and evaluation outlines for collective tasks. The technical nature of sustainment core functions requires constant engagement and maintenance to prevent skill atrophy. Sustainment units strive for mastery-level proficiency of these essential tasks through multiple iterations of training events. That concept applies to not only the actual technical functions, but also to staff activities and basic field craft.

7-49. Sustainment unit leaders plan, prepare, execute, and assess unit training in accordance with FM 7-0. Collective training events are conducted in accordance with combined arms training strategies. The combined arms training strategies are unit-specific training strategies that recommend a path for units to achieve and sustain training proficiency by identifying collective tasks to train and recommending training events to train those tasks using a crawl-walk-run approach.

7-50. The Army's standardized mission-essential task list defines the essential tasks a unit must perform to be considered proficient in its core mission. Soldiers leave the institutional domain with foundational individual competencies; unit commanders build on that technical foundation while also training the collective skills required by the unit's mission-essential task list. Commanders use the mission-essential tasks and their associated training and evaluation outlines to assess unit collective training proficiency. These tasks have been developed and approved by the Army Training Development Capability and hosted on the Central

Army Registry to develop unit training plans. They can be found on the Army Training Network via https://atn.army.mil/.

7-51. Sustainment commanders and leaders must ensure that their units train the way they will fight in large-scale combat operations. The training and evaluation outline is the Army's source for individual and collective task training standards. It consists of task, conditions, and standards, to include major procedures (steps or actions) that a unit or individual must accomplish to perform a task to standard. Additionally, it is important for leaders to know that each collective task also lists other tasks that may need to be trained prior to execution or in conjunction with it; these tasks are prerequisite collective tasks, supporting collective tasks, and supporting individual tasks. During training events, sustainment commanders and evaluators use training and evaluation outlines to measure observed task proficiency.

7-52. Sustainment commanders execute every training event within a realistic, doctrinally based training environment that ties task accomplishment (individual, leader, and collective) to successful unit mission support through executing unit capabilities successfully. Training events must present conditions that replicate the complexities of the ever-changing OE with the physical and mental rigor necessary to challenge units, leaders, and Soldiers to excel in critical thinking and complex problem solving. It is especially important that commanders plan training for supporting operations the Army has not had to conduct recently, such as RSOI and reconstitution.

SUSTAINMENT LEADER DEVELOPMENT

7-53. Successful support of large-scale combat operations requires Army sustainers who are technically and tactically proficient, adaptive, and innovative. Sustainers must possess the ability to lead, plan, and support global readiness in complex operational and strategic environments. Developing leaders encompasses training and professional military education as the primary means by which leaders combine experiences gained during operational assignments with doctrine in preparation for large-scale combat operations. However, unit commanders also plan, resource, and execute professional development programs for leaders within their organization to build on the foundation formed during training and professional military education opportunities. Additional considerations for sustainment leader development are discussed in the paragraphs below.

> Sustainment is a tough and demanding task in peacetime, made even more challenging under combat conditions. No one knew this better than Major General Robert Littlejohn, who served as General Dwight Eisenhower's Chief Quartermaster in the European Theater of Operations during World War II. He told his soldiers in no uncertain terms they were expected to be dedicated, physically fit, and ready to sacrifice at all times. Littlejohn held himself to the same tough standards. Above all, he hoped they would exhibit drive and determination and adopt the can-do attitude needed to overcome the many hurdles that logisticians inevitably face in war. Littlejohn made the unofficial motto focused on mission accomplishment, translated into his own language: "It Will Be Done".

TOTAL FORCE SUSTAINMENT INTEGRATION

7-54. This sustainment competency involves two aspects: integrating the varied sustainment functions and integrating sustainment formations across the Active Army, Army Reserve, Army National Guard, and Army Civilian workforce. Sustainers need to understand the various sustainment functions and be able to integrate them to create a holistic sustainment plan. Sustainers must also understand other components' capabilities and establish partnerships to effectively integrate them to provide optimal support to the force. Integrated training exercises can increase understanding of sustainment functions and foster relationships that increase understanding of capabilities between components.

STRATEGIC SUSTAINMENT ENTERPRISE OPERATIONS

7-55. As sustainment leaders develop, they progress from the start point of understanding their roles in enabling tactical-level operations through an operational perspective to strategic enterprise operations. Leaders require an understanding of strategic roles, systems, and capabilities at the enterprise level and how the links work across the levels of warfare.

UNIFIED ACTION PARTNER INTEGRATION

7-56. *Unified action partners* are those military forces, governmental and nongovernmental organizations, and elements of the private sector with whom Army forces plan, coordinate, synchronize, and integrate during the conduct of operations (ADP 3-0). Unified action partners include joint forces and components, multinational forces, and United States Government agencies and departments. Ultimately, all sustainment is aimed at ensuring the success of operations, so sustainment leaders consider the capabilities and requirements of unified action partners and establish appropriate relationships with them. As discussed earlier in this chapter, Army sustainers will be both supporting and receiving support from unified action partners.

SUSTAINMENT INFORMATION SYSTEMS

7-57. Sustainment information systems provide the visibility required for sustainment decision making. It is important that Army sustainers understand what enterprise resource planning programs are, what enterprise resource planning programs the Army has, and how these are integrated. See appendix D for more information on sustainment information systems.

OPERATIONAL CONTRACT SUPPORT

7-58. *Operational contract support* is the process of planning for and obtaining supplies, services, and construction from commercial sources in support of combatant commander-directed operations (JP 4-10). While varying in scope and scale, OCS is a critical force multiplier across all phases and types of operations. Sustainment commanders, all primary staff, and most special staff plan for, integrate, execute, and manage contracts and contractor personnel within the OE. On the Army staff, the G-1/S-1 is responsible for contractor reporting and accountability; the G-2/S-2 is responsible for contractor threat assessment and vetting; the G-3/S-3 is responsible for organization of contractor personnel and integration into the operation; the G-4/S-4 is responsible for OCS planning and coordination; and the G-8/S-8 is responsible for resourcing and financial management. For additional information on OCS, see ATP 4-10.

7-59. The OE requires an agile, flexible approach to contracting. Planners should conduct risk analysis for OCS and consider operational and contractor risk as well as performance, schedule, and cost risks. Contractor support is important to sustaining Army forces across the range of military operations.

PLANNING CONSIDERATIONS FOR SUSTAINMENT LEADERS

7-60. Sustainment is inherently a simultaneous requirement in terms of execution to support a scheme of maneuver and a sequential requirement in terms of positioning and moving capabilities/commodities in time and space. There is no escaping the linear nature of time and its impact on the effectiveness of sustainment. However, effective use of the mission command philosophy, the orders process, and correct task organization can mitigate potential impacts on sustainment.

7-61. Sustainment commanders utilize the operations process to develop an effective task organization. The task organization identifies the units with the necessary capabilities required to support the mission. This ensures that—

- The correct number of the right types of units are available.
- Correct command relationships are established to determine authorities.
- Correct support relationships are established as required.

7-62. Once command and control relationships are established, sustainment commanders and their planners select locations for units to best support the operation. The placement of units must be coordinated with the unit assigned the area of operation within which the sustainment units are located. Commanders and planners must consider all mission variables to include analysis of how each will affect the placement of units. Critical mission variables include mission (to include priority of support), enemy, terrain and weather, troops and support available, time available, and civil considerations, each of which have informational considerations. Applicable operational variables should also be considered. Sustainment support normally has an associated execution cycle. Some examples (though not all inclusive) include the following:

- For unit distribution, a cycle is the time it takes for a distribution platform to move from an SSA to the supported unit and back to the SSA.

- For supply point distribution, a cycle is the time it takes for a supported unit to move from the unit location to the SSA and back to the unit.
- For a medical unit, when prepositioning ambulances forward, a cycle is the time it takes for an ambulance to move from ambulance exchange point to the MTF and back to the ambulance exchange point.

7-63. Optimal physical placement has a positive effect on the timing of support and ensures support missions can be executed to meet requirements. Commanders must physically locate sustainment units in a position that is close enough to the supported unit that an execution cycle is not inordinately long or time consuming. The time it takes to execute a cycle directly affects the overall time to execute support. Sustainment units with general support relationships support multiple units, each of which may be at a different distance. In this situation, planners must strike a balance when determining placement of sustainment units.

7-64. Another consideration for physical placement is the type of support provided by a unit. As an example, a composite supply company providing water treatment support to a maneuver brigade may be positioned within the maneuver brigade AO to minimize the time required to produce and distribute the treated water to the BSB.

7-65. Commanders at all Army echelons, theater Army to company, must ensure operations planned and executed contribute to and support the mission, commander's intent, and concept of operations of the higher headquarters. Continuous coordination, cooperation, and collaboration with higher and lower headquarters ensures all operations are fully synchronized, integrated, and achieve unity of effort.

7-66. Theater enabling commands, such as the TSC, are integrated into operations by the theater Army as well as multifunctional and functional sustainment brigades, battalions, and companies. Commanders must ensure that operations conducted by these commands are synchronized to ensure all contribute to and achieve CCDR objectives. The theater Army, in conjunction with the TSC, ensures proper support relationships are established between sustainment organizations and theater enabling command organizations.

7-67. There are various mechanisms available to commanders to enable them to achieve unity of effort. Mechanisms can be physical activities or processes commanders must understand in order to use them effectively. To gain a more comprehensive understanding of these mechanisms, refer to JP 6-0, ADP 6-0, and FM 6-0.

Appendix A

Quartermaster Operations

The Quartermaster Corps was founded on 16 June 1775, two days after the Continental Congress authorized the formation of the Continental Army. The Quartermaster regimental motto is "Supporting Victory." The purpose of this appendix is to describes the functions of the Quartermaster Corps. It provides doctrinal references to other publications that describe general supply, field services, and liquid logistics in greater details.

MISSIONS AND FUNCTIONS

A-1. The United States Army Quartermaster Corps mission, throughout the range of operations, is to provide and manage supplies, field services (aerial delivery, field feeding, shower and laundry, and mortuary affairs), and liquid logistics to support and sustain units and Soldiers.

A-2. Quartermaster operations are comprised of three functions: supply, field services, and liquid logistics. From an operational perspective, these functions enable and sustain combat power to employ Army and joint capabilities across all domains and three dimensions. These tasks are performed throughout the continuum of crisis, competition, and conflict to enable freedom of action, extend operational reach, and prolong endurance for the Army as part of the joint force.

A-3. Quartermasters support the sustainment warfighting function and provide support to Army and joint forces at all echelons throughout the continuum of crisis, competition, and conflict.

SUPPORT TO OPERATIONS

A-4. Quartermasters play a critical role in supporting the Army during operations by providing the supplies, field services, and liquid logistics to maintain the force. Materiel managers ensure materiel is available and mission capable to ensure commanders have the required combat power to employ. Quartermasters converge logistics effects when and where they are needed in combat, providing sustainment solutions at the point of need. They are prepared to provide sustainment across wide distances, operate in noncontiguous areas, and remain flexible to react to developments on the battlefield during operations in a contested environment.

A-5. Quartermaster functions provide maneuver forces agility, increased endurance, and depth as operations extend in time, space, or purpose. This is accomplished through sustaining warfighters, their units, and their equipment with materiel and services. As sustainers, quartermaster units and commanders must consider the actions required to defeat enemy forces and achieve objectives. All quartermasters must consider the imperatives outlined in FM 3-0, which include: seeing yourself, the enemy, and understanding the OE; account for being under constant observation and all forms of enemy contact; impose multiple dilemmas on the enemy; anticipate, plan, and execute transitions; designate, weight, and sustain the main effort; and consolidate gains continuously. Adherence to these tenets will increase survivability in the battlespace while effectively sustaining units and Soldiers. Increasing survivability is imperative for Quartermaster units to accomplish their mission.

GENERAL SUPPLY

A-6. Supply is the process of providing items necessary to equip, maintain, and operate a military command. It involves requesting, receiving, issuing, and maintaining or establishing accountability of individual, organizational, and expendable/durable supplies and equipment that are required to execute a unit's assigned mission.

A-7. Supply support to operations begins at the national strategic level and continues to the end user through each Service's supply support system. The national and theater strategic supply chains are a global network that delivers materiel to the joint force. Its fundamental goal is to maximize force readiness while optimizing the allocation of resources. The logistics capabilities that contribute to the strategic supply chains include fulfillment of commodity requisitions from supply, the distribution capabilities from deployment and

distribution, and movement and retrograde of repairable items to maintenance support activities. Additionally, multinational and interagency partners, HNs, and nongovernmental and other organizations may be segments within or end users of the supply chains. Supply chain responsiveness and reliability are critical to the overall success of joint operations. For more information see JP 4-0.

CLASSES OF SUPPLY

A-8. There are ten classes of supply in the Army supply system. The following list describes each class of supply:

- **Class I** consists of bottled or packaged water, perishable, and semi-perishable subsistence items or rations that are packaged as individual or group meals. The individual Soldier meals in the family of rations consist of Meals Ready to Eat, First Strike Ration or Close Combat Assault Ration, Meal Cold Weather, and Modular Operational Ration Enhancement. Bottled or packaged water is potable water packaged for single use and intended for direct individual consumption. It has its own National Stock Number control by DLA and ordered through the supply chain. Generally, bottled water is only used in contingency operations, civilian humanitarian relief, or theater opening when bulk potable water is not yet fully available to meet the requirements. Bulk water consists of military service or contracted production, storage, and distribution that meet potable use requirements.
- **Class II** consists of common consumable items such as clothing, individual equipment, tentage, tool sets and kits, maps, and administrative and housekeeping supplies. This includes items of equipment, other than major end items, prescribed in authorization/allowance tables and items of supply (not including repair parts). Small batteries for handheld devices are also included in this group.
- **Class III** includes both bulk and packaged petroleum products**.** Bulk petroleum products are those petroleum products (fuels, lubricants) which are normally transported by pipeline, rail tank car, tank truck, barge, or tanker and stored in tanks or containers having a capacity of more than 55 gallons, except fuels in 500-gallon collapsible containers, which are packaged. Packaged petroleum products are those petroleum products other than fuels (generally lubricants, greases, and specialty items) that are stored, transported, and issued in containers with a capacity of 55 gallons or less.
- **Class IV** consists of fortification, barrier, and construction materials.
- **Class V** consists of ammunition of all types, bombs, explosives, mines, fuses, detonators, pyrotechnics, missiles, rockets, propellants, and other associated items.
- **Class VI** consists of personal demand items (such as health and hygiene products, soaps, and toothpaste, writing materials, snack food, and beverages) and other items, including mail, that are non-military sales items.
- **Class VII** consists of major end items such as weapon systems and vehicles. Major end items are a final combination of end products that are ready to use.
- **Class VIII** consists of medical materiel and supplies to include medical device repair parts, blood, and blood products.
- **Class IX** consists of any repair part, subassembly, assembly, or component required in the maintenance or repair of an end item, subassembly, or component. They support the maintenance and repair functions performed throughout the theater on all materiel except medical. Large batteries for vehicles, to include hybridization and charging stations for energy sources, are also included in Class IX.
- **Class X** consists of items that support nonmilitary programs such as agricultural and economic development.

FIELD SERVICES

A-9. Field services provided by quartermaster units include aerial delivery, field feeding, shower and laundry, and mortuary affairs. Field services are performed at the theater strategic, operational, and tactical levels. Field services are essential to supporting forces throughout the entire spectrum of operations during competition, crisis, and conflict.

A-10. Field services enhance unit effectiveness and mission success by providing an adequate quality of life for Soldiers in the field. The type and level of field services support provided differs depending upon a supported commander's requirements and the existing infrastructure in a theater of operations or JOA.

A-11. Field services also enhance unit effectiveness and mission success by providing for Soldier basic needs. Quartermaster Soldiers provide these services through a variety of organizations that provide field service support at the tactical, operational, and theater strategic levels, enabled by support from national and theater strategic partners. See ATP 4-42 for additional information.

AERIAL DELIVERY

A-12. Aerial delivery operations are performed through three methods: airdrop, airland, and sling load. *Airdrop* is the unloading of personnel or materiel from aircraft in flight (JP 3-36). Airdrop and airland operations may require a joint effort between the Army and United States Air Force, other Services, or contracted air. The Army can perform sling load operations internally with rotary-wing aircraft or other Army or contracted assets. Aerial delivery is a vital link in the battlefield distribution system. Aerial logistics is a viable mode of distribution to support the fight in a flexible, fluid, and ever-changing and contested environment. The goal is to enable freedom of action by reducing dependence on surface logistical support. For information on aerial delivery, see ATP 4-48.

ARMY FIELD FEEDING

A-13. The Army Food Program and the Army Field Feeding System affords commanders with flexible Class I support and field feeding systems that can be tailored to tactical situations and unit missions in both training and operational environments. Tactical field feeding is conducted during operations and provides immediate access to food, providing nutrition and optimal human performance for the warfighter. Tactical organizations involved in operations during armed conflict require agile field feeding support with the appropriate ration mix to extend operational reach and prolong endurance. The goals of Army field feeding are met through the successful deployment of field feeding equipment and use of the right operational ration to provide nutritional food to the Soldier through the synchronized efforts of HQDA G-4, USAMC, Army Commands, United States Army Training and Doctrine Command, strategic partners, and the organic industrial base. For more information on food service operations, equipment, and operational rations, see AR 30-22, DA Pam 30-22, and ATP 4-41.

SHOWER AND LAUNDRY

A-14. Shower and laundry services must be provided in a timely, efficient basis in accordance with the supported unit's needs. Shower and laundry support is provided from the operational level with projection as far forward as the corps support area and the division as conditions permit. The goal is to provide Soldiers with two showers weekly, as well as provide up to 15 pounds of laundered clothing each week. Soldiers receive their clothing back from the tactical laundry within a 24-hour period. For more information on shower and laundry services, see ATP 4-42.

MORTUARY AFFAIRS

A-15. The DOD Mortuary Affairs Program provides for the care, management, and disposition of deceased Service members, DOD civilians, and covered contractor personnel and the handling of their personal effects. It covers fatality management and the return of human remains. The three phases of MA are current death (peacetime), concurrent return (theater-level operations during conflict), and temporary interment (formerly graves registration). Army mortuary affairs capabilities provide theater-level mortuary affairs operations for all Services. See DODD 1300.22, JP 4-0, and ATP 4-46 for additional information on Army mortuary affairs.

LIQUID LOGISTICS

WATER SUPPORT OPERATIONS

A-16. Water support operations consist of treatment, storage, distribution, and issue of potable and non-potable water in a theater of operations. They are conducted at the tactical, operational, and strategic levels. Water purification, quality surveillance, storage, and distribution of both potable and non-potable water are critical liquid logistics functions. Potable water is required for the following activities: drinking, ice making,

food preparation, equipment cleaning, medical treatment and equipment sanitization, personal hygiene (brushing teeth, shaving, and showering), fatality operations, and CBRN decontamination. Non-potable water is water determined to be unsafe for human consumption. Any water in the field, whether raw or treated, that has not been approved for consumption by the theater/command surgeon's representative is considered non-potable. Water treatment systems remove suspended solids, microbiological contaminants, and undesirable chemicals from raw water. Preventive medicine personnel inspect the water treatment system and test the treated water using field test equipment to ensure it meets short and long-term potability standards. Water treatment specialists and preventive medicine personnel are responsible for measuring levels of radioactivity in bulk water supplies. Water production consists of emerging technology for production of water from various sources at the point of need. Water production is aimed at reducing demand and requirements for large scale distribution. For more information on water support operations see AR 700-136, ATP 4-44, ATP 4-25.12, TB MED 577, and the Water Planning Guide.

PETROLEUM OPERATIONS

A-17. Petroleum supply operations are integrated processes that link the operational requirements of petroleum products to the sustainment capabilities required to support fuel demands. They focus on when, where, and how to provide petroleum products to forces in a theater via timely distribution methods. In the undeveloped theater, bulk petroleum is generally distributed using various temporary and rapidly employed systems. In the developed theater, it can be locally procured or received from ocean vessels at marine terminals and transferred by pipeline to tank farms. Petroleum supply operations are conducted at the tactical, operational, and national and theater strategic levels. Sustainment units supporting Army operations provide bulk fuel support within the operational context of competition, crisis, and conflict to ensure CCDR freedom of movement, extend operational reach, and prolong endurance while increasing survivability, persistence, resilience, and dynamic posture on the battlefield. As a part of petroleum operations, quality surveillance encompasses the program of inspections, sampling, testing, quantity measurement and control, and establishing documentation to monitor the quality of petroleum product being received, stored, and issued within the supply chain. Fuel accountability is critical for proper stewardship and management of critical petroleum supplies. For more information on petroleum supply operations, see ATP 4-43, MIL-STD-3004-1B, and AR 710-4.

Appendix B
Transportation Operations

The United States Army Transportation Corps was born on 31 July 1942. The Transportation Corps motto is "Nothing happens until something moves!". The purpose of this appendix is to describes the functions of the Transportation Corps. It provides doctrinal references to other publications that describe mode operations, intermodal operations, movement control, and theater distribution in greater details.

MISSIONS AND FUNCTIONS

B-1. Army transportation is one of the seven logistics elements and a crucial part of the sustainment warfighting function. It supports the movement of units, personnel, cargo, and materiel from their origins to final destinations globally. These operations encompass fort-to-port, port-to-port, port-to-end user, and return movements. Army transportation supports theater distribution and maneuver units, requiring integration with joint and strategic partners.

B-2. Army transportation offers primary transportation support for the joint logistics enterprise, including Services and strategic partners. It encompasses four functions: mode operations, intermodal operations, movement control, and theater distribution.

MODE OPERATIONS

B-3. *Mode operations* are the execution of movements using various conveyances (truck, lighterage, railcar, aircraft) to transport cargo (ADP 4-0). Two transportation modes are available: surface and air.

SURFACE MODES OF TRANSPORTATION

B-4. Surface modes consist of motor, waterway, and rail transportation. The motor mode utilizes ground assets, while the waterway mode employs ships, boats, and barges. The rail mode involves use of railways or railroads.

Motor Transport Operations

B-5. *A motor transport operation* is a ground support function that includes moving and transferring units, personnel, equipment, and supplies by motor vehicle to support operations (ATP 4-11). It is the primary land surface movement provider in the joint force, offering flexibility, multi-stop scheduling, and rerouting options. It sustains forces, prolongs endurance, and supports the Army's force sustainment.

Watercraft Operations

B-6. Army watercraft provide rapid and responsive movement and maneuver support of combat configured and or combat-loaded forces, distributed sustainment to multiple austere nodes from strategic support areas, and austere access enablers to enhance force closure and sustainment operations. See ATP 4-15 for more on Army watercraft operations.

Rail Operations

B-7. Rail is a cost-effective way to transport large cargo quantities based on fixed routes beyond the noncontiguous AO protected by combat forces. The expeditionary railway center assesses rail capabilities and advises on employment. ATP 4-14 provides more on rail operations.

AIR MODES OF TRANSPORTATION

B-8. Air transport consists of fixed and rotary-wing assets. Fixed and rotary-wing airlift assets have size and weight limits for moving personnel and equipment. Air transport is rapid but costly.

Fixed Wing

B-9. Air Mobility Command offers fixed-wing assets (C-5, C-17, C-130) for strategic and theater airlift needs, supporting rapid force deployment.

Rotary Wing

B-10. Rotary-wing aircraft serve short-range, tactical transport missions, carrying equipment and relief supplies directly to forward areas. Assets like the UH-60 and CH-47 provide this support. FM 3-04 has more details.

INTERMODAL OPERATIONS

B-11. Intermodal operations use various modes and conveyances to move troops, supplies, and equipment through expeditionary entry points to sustain land forces. This enhances distribution effectiveness and efficiency. See ATP 4-13 for additional information.

PORT/TERMINAL OPERATIONS

B-12. Port/terminal operations include reception, processing, staging, loading/unloading, and forwarding of passengers and cargo. There are two types of ports: aerial ports and seaports. An *aerial port* is an airfield designated for the sustained air movement of personnel and materiel and authorized port for entrance into or departure from the country where located (JP 3-36). A seaport is a land facility designated for reception of personnel or materiel moved by sea. Aerial and seaports differ in their functions, serving as vital distribution network nodes.

B-13. Terminals transfer cargo between conveyances and play a key role in distribution. They are essential for force projection and may be seized by U.S. forces in operations. For additional information on terminal operations, see ATP 4-13.

CONTAINERIZATION

B-14. Containerization involves transporting cargo in standardized containers without handling contents—it is crucial for efficient and cost-effective transport. Containerization benefits include increased cargo capacity, protection, and interoperability. Additional information on containerization and container management can be found in ATP 4-12.

B-15. Container management maintains visibility and accountability of cargo containers in the Joint Container Management System as part of the Defense Transportation System. It supports various military operations.

MOVEMENT CONTROL

B-16. Movement control allocates and regulates transportation assets to synchronize distribution flow. This ensures efficient deployment, redeployment, and distribution operations. See ATP 4-16 for additional information on movement control.

IN-TRANSIT VISIBILITY

B-17. In-transit visibility tracks the status and location of DOD units, cargo, passengers, and personal property across military operations.

ASSET VISIBILITY

B-18. Asset visibility provides information on units, personnel, equipment, and supplies, enhancing logistics performance.

THEATER DISTRIBUTION

B-19. Theater distribution coordinates personnel, equipment, and materiel flow within a theater to meet CCDR requirements. It is a continuous process involving analysis, evaluation, and coordination with various

stakeholders. Theater distribution will also use autonomous transportation capabilities (air, land, and sea) to support operations as they become available. For additional information on theater distribution, see ATP 4-93.

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Appendix C

Ordnance Operations

On May 14, 1812, Congress officially established the Ordnance Department, now known as the Ordnance Corps. The Ordnance Corps motto is "Armament for Peace". The purpose of this appendix is to describes the functions of the Ordnance Corps. It provides doctrinal references to other publications that describe munitions operations, EOD operations, munitions safety, and maintenance in greater details.

MISSION AND FUNCTIONS

C-1. The Ordnance Corps provides munitions, maintenance, EOD, and explosive safety support to generate and maintain combat power. The corps provides these functions to Army, joint, intergovernmental, interagency, and multinational forces. These functions provide for equipment serviceability, munitions availability, readiness, and protection that directly support operations. Each of these functions has a critical role ensuring operational commanders and forces have the required combat power for mission accomplishment.

ORDNANCE IN THE SUSTAINMENT WARFIGHTING FUNCTION

C-2. All ordnance operations must be accomplished by planning and executing missions within the context of the sustainment warfighting function. This implies a need to understand and embrace the sustainment warfighting function and its tasks. Throughout operations, ordnance commanders must evaluate the performance of support provided to the force and determine if it meets the intent of the sustainment warfighting function.

C-3. Ordnance operations are planned and executed by applying the principles of sustainment. When applied properly, the principles of sustainment provoke thought and allow commanders and staffs to use their knowledge, experience, and judgment to effectively employ their capabilities. Application of the principles of sustainment should be considered throughout planning, reevaluated during operations, and reviewed following operations.

SUPPORT TO OPERATIONS

C-4. Ordnance leaders must assess the execution of ordnance functions to ensure they fully support the imperatives and apply the tenets of operations. Ordnance leaders and Soldiers provide sustainment to Army forces by employing capabilities in a combined arms approach that creates complementary and reinforcing effects through multiple domains.

MUNITIONS OPERATIONS

C-5. The munitions function provides the correct type and quantity of munitions from the industrial base to the tactical point of need with minimal handling and reconfiguration. Class V munitions includes fixed cartridges for small arms, cannons, and main battle tanks; separate projectiles, propellant charges, rockets and missiles, and fuses for artillery; projectiles and charges for mortars; and grenades, missiles, rockets, bombs, and explosives. Ordnance munitions organizations must effectively and efficiently handle, store, secure, distribute, and account for munitions in support of operations to joint or multinational partners when directed. Throughout operations, strict explosives safety guidelines must be applied to ensure adequate safety to all personnel. Effective munitions operations at all echelons support the CCDR's desired end state and ability to effectively seize, retain, and exploit the initiative.

SUPPORT STRUCTURE

C-6. Most Soldiers and units in the Army have a munitions requirement. The type of munitions required and the urgency of need varies based upon the mission and the OE. Commanders visualize a logical

arrangement of operations, allocate resources, and assign tasks to the appropriate command. Ammunition support activities are established within a theater and provide a suite of ammunition logistics services. Ammunition support activities are locations that are designated to receive, store, maintain, and provide munitions support to Army forces (ATP 4-35). An ammunition support activity is normally operated by one or multiple modular ammunition platoons. In garrison, ammunition support activities may be completely run or supplemented by United States Federal or State Government employees, contractors, or a combination thereof that are designated to receive, store, maintain, and provide direct or general support and may also be assigned to operate an ammunition supply point to support Army and joint forces.

EXPLOSIVE ORDNANCE DISPOSAL OPERATIONS AND MISSION

C-7. The EOD function provides integrated and layered protection support to forces, civil authorities, and critical infrastructure in support of operations. EOD detects, identifies, evaluates, renders safe, disposes of, or directs other disposition of explosive ordnance, including weapons of mass destruction. EOD facilitates technical collection of captured enemy materiel related to ordnance or weapons systems. Additionally, EOD provides support to joint, interagency, intergovernmental, and multinational operations as required and is tasked to render safe all types of explosive hazards to include improvised explosives. EOD is a combat multiplier that facilitates operations and provides Army operational commanders at every echelon freedom of action in the OE.

C-8. The EOD mission is to support operations by detecting, identifying, evaluating, rendering safe, and performing final disposition of all explosive ordnance. This includes improvised explosive devices, unexploded ordnance, and weapons of mass destruction. EOD has four functional areas:

- **Render Safe**. The application of special EOD methods and tools to provide for the interruption of functions or separation of essential components of unexploded explosive ordnance to prevent an unacceptable detonation.
- **Technical Intelligence**. Derived from the exploitation of foreign material, collected exploitable material, and scientific information. The process begins with the acquisition and recovery of a piece of foreign equipment or foreign scientific/technological information, followed by evacuation of the item for stateside exploitation and assessment of the threat.
- **Protection**. Preservation of the effectiveness and survivability of mission-related military and nonmilitary personnel, equipment, facilities, information, and infrastructure.
- **Disposal**. Final disposition of explosive ordnance and components, which may include detonation or a controlled burn.

EXPLOSIVE ORDNANCE DISPOSAL SUPPORT STRUCTURE

C-9. EOD support crosses all warfighting functions, with an emphasis on protection, intelligence, and sustainment. EOD companies providing direct support to maneuver units provide commanders a rapid response force which has the capability to render safe and dispose of all explosive ordnance. Due to the likelihood of encountering unexploded ordnance and other explosive hazards, EOD teams may be integrated into all operations. However, EOD is a low-density resource and risk planning should inform their placement on the battlefield. See ATP 4-32, ATP 4-32.1, ATP 4-32.2, and ATP 4-32.3 for more information on EOD operations and units.

MUNITIONS SAFETY

C-10. The Army's Ordnance Corps fourth core competency is explosive safety. Munitions and explosives safety is a priority consideration shared across the DOD. The primary focus of munitions and explosives safety is to reduce the probability and limit damage caused by unintended initiation of munitions. Application of explosives safety techniques is based on effective risk management. This includes the functions and skill sets of the munitions logistics planners, logistics managers, modular munitions units, Army Civilians, contractors, technical munitions safety experts, and the EOD units.

C-11. The most basic and important fundamental of the munitions function is to take all measures possible to minimize risk to personnel, material, facilities, and stocks. Personnel must ensure they adhere to the

munitions and explosive cardinal rule of exposing the minimum number of people to the minimum amount of explosives for the minimum amount of time consistent with safe and efficient operations.

C-12. The following explosives safety rules apply to all munitions storage and handling operations:

- Understand explosives safety responsibilities.
- Know explosives safety points of contact and how to contact them.
- Train personnel to properly perform their munitions missions; have policies/procedures/SOPs in place that cover munitions missions.
- Ensure munitions locations are properly sited and have current licenses; prepare certificates of risk acceptance to authorize any explosives storage safety deviations.
- Know where to find geospatial data and information depicting munitions locations with associated quantity distance arcs and exclusion and clear zones.
- Know the outcome of the most recent internal and higher headquarters explosives safety assessment. Institute corrective measures as required.
- Be aware of any new construction or modification plans that impact explosive safety clear zones.
- Know local policies and procedures for munitions amnesty programs (location of collection points, responsibilities for collection, and frequency of collection).
- Know proper response procedures in the event of a munitions mishap (notification, evacuation procedures, personnel accountability, unexploded explosive ordnance, EOD support, accident reporting, and malfunction reporting).
- Learn what munitions risks exist that could adversely affect mission capability and mitigate those risks.

C-13. Munitions doctrine is found in ATP 4-35. Munitions safety doctrine is found in ATP 4-35.1.

MAINTENANCE OPERATIONS

C-14. Maintenance generates and regenerates combat power and helps preserve the capital investment in weapons systems and equipment. Maintenance is the logistics function that directly provides equipment serviceability and operational readiness to commanders for mission accomplishment. Maintenance occurs at every level of operations and is performed by operators, assigned maintenance technicians, or by maintenance units. Units that lack organic maintenance personnel are assisted by maintenance units specifically designated by order to provide support.

TWO-LEVEL MAINTENANCE

C-15. Army maintenance is a two-level system consisting of field and sustainment maintenance. Field maintenance is performed by technicians assigned to operational units. Technicians at this level are focused on rapidly returning unserviceable equipment to a serviceable state as quickly and as close to the point of failure as possible. Sustainment maintenance is performed by strategic organizations (primarily from USAMC) and is focused on rebuilding and resetting severely damaged equipment to a national military standard and returning it to the supply system. For test, measurement, and diagnostic equipment serviceability, the United States Army Test, Measurement, and Diagnostic Equipment Activity performs field and sustainment-level calibration and repair support.

C-16. Effective maintenance management includes anticipating maintenance requirements, tracking and analyzing maintenance reports, properly identifying and diagnosing maintenance faults, applying the appropriate maintenance capability, and managing Class IX. As in the munitions function, proper allocation of maintenance units is essential to ensure that adequate support is provided to the force. Army maintenance organizations also support joint and multinational partners during operations as required. Maintenance doctrine is found in ATP 4-33 and ATP 4-31.

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Appendix D

Army Sustainment Information Systems

This appendix discusses information systems in two contexts. First, it covers automated information systems that specifically support sustainment functions. It then discusses how sustainment information systems are integrated in the overall command and control system. ATP 4-0.6 has additional information on sustainment information systems.

ARMY SUSTAINMENT INFORMATION SYSTEMS

D-1. Army sustainment information systems provide commanders and staffs situational understanding—building the COP and improving the quality and effectiveness of Army readiness by enhancing the decision support process. Sustainment information systems receive, house, and present the data that becomes information used by unit leaders to build and maintain combat power to ensure mission success for the warfighter. Current sustainment information systems include the Aircraft Notebook; Standard Army Ammunition System; Transportation Coordinator's Automated Information for Movement System II; Army Food Management Information System; Test, Measurement, and Diagnostic Equipment Management Information System; and a host of HR systems. Even though some of these non-enterprise resource planning legacy systems are web-based, they do not leverage the integrated efficiencies of enterprise resource planning systems. Army sustainment enterprise resource planning systems include Global Combat Support System-Army (GCSS-Army) with its hubs, Army Enterprise Systems Integration Program, Integrated Personnel and Pay System-Army, General Fund Enterprise Business System, and Logistics Modernization Program (LMP). As the Army continues its transition to Enterprise Business Systems-Convergence, the advantages accruing to the supported commander as identified in chapter 1 will continue to grow. This section lays out current systems and those coming online in the short term.

GLOBAL COMBAT SUPPORT SYSTEM-ARMY

D-2. GCSS-Army subsumed multiple legacy Standard Army Management Information Systems to combine ground maintenance, unit supply, property management, warehouse management, and finance into an enterprise resource planning system. As such, it is the principal system for logisticians to achieve readiness and support operations across multiple domains. Having a consolidated, integrated database for those functions gives both sustainers and supported commanders up-to-date visibility of the resources that can be used to weight the operation. GCSS-Army uses a commercial off-the-shelf system run on system applications and products-based software. GCSS-Army meets congressionally mandated auditability requirements and provides the logistician with total tactical-level supply chain and equipment health visibility. The product has been fully fielded but continues to add improved functionality to the baseline. Recent improvements include the integration of Class VIII for requisition and medical sets, kits, and outfits component-level materiel management. Sustainment automation support management offices provide tactical support to GCSS-Army systems.

AVIATION LOGISTICS INFORMATION SYSTEM

D-3. The Aircraft Notebook platform provides a single point access to the maintainer at the aircraft in the form of software applications necessary for completing and recording maintenance activities on United States Army aircraft. The Aircraft Notebook's interface applications provide an electronic, automated, and fully integrated solution for maintainers to record and report maintenance activities. The Platform Maintenance Application implements the requirements of DA Pam 738-751 and readiness reporting in accordance with AR 700-138. The Platform Maintenance Application implements controls that comply with TM 1-1500-328-23 and support the tasked-based and conditions-based maintenance processes. The Platform Maintenance Application gathers requirements for the platform project manager offices and implements needed interfaces with numerous Army information systems such as platform ground station software, the Centralized Aircrew Flight Records System, Maintenance Consolidated Database System, and Enterprise Material Status Reporting, providing a family of systems synchronization. The Aircraft Notebook software will also be the bridging software for the GCSS-Army.

INTEGRATED PERSONNEL AND PAY SYSTEM-ARMY

D-4. The Integrated Personnel and Pay System-Army is an on-line human resource system that provides integrated personnel, pay, and talent management capabilities in a single system. It provides end-to-end tracking of pay and personnel data and gives individual Soldiers access their Soldier record. The system will automate the pay process while linking human resource transactions such as dependent changes and promotions. Integrated Personnel and Pay System-Army also provides integrated access by granting visibility and transaction functionality to commanders, Soldiers, and Army HR professionals. Embedded security and common access card restrictions have ensured safeguarding of critical information. This support system gives commanders visibility and transaction role authority over their personnel and improves readiness by synchronizing personnel movement and deployment status. Integrated Personnel and Pay System-Army uses a commercial off-the-shelf system run on Oracles' PeopleSoft-based software. Sustainment automation support management offices provide tactical support to Integrated Personnel and Pay System-Army systems.

GENERAL FUND ENTERPRISE BUSINESS SYSTEM

D-5. The General Fund Enterprise Business System is the Army's accounting system of record. It provides accurate, timely, and reliable cost information and makes the information available to all users on a real-time basis. The General Fund Enterprise Business System enables the Army to comply with current statutory and regulatory requirements. Under accounting management, GCSS-A leverages the General Fund Enterprise Business System core design template, providing a single business process that allows the Army to integrate logistics, financial, maintenance, property accountability of assets, and accounting data.

LOGISTICS MODERNIZATION PROGRAM

D-6. The LMP is one of the largest integrated supply chain, overhaul, and maintenance enterprise resource planning systems in the world and provides true visibility of the national-level logistics production baseline. Sustainers use it to build, sustain, and maintain national-level combat power at the strategic level. The LMP maintains data for assets entering the Army system through commercial vendors and contractors and accommodates depot to shop-floor-level maintenance status. It is the primary sustainment system for USAMC's depots and arsenals and is the entry point for supply parts fulfillment with DLA. The LMP manages the Army's industrial base and tracks schedule, cost planning, production orders, and procurement. The LMP's Enterprise Data Warehouse provides data to the Army Enterprise Systems Integration Program, which gives sustainment leaders strategic planning visibility. The LMP uses a commercial off-the-shelf system run on system applications and products-based software.

ARMY ENTERPRISE SYSTEMS INTEGRATION PROGRAM

D-7. The Army Enterprise Systems Integration Program is not an enterprise resource planning system. It serves as an integrator between multiple enterprise resource planning systems and stand-alone sustainment systems and acts as a data-brokering hub between those systems. Army Enterprise Systems Integration Program's brokering translates and synchronizes different data formats and multiple operating systems. Those transactions that are able to pass from enterprise resource planning system to enterprise resource planning system do not need Army Enterprise Systems Integration Program resolution and do not engage the data hub, but many transactions do require such brokering. Army Enterprise Systems Integration Program is also the single authoritative data source for catalog, material, and vendor data. It is the portal for non-standard item entrance into the Army supply system. The program uses Army Centralized Business Analytics to provide business intelligence analysis and tailored visualizations for readiness decision making. Army Enterprise Systems Integration Program uses a commercial off-the-shelf system run on system applications and products-based software.

AUTOMATED MILITARY POSTAL SYSTEM

D-8. The Automated Military Postal System connects military post offices and other military postal activities around the world directly to the Military Postal Service Agency via the worldwide web. Instead of relying on telephone messages, e-mails, or other secondhand communication methods, Automated Military Postal System users can view the information about their military post offices on their own desktops and make changes or corrections to the information themselves.

DEFENSE CASUALTY INFORMATION PROCESSING SYSTEM – PERSONNEL CASUALTY REPORTING

D-9. The Defense Casualty Information Processing System-Personnel Casualty Reporting is an automated system used to record and report casualty data. The system is employed by HR units—typically casualty liaison elements, battalion and brigade level S-1 sections, and G-1/AGs performing casualty reporting missions. While not required, battalion S-1 sections may use the Defense Casualty Information Processing System-Personnel Casualty Reporting to submit their casualty reports to higher headquarters. When adequate NIPRNET access is available, the web-based component of the Defense Casualty Information Processing System-Personnel Casualty Reporting should be used for casualty reporting. Gaining access and configuring the web-based component of Defense Casualty Information Processing System-Personnel Casualty Reporting requires prior coordination with the casualty and mortuary affairs operation center and the casualty reporting chain of command. The web-based component of Defense Casualty Information Processing System-Personnel Casualty Reporting is available only on the NIPRNET.

DEPARTMENT OF THE ARMY MOBILIZATION PROCESSING SYSTEM

D-10. Department of the Army Mobilization Processing System is a SIPRNET-hosted business process application that takes a force request for a unit mobilization from initiation, through required Department of the Army staff review, and to the Assistant Secretary of the Army for Manpower and Reserve Affairs—the Army principal delegated the authority to order units to involuntary mobilization. For more information, refer to FM 1-0.

DEFENSE ENROLLMENT ELIGIBILITY REPORTING SYSTEM

D-11. The Defense Enrollment Eligibility Reporting System is a database maintaining personnel and benefits information for Active and Reserve Component Soldiers, retired uniformed service members, eligible family members, and other DOD personnel and DOD contractors requiring logical access. It verifies eligibility when producing common access cards and supports benefit delivery including medical, dental, and life insurance and educational benefits. In addition, the Defense Enrollment Eligibility Reporting System enables DOD e-business (including providing identity management), reduces fraud and abuse of government benefits, and supports medical readiness.

DEPLOYABLE REAL-TIME AUTOMATED PERSONNEL IDENTIFICATION SYSTEM

D-12. The Deployable Real-Time Automated Personnel Identification System workstation is a laptop workstation designed for use in both tactical and non-tactical environments. It provides Defense Enrollment Eligibility Reporting System updates and issues common access cards to Soldiers at home station or in a deployed environment. It also provides the user with a common access card personal identification number reset capability. This system works only when connected to the Defense Enrollment Eligibility Reporting System and has the same operational capability as the standard desktop version of the Real-Time Automated Personnel Identification System workstation.

TACTICAL PERSONNEL SYSTEM

D-13. This stand-alone database provides an ad-hoc ability to create a temporary system to account for unit personnel. It has limited ability to perform robust personnel accountability or strength reporting. Human resource professionals use the Tactical Personnel System primarily to create manifests for transportation by air. It produces automated manifests that can be loaded in Air Force manifesting systems and deployed theater accountability systems.

ARMY DISASTER PERSONNEL ACCOUNTABILITY AND ASSESSMENT SYSTEM

D-14. The Army Disaster Personnel Accountability and Assessment System is a web-based application designed to augment the disaster accountability process by aiding in the determination of the status and locations of all Army affiliated personnel—Soldiers, Army Civilians, contractors authorized to accompany the force, and family members when directed by the Secretary of Defense. It is the official tool for personnel accountability during natural or manmade disasters. The system provides DOD and Army leaders a means of determining the status of Army personnel and family members in an affected area and facilitates decisions on allocating resources for recovery and reconstitution.

DEPLOYED THEATER ACCOUNTABILITY SYSTEM

D-15. The Deployed Theater Accountability System establishes and maintains personnel accountability. It is a classified system fielded to all human resource commanders, personnel, and organizations and consists of three distinct levels: mobile, major command, and enterprise. It provides reliable, timely, and efficient accountability for Soldiers, DOD Civilians, contractors authorized to accompany the force, and foreign nationals, enabling commanders at all echelons to track their personnel by name, unit, location, and date. It also allows commanders to track their personnel while in transit, populating duty status changes by synchronizing to the major command system. The major command system transfers historical records to the enterprise server daily.

INTERACTIVE PERSONNEL ELECTRONIC RECORDS MANAGEMENT SYSTEM

D-16. The Interactive Personnel Electronic Records Management System is the document repository of Army military human resource records and legal artifacts for all components. The Army military HR record contains a copy of all permanent documents. Documentation is placed into the Soldier's Army military record in accordance with AR 600-8-104. For family members, accuracy of information is critical for next-of-kin notification.

REGIONAL LEVEL APPLICATION SOFTWARE

D-17. The United States Army Reserve uses the Regional Level Application Software as a client-server, web-enabled application for the management of personnel and resources. It shows the overall readiness posture of a unit by Soldier and generates Total Army Personnel Database-Reserves transactions and electronically transmits the data to HRC.

MORTUARY AFFAIRS REPORTING AND TRACKING SYSTEM

D-18. The Mortuary Affairs Reporting and Tracking System is an Army web-based application used by all Services in a theater of operations to facilitate the tracking of human remains and personal effects from a mortuary affairs collection point to a final destination, such as the Dover Air Force Base Port Mortuary or the Joint Personal Effects Depot (CONUS). Mortuary affairs specialists electronically generate standard DOD forms to facilitate the shipment, documentation, identification, processing, and tracking of human remains and property. HQDA G-4 provides functional oversite for the Mortuary Affairs Reporting and Tracking System. When requested, system users requiring access coordinate with their theater fatality management officer for training, support, and deployment requirements.

ARMY FOOD MANAGEMENT INFORMATION SYSTEM

D-19. The Army Food Management Information System is not an enterprise resource planning system, but rather a highly developed web-based system that provides an automated Army worldwide food service program. Army Food Management Information System provides users the capability to order, receive, inventory, and invoice Class I supplies to include field rations. It also supports the operations of dining facilities for menu planning, production and recipe management, automated head count, labor scheduling, cash collection, and equipment replacement. The Army Food Management Information System is a centralized repository that eliminated batch processing and meets the web-based requirement. It also reduces overhead for each installation contract and ensures integrated and coordinated improvements.

TRANSPORTATION AND AMMUNITION SYSTEMS

D-20. Sustainment information systems include both enterprise resource planning systems and stove-piped legacy Standard Army Management Information Systems. Currently, the Transportation Coordinator's Automated Information for Movements System II enables users to manage all aspects of transportation operations. It provides automated support to functions performed by a wide range of users including unit movement officers, installation transportation officers, and mode managers responsible for transportation and distribution.

D-21. The Standard Army Ammunition System-Modernization system is the Army's web-based management, reporting, and accounting system for retail Class V ammunition receipt, storage, maintenance,

and issue operations performed by tactical units and installation activities. It employs barcode and radio frequency identification technology to support these tasks.

JOINT CONTAINER MANAGEMENT SYSTEM

D-22. Joint Container Management System is the single DOD-wide system for tracking the location, usage, free time, and in-transit data of containers, supporting (through Army Container Asset Management System database functionality) lifecycle container management accountability functions including registration, maintenance, and container leasing.

OPERATIONAL MEDICAL INFORMATION SYSTEM-ARMY

D-23. Operational Medical Information System-Army is a system of systems containing medical software packages for medical data collection throughout the continuum of medical care, from the point of injury to Role 3 MTF for comprehensive lifelong electronic health records. Operational medical forces will use this system to gain quick access to patient histories and tactical combat casualty care provided.

DEFENSE MEDICAL LOGISTICS STANDARD SUPPORT CUSTOMER ASSISTANCE MODULE MEDICAL

D-24. The Defense Medical Logistics Standard Support Customer Assistance Module Medical is an information system within the Defense Medical Logistics-Enterprise Solution portfolio. The portfolio provides a continuum of medical logistics support for the Defense Health Agency. It allows customers to download medical supply catalogs and place orders for medical supplies. The Defense Medical Logistics Standard Support Customer Assistance Module Medical is a medical logistics ordering application that runs on the desktop and allows users to view their supplier's catalog and generate electronic orders. It automates the Class VIII supply process at the lower roles of care and enables logisticians and non-logisticians to electronically exchange catalog, order, and status information with their supply activity. The desktops are within enclaves for each of the Services. The Defense Healthcare Management Systems Program Executive Office Joint Operational Medicine Information Systems Program Management Office manages the Theater Medical Information Program-Joint legacy suite of software.

D-25. GCSS-Army is replacing the Defense Medical Logistics Standard Support Customer Assistance Module as the primary system for Army operational unit Class VIIIA requisition, materiel management, and medical sets, kits, and outfits management. GCSS-Army medical logistics functions data interfaces inform Army COP systems and enable visibility of medical device maintenance and materiel status at echelon for decision support.

DEFENSE MILITARY PAY OFFICE SOFTWARE SUITE

D-26. The Defense Military Pay Office software suite provides processing access to the military pay system to facilitate pay support. This software is provided for all components (Active, National Guard, and Reserve) in accordance with Defense Finance and Accounting Service policies and procedures for contingency operations. Access to the military pay system of record depends on the availability of dedicated communications. If online query capability is not available, a batch process Defense Military Pay Office download provides near-time query capability. In addition, the Defense Military Pay Office Standard Inquiry System provides the capability to download and archive pay data for an individual or entire unit to facilitate offline pay support.

DEPLOYABLE DISBURSING SYSTEM

D-27. Deployable Disbursing System provides automated disbursing support. The system provides the capability to write Department of the Treasury or Limited Depository Account checks, plus the daily accountability and reconciliation for all transactions. Deployable Disbursing System receives information from the commercial vendor support and travel modules, which allows the writing of checks to pay vendors and travel claimants. It is capable of being used in remote military operations within contingency locations with foreign currency. Deployable Disbursing System integrates with General Fund Enterprise Business System to enable deployed disbursing functions. Deployable Disbursing System creates pay vouchers and formatted output for upload to the military pay system for payment.

ACQUISITION CROSS-SERVICING AGREEMENT GLOBAL AUTOMATED TRACKING AND REPORTING SYSTEM

D-28. ACSA Global Automated Tracking and Reporting System is a DOD system of record for the Office of the Secretary of Defense, joint staff, CCMDs, and Service components to manage and track all ACSA transactions. ACSA Global Automated Tracking and Reporting System serves as a repository for concluded ACSAs and implementing arrangements. The system is required to close out all ACSA transactions and reconcile ACSA bills for both the United States and ACSA countries and organizations.

TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT MANAGEMENT INFORMATION SYSTEM

D-29. Test, Measurement, and Diagnostic Equipment Management Information System is designed, managed, and maintained by United States Army Test, Measurement, and Diagnostic Equipment Activity. It is dedicated to total test, measurement, and diagnostic equipment calibration and repair support data collection, storage, and analysis. The system also provides the software programming needs for production control processes, financial management, and management data information requirements in support of the Test, Measurement, and Diagnostic Equipment Calibration and Repair Support Program.

TEST, MEASUREMENT, AND DIAGNOSTIC EQUIPMENT INTEGRATED MATERIEL MANAGEMENT SYSTEM

D-30. The Test, Measurement, and Diagnostic Equipment Integrated Materiel Management System is an integral part of the Test, Measurement, and Diagnostic Equipment Management Information System managed by the United States Army Test, Measurement, and Diagnostic Equipment Activity. It provides calibration and repair support activities with site-specific software to identify test, measurement, and diagnostic equipment for recall, provide customer notification of equipment readiness, process equipment through the calibration and repair support shops, account for customer equipment while in the shop, and identify repair parts and associated cost.

SUSTAINMENT INFORMATION SYSTEMS INTEGRATED INTO COMMAND AND CONTROL

D-31. Sustainment information systems are essential for providing commanders and staffs situational understanding and building the COP. These systems enable command and control and support the centralized planning and decentralized execution of operations. The paragraphs below describe these systems.

COMMAND POST COMPUTING ENVIRONMENT

D-32. The Command Post Computing Environment provides an integrated mission command capability across command post and platforms through all echelons. It provides simplicity, intuitiveness, core services and applications, and warfighter functionality in the areas of fires, logistics, intelligence, airspace management and maneuver. It offers a common geospatial solution (map) and common data services, including an extensible database and data persistence that provides an easy-to-use common operational picture through a single mission command suite. Command Post Computing Environment provides a software and server hardware framework upon which warfighter applications can be converged and future applications can be built. The goal is to eliminate stove-piped legacy systems and provide an integrated, interoperable, cyber-secure and cost-effective computing infrastructure framework for multiple warfighting functions. The tools the sustainment enterprise is developing as part of this initiative to enhance mission command include the following:

- **LOGSTAT –** Auto aggregation of customizable reports for dynamic groupings in the common operating environment. Real time logistics information would give operational commanders much higher granularity of the disposition of the forces under their command. Customizable logistics information is generated at the platform/user level based on any class of supply or personnel status. Each platform/entity would have the ability to transmit it's status to a central data hub autonomously either as a push or pull. The hub would store this data. A leader or designated position would then request the logistics status of the customizable formation/task force. This information would be displayed as a customizable 'dashboard' or overlay giving the status of the unit/command/taskforce.

- **Sustainment Running Estimate –** Automates predictive sustainment readiness using the sustainment running estimate application (for estimating combat power) to provide the command staff and commanders the information required to quickly determine current/future LOGSTAT and any required resource leveling to support ongoing operations. The more accurate and timelier the data used to formulate the running estimate, the more vital the information is to maneuver commander decision-making.
- **Asset Visibility –**This capability is intended to track classes of supply I (including bulk water), II, III, IV, V, VIII, IX, X. The asset visibility capability will not preform updates on the unit/organization property book items. In organizations/units that provide distribution functions. The software database segregates the supplies between those need to support the unit/organization and those that are available for distribution to another unit/organization.
- **In-transit Visibility –** Captures what inventory/stocks/supplies are in motion. In-transit visibility is the ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants), and passengers, patients, and personal property from origin to consignee or destination (JP 3-36). Units provide in-transit visibility by continuously updating the location of units, equipment, personnel, and supplies as they travel throughout the transportation and distribution system. This provides commanders with critical information and allows for shipment diversion based on changing battlefield priorities.

STRATEGIC SUPPORT AREA BUSINESS REPORTING ENVIRONMENT

D-33. The Strategic Support Area Business Reporting Environment provides a tool that allows Army leaders to see exactly where supplies are worldwide, what parts are needed, projections and demands, all in one system in almost real time. Information within the Strategic Support Area Business Reporting Environment is verified by the Logistics Data Analysis Center. The platform also supports modeling and simulation that enhances decision support using common tools in a common language.

COMMANDER'S ACTIONABLE READINESS DASHBOARD

D-34. The Commander's Actionable Readiness Dashboard is a suite of data analytic tools that facilitates rapid understanding of tactical logistics information derived from GCSS-Army data in near-real time. Army logistics data exists in one of two modes: historical and live. Historical data allows commanders and other leaders, for example, to determine operational readiness rates for monthly reporting periods. Live data allows leaders to understand how many tanks, howitzers, and other vehicles can cross the line of departure right now. The Commander's Actionable Readiness Dashboard contains a dashboard that displays live logistics data that enhances decision support.

ENTERPRISE RESOURCE PLANNING SYSTEMS IN SUSTAINMENT ESTIMATES AND THE MILITARY DECISION-MAKING PROCESS

D-35. Accurate sustainment estimates are critical in assessing the supportability of courses of action for the concept of operations and OPORDs. These estimates are the analytical result of how sustainment factors affect mission accomplishment by detailing the requirements and capabilities, conclusions, and recommendations on the feasibility of specified courses of action. These estimates are also used to continue to sustain current operations as they progress.

D-36. Historically, sustainment planners have used some combination of historical data and planning tools to determine requirements and capabilities, along with data from stove-piped sustainment automated systems to compute what resources were on hand. The movement to enterprise resource planning systems is greatly enhancing the ability to see availability of resources across the force. Without them, sustainment planning is based on pulling historical information from multiple, often conflicting data sets to project support requirements for future courses of action. The lack of clarity and associated mistrust have led to overestimating logistics requirements to make sure operational forces do not run out of key supplies and services. As a result, the logistics footprint grows along with a negative impact on survivability and mobility. With shared databases and near-real time data, planners have a far better picture of capabilities.

Joint Battle Command-Platform Logistics

D-37. Joint Battle Command-Platform Logistics is a satellite-based command and control platform system. Joint Battle Command-Platform Logistics is part of the Joint Battle Command-Platform Family of Systems under the Mission Command Mounted Computing Environment. Joint Battle Command-Platform Logistics is the successor to Joint Capability Release Logistics and provides commanders with near real-time data on the location and status of movements. This visibility enables effective and efficient use of limited distribution platforms. It can re-route supplies to users with higher priority needs, direct platforms to avoid identified hazards, display unit location changes, and provide near-real-time traffic regulation and control. All CUL transport vehicles, selected maneuver support and sustainment tactical wheeled vehicles, and some Army watercraft are fitted with the Joint Battle Command-Platform Logistics hardware.

Last Tactical Mile

D-38. Enterprise resource planning systems that share databases across multiple functions substantially reduce the requirement to enter data multiple times. However, enterprise resource planning systems do not eliminate all requirements for data entry. Some data is entered via scanning devices and some transactions are generated automatically when other actions are taken. Work continues on mechanisms to reduce input requirements. This includes reducing the steps required to process a transaction within the system by "bundling" steps and increasing sensors on platforms to automatically sense fails or anything requiring attention.

SUSTAINMENT ESTIMATION TOOLS

Operational Logistics Planner

D-39. Operational Logistics Planner is the dissemination platform used for Army logistics planning factors. It is a stand-alone program approved for use on Army computers by the Network Enterprise Center. There are two editions of the tool, one for unclassified work and the other for installation on SIPRNET computers for classified work. In compliance with AR 700-8, the United States Army Combined Arms Support Command manages the collection, development, maintenance, validation, review, and dissemination of Army logistics planning data and factors.

D-40. Data for all classes of supply have been collected from current and historical operations, provided by six Department of the Army proponents and three joint proponents. The data describes how units use their vehicles under the six joint operations phases and the four military operations to inform Class III (P) and (B) estimates. The Army Water Planning Guide serves as the approved source for all water planning and feeds all population, equipment, unit, and mission-based water consumption factors. HQDA G-4 approves the data and processes annually for Army planning, and the HQDA G-3 Force Management uses it in the Total Army Analysis.

Quick Logistics Estimation Tool

D-41. This tool provides links to abbreviated logistics estimation spreadsheet tools for calculating initial class of supply requirements such as required pounds, short tons, pallets, and platforms based on force strength, operational phase, and climate. It includes a platform calculator, food and water tool, Class III bulk estimation tool, and a convoy planning tool.

Mercury Application

D-42. Mercury is a sustainment planning tool to assist planners by quickly generating a consumption estimate by integrating units, HQDA G-4 approved planning factors, and user input. This estimate forecasts consumption and expenditure rates per class of supply to help project resupply requirements and assist in the development of the concept of support for upcoming operations.

Special Operations Forces Logistics Handbook

D-43. A planning considerations resource to compliment the knowledge and experience of subject matter experts as well as enhance sustainment planning and execution in support of ARSOF. It is comprised of 50 pages of special operations forces specific information combined from multiple Joint and Army Doctrine Publications.

Appendix E

LOGSTAT and PERSTAT Reporting

This appendix describes the LOGSTAT and PERSTAT reports used by units operating within the corps and division areas. The reports are used to identify each unit's specific logistics and personnel requirements.

E-1. LOGSTATs are a snapshot taken in time. LOGSTAT reports account for each unit's specific requirements based on task organization, equipment density, and assigned mission. They include the unit's on-hand stockage levels and what the unit expects to have over the next 24, 48, and 72 hours. The reports must be detailed enough to be useful, but simple enough for everyone to prepare and understand. Logistics reporting can easily become an overwhelming task for the staff and result in information overload for battalion and brigade commanders.

E-2. Reports may be in different formats, but every leader must know the status of equipment and on-hand supplies, particularly of ammunition, food, water, and fuel. In order to provide support, BSB commanders, in conjunction with the brigade S-4, use the LOGSTAT report to coordinate with supporting and supported units. The LOGSTAT report enables the higher command and support units to make timely decisions and prioritize, cross-level, and synchronize the distribution of supplies to sustain units at their authorized levels.

E-3. The LOGSTAT report is an internal status report that identifies logistics requirements, provides visibility on critical shortages, allows commanders and staff to forecast future support requirements, projects mission capability, and informs the COP. This report provides planners at the battalion and brigade levels with the information necessary to forecast future support requirements and coordinate appropriate resupply to maneuver forces. Accurately reporting logistics and AHS support status is essential for keeping units combat ready. Brigade SOPs establish report formats, reporting times, and analog and digital redundancy requirements. Units must also establish and rehearse effective primary, alternate, contingency, and emergency communication plans with task organization changes.

E-4. The LOGSTAT report is the primary product used throughout the brigade and at higher levels of command to provide a logistics snapshot of current stock status, on-hand quantities, and future requirements. It is a compilation of data that requires analysis before action. Providing the commander a listing of numbers with percentages and colors is useless—the commander requires analysis of the data and a recommendation for action.

E-5. The brigade commander's preferences and the mission determine what the LOGSTAT report looks like and what it contains. The report is customizable to the commander's preferences, and units do not necessarily have to produce LOGSTAT reports from a logistics information system. The format presented to the commander must be easy to understand and act on.

TIMELY AND ACCURATE REPORTING

E-6. Planners base the data collection for the LOGSTAT report on operational and mission variables and should not overwhelm subordinate units with submission requirements. A report that grows too cumbersome will overwhelm staffs and fail in a high operational tempo. It is important the brigade standardizes the LOGSTAT report throughout all units and that each unit consistently provides input, regardless of their level of support. The brigade S-4 decides the LOGSTAT report format, ensuring the data the BSB requires is included. In some cases, a higher echelon S-4 will determine the report format. It is important to note that the brigade tracks the higher echelon requirements as well as any specific brigade commander requirements.

E-7. The brigade and battalion S-4s should ensure the data requested is sufficient to answer applicable commander's critical information requirements. Some possible details to include in a LOGSTAT are gallons of fuel on hand and projected usage, Class I and water status, changes to anticipated expenditure rates, Class V status, and any incident having significant impact on the operational capability of a logistics unit or the logistics posture of any tactical unit. Capturing the status of weapons systems and critical equipment is also necessary. Some commanders track special event meals or the status of critical low-density equipment. The battalion must clearly define the reported metric criteria, such as percentages or colors, and define them in

the unit SOP. Typical reporting metrics include cases, number of items, gallons, liters, and other specific metrics. The BSB may include information such as logistics information systems connectivity status, route and transportation node status, and distribution platform capabilities.

E-8. The frequency of LOGSTAT report submission varies. Units often complete the report twice daily, but the commander may require status updates more frequently during periods of increased intensity. Reports relayed via near-real-time automation (if available) provide the commander with the most up-to-date data.

E-9. The organization's battle rhythm is critical when considering report cut-off times, as-of times, and reporting times. Automated feeds will offer near-real-time data, but if a unit is consolidating information manually, it will have to determine cut-off and reporting times to synchronize with the rest of the brigade. If logistics updates are part of the brigade commander's daily battle rhythm or part of an update briefing, the brigade should make logistics reporting times as current as possible for these events to provide the commander with the best status. It is also important to allow enough time to analyze the data in order to provide the commander with a considered recommendation on future courses of action.

E-10. The BSB must be mindful of internal and external stockage of supplies and their accurate reporting. Unit on-hand supplies are those items for BSB internal consumption. Supply point items are those items that are for distribution to the maneuver brigade, including resupplies to companies in the BSB. It is important the BSB S-4, S-3, and SPO officer account for these two groups of supplies separately to ensure the accuracy of the reports.

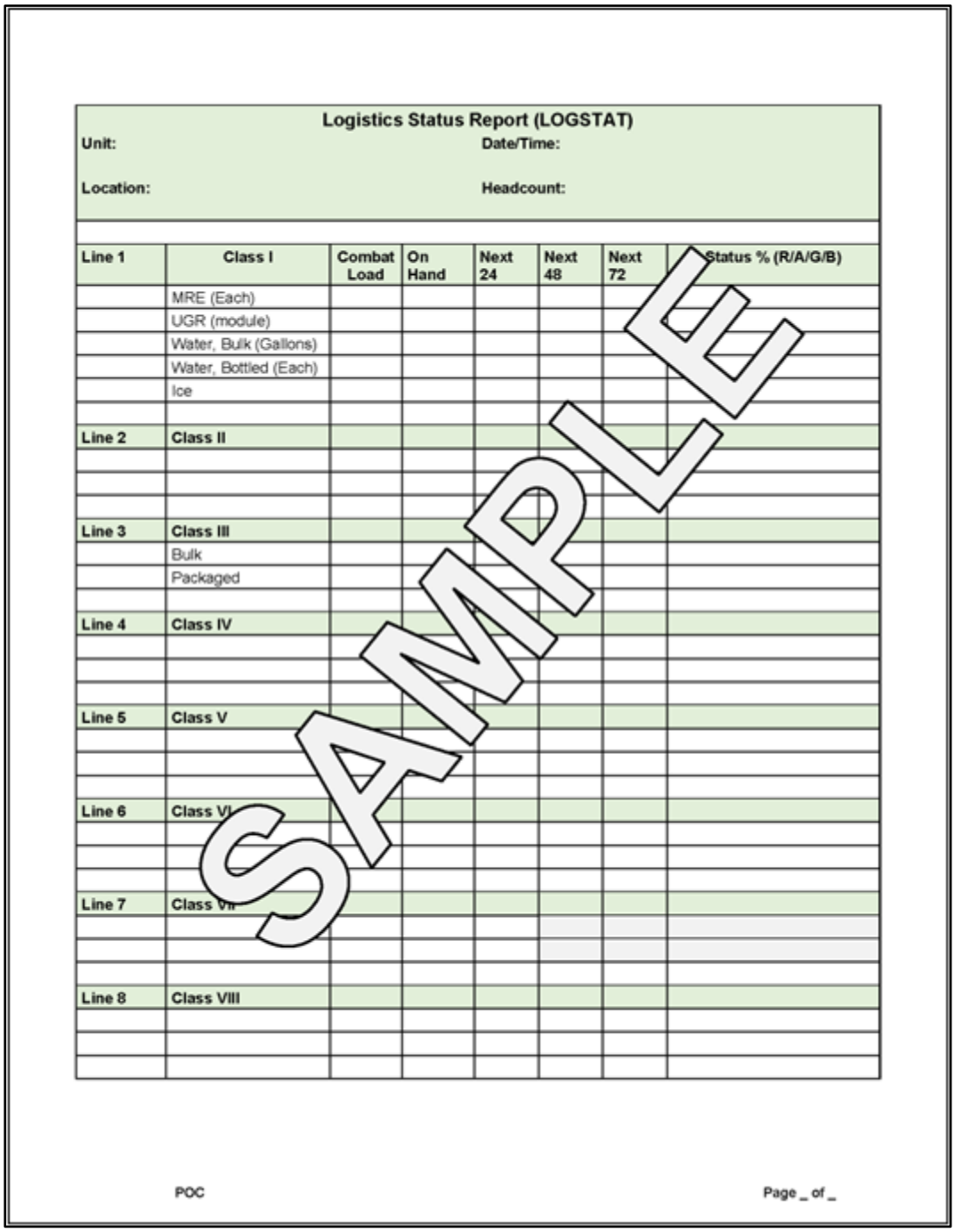
LOGISTICS STATUS REPORT FLOW

E-11. The command relationship of units within the brigade determines who reports to whom. Although the unit SOP should address how attached or OPCON elements within the brigade report their LOGSTAT, mission orders must delineate relationships and establish reporting requirements. Normally, logistics reporting parallels logistical support responsibility, but the requirement may change throughout the mission. Lack of clarity could result in a unit getting too much or not enough of a critical class of supply or the unnecessarily tasking of valuable distribution assets.

E-12. Leaders at all levels analyze the LOGSTAT report and forecast requirements based on current balances and upcoming mission requirements. Once logistics information is gathered, a leader may cross-level materiel within the organization. For example, a unit first sergeant would cross-level supplies within a company, and the battalion S-4 cross-levels supplies within the battalion. The battalion S-4 submits a consolidated LOGSTAT report to the brigade S-4.

E-13. The brigade S-4 receives the LOGSTAT report from all subordinate units. The brigade S-4, with the brigade executive officer's concurrence, determines which units receive designated supplies and shares that information with the BSB SPO officer. The BSB SPO officer acknowledges required supply actions per the brigade S-4, synchronizes distribution, updates the supply point on-hand status, forecasts resupply requirements for the brigade, and plans resupply. The section updates the LOGSTAT report with the BSB supply points' adjusted balances and additional or new forecasted requirements. The BSB SPO officer forwards the entire report to the brigade S-4 and provides a courtesy copy to the supporting DSB SPO officer.

E-14. Figure E-1 and Figure E-2 display the LOGSTAT format minimum requirements. Commanders may add unit-specific information based on type of unit, on-hand equipment, type or phase of an operation, mission requirements, and commanders' requirements.



Logistics Status Report (LOGSTAT)

Unit: **Date/Time:**

Location: **Headcount:**

Line 1	Class I	Combat Load	On Hand	Next 24	Next 48	Next 72	Status % (R/A/G/B)
	MRE (Each)						
	UGR (module)						
	Water, Bulk (Gallons)						
	Water, Bottled (Each)						
	Ice						
Line 2	**Class II**						
Line 3	**Class III**						
	Bulk						
	Packaged						
Line 4	**Class IV**						
Line 5	**Class V**						
Line 6	**Class VI**						
Line 7	**Class VII**						
Line 8	**Class VIII**						

SAMPLE

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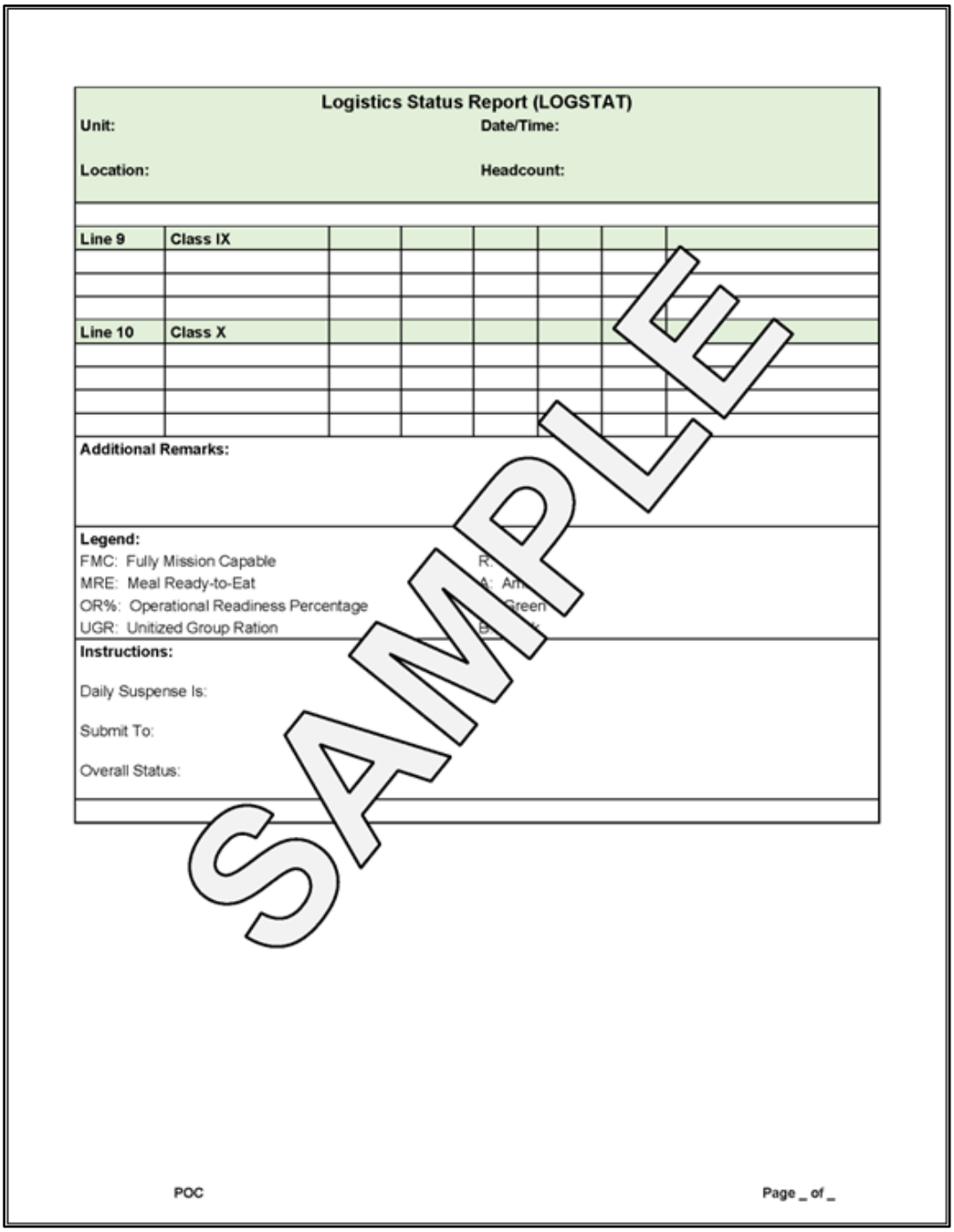
Figure E-1. Notional example of a LOGSTAT report page 1



Logistics Status Report (LOGSTAT)

Unit: Date/Time:

Location: Headcount:

Line 9	Class IX						
Line 10	Class X						

Additional Remarks:

Legend:

FMC: Fully Mission Capable

MRE: Meal Ready-to-Eat

OR%: Operational Readiness Percentage

UGR: Unitized Group Ration

R:

A: Am

Green

B:

Instructions:

Daily Suspense Is:

Submit To:

Overall Status:

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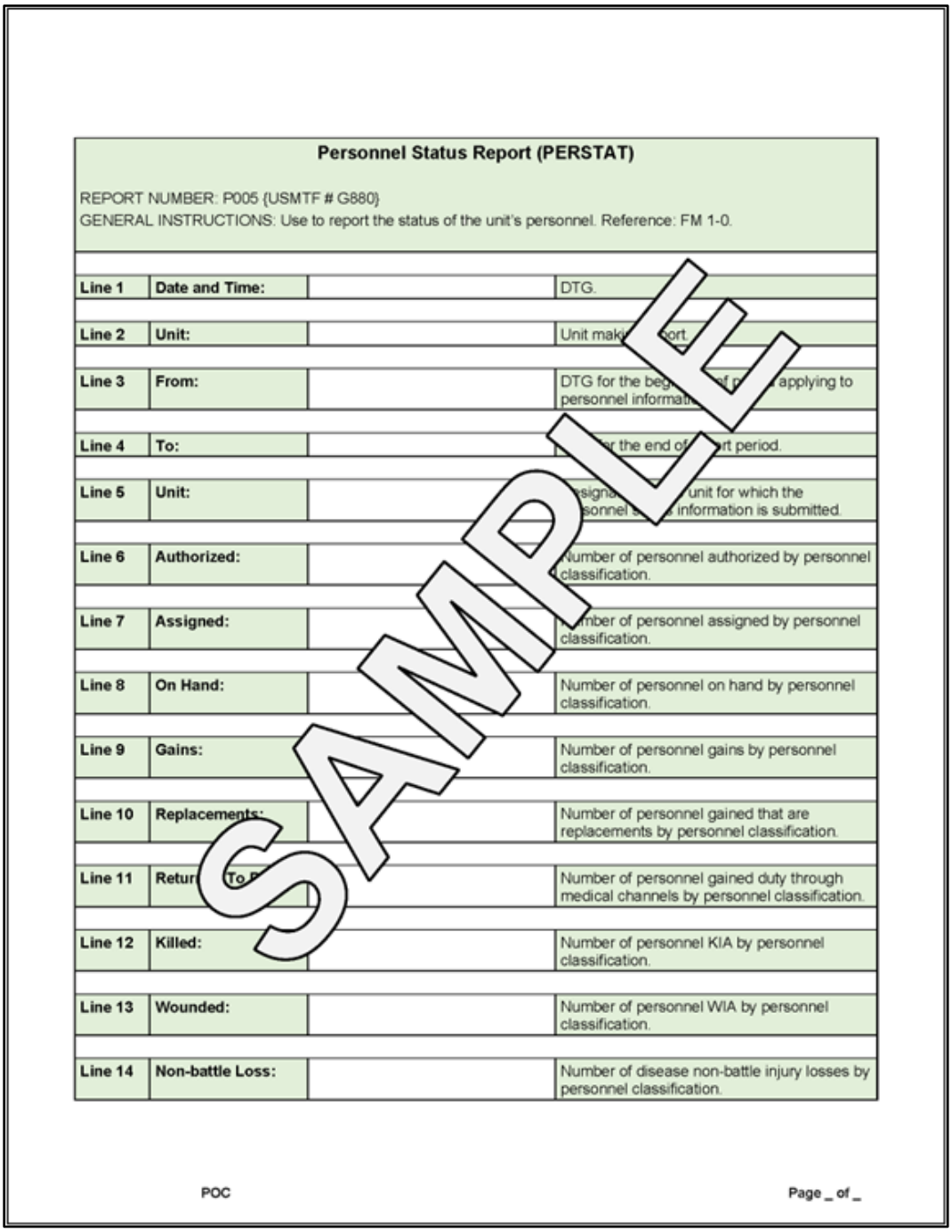
Figure E-2. Notional example of a LOGSTAT report page 2

E-15. PERSTAT reports account for each unit's personnel and are a snapshot taken in time. Figure E-3 and Figure E-4 display the PERSTAT format minimum requirements. Commanders may add unit-specific information based on commanders' requirements.



Personnel Status Report (PERSTAT)

REPORT NUMBER: P005 {USMTF # G880}
GENERAL INSTRUCTIONS: Use to report the status of the unit's personnel. Reference: FM 1-0.

Line 1	**Date and Time:**		DTG.
Line 2	**Unit:**		Unit mak[illegible]ort.
Line 3	**From:**		DTG for the beg[illegible]f p[illegible] applying to personnel informat[illegible]
Line 4	**To:**		[illegible]r the end of [illegible]rt period.
Line 5	**Unit:**		[illegible]signa[illegible] unit for which the [illegible]sonnel [illegible] information is submitted.
Line 6	**Authorized:**		[illegible]Number of personnel authorized by personnel classification.
Line 7	**Assigned:**		[illegible]mber of personnel assigned by personnel classification.
Line 8	**On Hand:**		Number of personnel on hand by personnel classification.
Line 9	**Gains:**		Number of personnel gains by personnel classification.
Line 10	**Replacements:**		Number of personnel gained that are replacements by personnel classification.
Line 11	**Retur[illegible] To D[illegible]**		Number of personnel gained duty through medical channels by personnel classification.
Line 12	**Killed:**		Number of personnel KIA by personnel classification.
Line 13	**Wounded:**		Number of personnel WIA by personnel classification.
Line 14	**Non-battle Loss:**		Number of disease non-battle injury losses by personnel classification.

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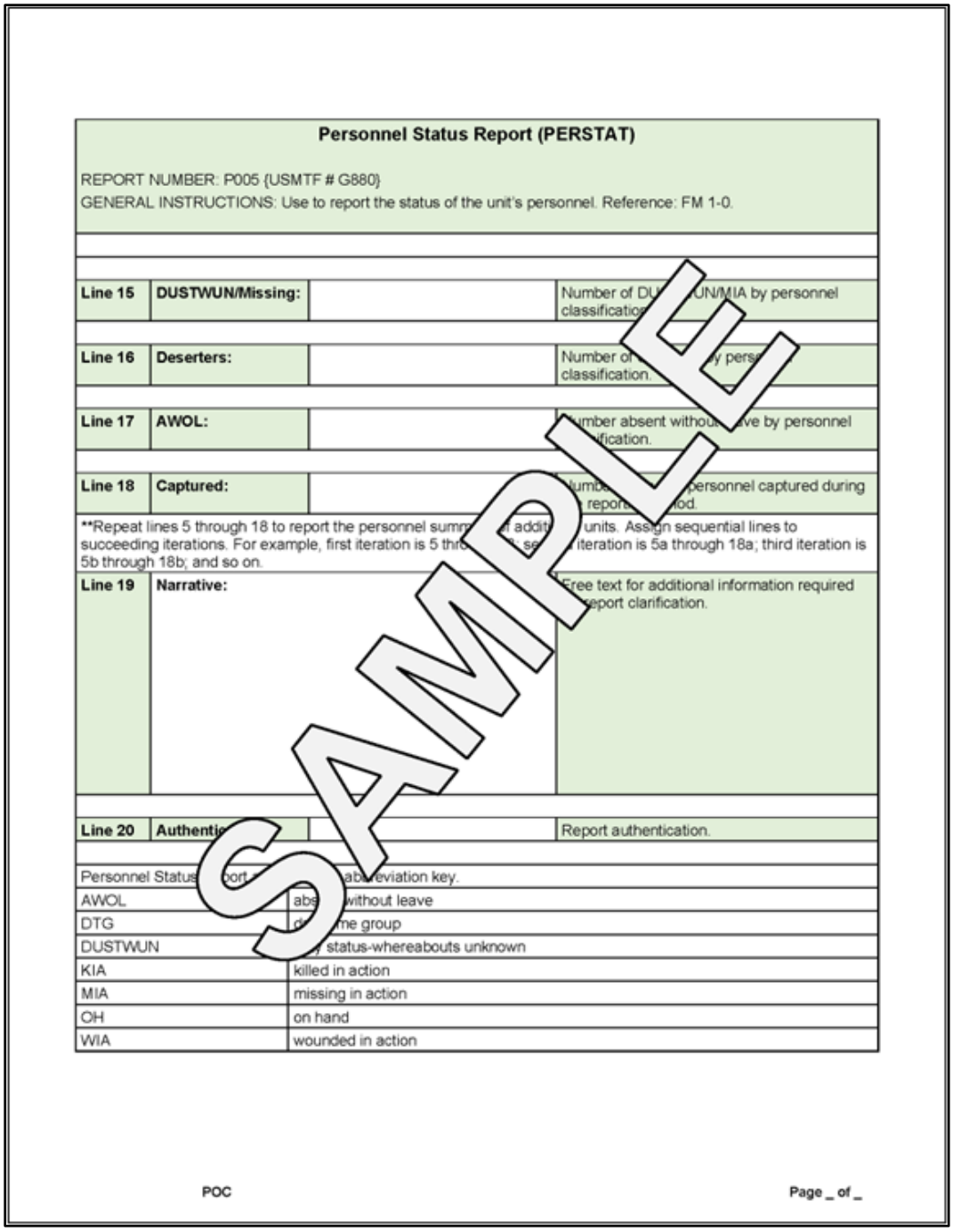
SAMPLE

Figure E-3. Notional example of a PERSTAT report page 1



Personnel Status Report (PERSTAT)

REPORT NUMBER: P005 {USMTF # G880}
GENERAL INSTRUCTIONS: Use to report the status of the unit's personnel. Reference: FM 1-0.

Line 15	**DUSTWUN/Missing:**		Number of DU UN/MIA by personnel classificatio
Line 16	**Deserters:**		Number of y pers classification.
Line 17	**AWOL:**		umber absent withou ve by personnel ification.
Line 18	**Captured:**		Numb personnel captured during report od.
**Repeat lines 5 through 18 to report the personnel summ of addit units. Assign sequential lines to succeeding iterations. For example, first iteration is 5 thr se iteration is 5a through 18a; third iteration is 5b through 18b; and so on.			
Line 19	**Narrative:**		Free text for additional information required report clarification.
Line 20	**Authentic**		Report authentication.

Personnel Status port abbreviation key.	
AWOL	abs without leave
DTG	d me group
DUSTWUN	status-whereabouts unknown
KIA	killed in action
MIA	missing in action
OH	on hand
WIA	wounded in action

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Figure E-4. Notional example of a PERSTAT report page 2

Appendix F

Sustainment Symbols

This appendix depicts and describes the unit symbols used in FM 4-0. Readers should refer to MIL-STD 2525E and FM 1-02.2 for more information about military symbols.

F-1. Military symbols are governed by the rules in MIL-STD 2525E. FM 1-02.2 is the Army proponent publication for all military symbols and complies with MIL-STD 2525E.

F-2. FM 1-02.2 provides a single standard for developing and depicting hand-drawn and computer-generated military symbols for situation maps, overlays, and annotated aerial photographs for all types of military operations. A military symbol is a graphic representation of a unit, equipment, installation, activity, control measure, or tactical task relevant to military operations that is used for planning or to represent the COP on a map, display, or overlay. Table F-1 contains examples of select sustainment symbols used in FM 4-0.

Table F-1. Sustainment symbols

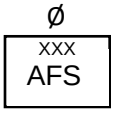
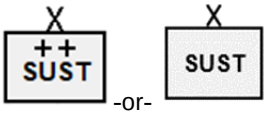
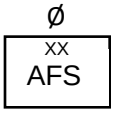
Unit	***Unit Symbol***	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with*** ***MIL-STD-2525E symbols.***
Theater Sustainment Command		
Expeditionary Sustainment Command		
Logistics Support Element (Corps)		
Sustainment Brigade		
Logistics Support Element (Division)		

Table F-1. Sustainment symbols (*continued*)

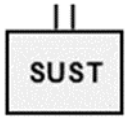
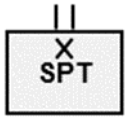
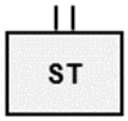
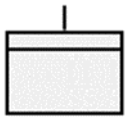
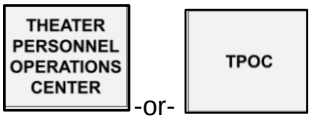
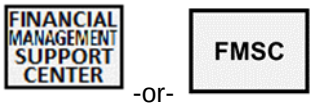
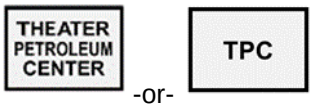
Unit	*Unit Symbol*	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with MIL-STD-2525E symbols.***
Division Sustainment Brigade		
Combat Sustainment Support Battalion		
Division Sustainment Support Battalion		
Brigade Support Battalion		
Special Troops Battalion		
Headquarters and Headquarters Company		
Theater Personnel Operations Center		
Financial Support Center		
Theater Petroleum Center		

Table F-1. Sustainment symbols (*continued*)

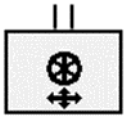
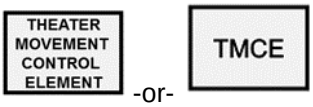
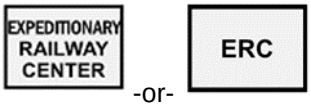
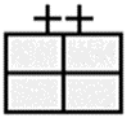
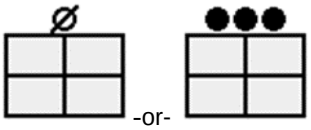
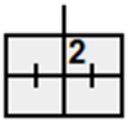
Unit	*Unit Symbol*	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with MIL-STD-2525E symbols.***
Petroleum Liaison Team		
Transportation Brigade Expeditionary		
Movement Control Battalion		
Theater Movement Control Element		
Expeditionary Rail Center		
Railway Planning and Advisory Team		
Theater Medical Command		
Medical Logistics Management Center		The size of this element (and its echelon marker) is based on the volume of activity
Medical Company (Area Support) - Or – Medical Company, BSB		

Table F-1. Sustainment symbols (*continued*)

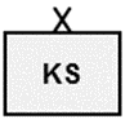
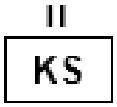
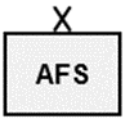
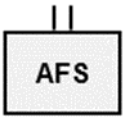
Unit	*Unit Symbol*	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with MIL-STD-2525E symbols.***
Contracting Support Brigade		
Contracting Battalion		
Army Field Support Brigade		
Theater Army Field Support Brigade		
Corps Army Field Support Brigade		
Army Field Support Battalion		
Theater Army Field Support Battalion		
Divisional Army Field Support Battalion		
APS Army Field Support Battalion		

Table F-1. Sustainment symbols (*continued*)

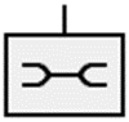
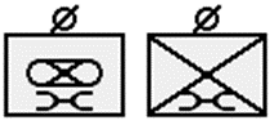
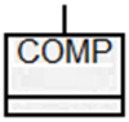
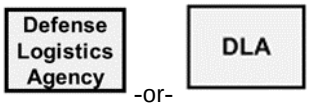
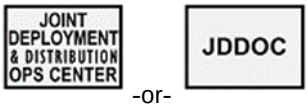
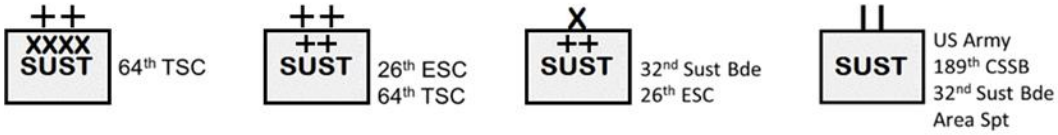
Unit	*Unit Symbol*	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with MIL-STD-2525E symbols.***
LOGCAP Forward Team		
Army Special Operations Forces Support Cell		
Rations Supply Section		
Field Feeding Team		
Maintenance Company		
Maintenance Recovery Teams		
Maintenance Surge Team Platoon		
Composite Supply Company		
Composite Truck Company		

Table F-1. Sustainment symbols (*continued*)

Unit	*Unit Symbol*	***Staff Representation:*** ***The author of staff illustrations has a lot of discretion in depiction, but should avoid mixing staff elements with MIL-STD-2525E symbols.***
Mortuary Affairs Collection Point Squad		
Defense Logistics Agency		
Joint Deployment and Distribution Operations Center		
 Examples of sustainment units with side text amplifiers.		

1. A “task force” amplifier is not placed over sustainment unit echelon markers since sustainment units are inherently modular, and a task force by definition.
2. Staff elements such as centers, agencies, bureaus, and cells, are only for staff charts. Staff charts are intended to display the organization or element either spelled out or abbreviated. Staff charts are not governed by FM 1-02.2. Do not mix staff representations with unit icons. Field units should use icons as per FM 1-02.2 when graphically depicting units on a map. Where a staff element is depicted using FM 1-02.2 rules, it is depicted as subordinate to a special troops battalion, and not within the command staff.
3. Units with icons in a border-box and an echelon marker are inherently expeditionary.
4. Echelon marker relates to the number of people, not the title of the organization. For example, a team of 15 personnel is depicted with two or three pips.

Source Notes

This division lists sources by page number. All websites accessed on 3 May 2024.

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Title 10, United States Code, Section 164, https://uscode.house.gov/.

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Colonel Erik C. Johnson and Major Mark A. Yore, "*Operation Pathways: Dynamic Employment of Army Pre-position Stock Tested in the Indo-Pacific*," *Army Sustainment*, Volume 55, Issue 2, Spring 2023, pp. 64–67. Available at https://alu.army.mil/alog/ARCHIVE/PB7002302FULL.pdf.

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124 Defense and Large-Scale Combat Operations in the Pusan Perimeter. Vignette adapted from Roy E. Appleman, Series: United States Army in The Korean War, Title: *South to the Naktong, North to the Yalu, (June-November 1950)*. Other info: Printed 1992, CMH Pub 20-2-1 Center of Military History United States Army, Washington, D.C. 109-120 and 250-265.

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Glossary

The glossary lists acronyms and terms with Army or joint definitions. Where Army and joint definitions differ, (Army) precedes the definition. The glossary lists terms for which FM 4-0 is the proponent with an asterisk (*) before the term. For other terms, it lists the proponent publication in parentheses after the definition.

SECTION I – ACRONYMS AND ABBREVIATIONS

ACC	Army Contracting Command
ACSA	acquisition and cross-servicing agreement
ADCON	administrative control
ADP	Army doctrine publication
AFSB	Army field support brigade
AFSBn	Army field support battalion
AG	adjutant general
AHS	Army Health System
AO	area of operations
AOR	area of responsibility
APOD	aerial port of debarkation
APS	Army pre-positioned stocks
AR	Army regulation
ARSOF	Army special operations forces
ASB	aviation support battalion
ASC	Army Sustainment Command
ASCC	Army Service component command
ATP	Army techniques publication
BSA	brigade support area
BSB	brigade support battalion
BSMC	brigade support medical company
CAB	combat aviation brigade
CBRN	chemical, biological, radiological, and nuclear
CCDR	combatant commander
CCMD	combatant command
COCOM	combatant command (command authority)
CONUS	continental United States
COP	common operational picture
CSB	contracting support brigade
CSC	corps sustainment command
CSSB	combat sustainment support battalion

CUL	common-user logistics
DA	Department of the Army
DA Pam	Department of the Army pamphlet
DAFL	directive authority for logistics
DLA	Defense Logistics Agency
DMC	distribution management center
DOD	Department of Defense
DODD	Department of Defense directive
DODI	Department of Defense instruction
DSB	division sustainment brigade
DSSB	division sustainment support battalion
EA	executive agent
EAB	echelons above brigade
EOD	explosive ordnance disposal
ESC	expeditionary sustainment command
FARP	forward arming and refueling point
FDO	flexible deterrent option
FM	field manual
FORSCOM	United States Army Forces Command
FRO	flexible response option
FSC	forward support company
G-1	assistant chief of staff, personnel
G-2	assistant chief of staff, intelligence
G-3	assistant chief of staff, operations
G-4	assistant chief of staff, logistics
G-5	assistant chief of staff, plans
G-8	assistant chief of staff, financial management
G-9	assistanct chief of staff, civil affairs operations
GCSS-Army	Global Combat Support System-Army
GSB	group support battalion
HIMARS	High Mobility Artillery Rocket System
HNS	host-nation support
HQDA	Headquarters, Department of the Army
HR	human resources
HRC	Human Resources Command
HROB	human resources operations branch
HSS	health service support
IMCOM	Installation Management Command
ISB	intermediate staging base
J-4	logistics directorate of a joint staff
J-8	resource management and financial support directorate of a joint staff

J-9	civil-military operations directorate of a joint staff
JDDOC	joint deployment and distribution operations center
JFC	joint force commander
JFLCC	joint force land component commander
JLOTS	joint logistics over-the-shore
JOA	joint operations area
JP	joint publication
JTF	joint task force
k	thousand
LCMC	lifecycle management command
LMP	Logistics Modernization Program
LOC	line of communications
LOGCAP	Logistics Civil Augmentation Program
LOGSTAT	logistics status
LRC	logistics readiness center
LRP	logistics release point
LSE	logistics support element
MEB	maneuver enhancement brigade
MEDBDE (SPT)	medical brigade (support)
MIL-STD	military standard
MLMC	medical logistics management center
MLRS	multiple launch rocket system
MMB	multifunctional medical battalion
MTF	medical treatment facility
NATO	North Atlantic Treaty Organization
NIPRNET	Nonclassified Internet Protocol Router Network
OCONUS	outside the continental United States
OCS	operational contract support
OE	operational environment
OPCON	operational control
OPLAN	operation plan
OPORD	operation order
PERSTAT	personnel status
PLS	palletized load system
POD	port of debarkation
POL	petroleum, oils, and lubricants
QSTAG	quadripartite standardization agreement
RSOI	reception, staging, onward movement, and integration
S-1	battalion or brigade personnel staff officer
S-2	battalion or brigade intelligence staff officer
S-3	battalion or brigade operations staff officer

S-4	battalion or brigade logistics staff officer
S-6	battalion or brigade signal staff officer
S-8	battalion or brigade financial management officer
S-9	battalion or brigade civil affairs operations officer
SDDC	Military Surface Deployment and Distribution Command
SIPRNET	SECRET Internet Protocol Router Network
SOF	special operations forces
SOP	standard operating procedure
SPO	support operations
SPOD	seaport of debarkation
SSA	supply support activity
STANAG	standardization agreement (NATO)
TACON	tactical control
TB MED	technical bulletin medical
TBX	transportation brigade expeditionary
TG PAT	theater gateway personnel accountability team
TM	technical manual
TMC	theater medical command
TMCE	theater movement control element
TPFDD	time-phased force and deployment data
TPOC	theater personnel operations center
TSC	theater sustainment command
U.S.	United States
USAMC	United States Army Materiel Command
USASOC	United States Army Special Operations Command
USC	United States Code
USTRANSCOM	United States Transportation Command

SECTION II – TERMS

administrative control

Direction or exercise of authority over subordinate or other organizations in respect to administration and support. (JP 1, Volume 2)

agility

The ability to move forces and adjust their dispositions and activities more rapidly than the enemy. (FM 3-0)

airdrop

The unloading of personnel or materiel from aircraft in flight. (JP 3-36)

amphibious operation

A military operation launched from the sea by an amphibious force to conduct landing force operations within the littorals. (JP 3-02)

area defense

A type of defensive operation that concentrates on denying enemy forces access to designated terrain for a specific time rather than destroying the enemy outright. (ADP 3-90)

area of operations

An operational area defined by a commander for the land or maritime force commander to accomplish their missions and protect their forces. (JP 3-0)

Army Health System

A component of the Military Health System that is responsible for operational management of the health service support and force health protection missions for training, predeployment, deployment, and postdeployment operations. The Army Health System includes all mission support services performed, provided, or arranged by the Army Medicine to support health service support and force health protection mission requirements for the Army and as directed, for joint, intergovernmental agencies, coalition, and multinational forces. (FM 4-02)

assessment

A continuous process that measures the overall effectiveness of employing capabilities during military operations. (JP 3-0)

attack

A type of offensive operation that defeats enemy forces, seizes terrain, or secures terrain. (FM 3-90)

common-user logistics

Materiel or service support shared with or provided by two or more Services, Department of Defense agencies, or multinational partners to another Service, Department of Defense agency, non-Department of Defense agency, and/or multinational partner in an operation. (JP 4-09)

consolidate gains

Activities to make enduring any temporary operational success and to set the conditions for a sustainable security environment, allowing for a transition of control to other legitimate authorities. (ADP 3-0)

convergence

An outcome created by the concerted employment of capabilities from multiple domains and echelons against combinations of decisive points in any domain to create effects against a system, formation, decision maker, or in a specific geographic area. (FM 3-0)

coordinating authority

A commander or individual who has the authority to require consultation between the specific functions or activities involving forces of two or more Services, joint force components, or forces of the same Service or agencies but does not have the authority to compel agreement. (JP 1, Vol 2)

crisis

An emerging incident or situation involving a possible threat to the United States, its citizens, military forces, or vital interests that develops rapidly and creates a condition of such diplomatic, economic, or military importance that commitment of military forces and resources is contemplated to achieve national and/or strategic objectives. (JP 3-0)

defensive operation

An operation to defeat an enemy attack, gain time, economize forces, and develop conditions favorable for offensive or stability operations. (ADP 3-0)

deployment

The movement of forces into and out of an operational area. (JP 3-35)

depth

The extension of operations in time, space, or purpose to achieve definitive results. (ADP 3-0)

direct liaison authorized

That authority granted by a commander (any level) to a subordinate to directly consult or coordinate an action with a command or agency within or outside of the granting command. (JP 1, Volume 2)

directive authority for logistics

The combatant commander authority to issue directives to subordinate commanders to ensure the effective execution of approved operation plans, optimize the use or reallocation of available resources, and prevent or eliminate redundant facilities and/or overlapping functions among the Service component commands. (JP 1, Volume 2)

dispersion

The spreading or separating of troops, materiel, establishments, or activities, which are usually concentrated in limited areas to reduce vulnerability. (JP 5-0)

distribution management

Synchronizes and optimizes transportation, its networks, and materiel management with the warfighting functions to move personnel and materiel from origins to the point of need in accordance with the supported commander's priorities. (ADP 4-0)

endurance

The ability to persevere over time throughout the depth of an operational environment. (FM 3-0)

execution

The act of putting a plan into action by applying combat power to accomplish the mission and adjusting operations based on changes in the situation. (ADP 5-0)

executive agent

A delegation of authority by the Secretary of Defense or Deputy Secretary of Defense to a subordinate to act on behalf of the Secretary of Defense. (JP 1, Volume 2)

exploitation

(Army) A type of offensive operation following a successful attack to disorganize the enemy in depth. (ADP 3-90)

force projection

The ability to project the military instrument of national power from the United States or another theater in response to requirements for military operations. (JP 3-0)

forcible entry

Seizing and holding of a military lodgment in the face of armed opposition or forcing access into a denied area to allow movement and maneuver to accomplish the mission. (JP 3-18)

foreign internal defense

Participation by civilian agencies and military forces of a government or international organizations in any of the programs and activities undertaken by a host nation government to free and protect its society from subversion, lawlessness, insurgency, terrorism, and other threats to its security. (JP 3-22)

health service support

(Army) The support and services performed, provided, and arranged by Army Medicine to promote, improve, conserve, or restore the behavioral and physical well-being of personnel by providing direct patient care that include medical treatment (organic and area support) and hospitalization, medical evacuation to include medical regulating, and medical logistics to include blood management. (FM 4-02)

in-transit visibility

(DOD) The ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oils, and lubricants), and passengers, patients, and personal property from origin to consignee or destination. (JP 3-36)

large-scale combat operations

Extensive joint combat operations in terms of scope and size of forces committed, conducted as a campaign aimed at achieving operational and strategic objectives. (ADP 3-0)

lead Service or agency for common-user logistics

A Service component or Department of Defense agency that is responsible for execution of common-user item and service support in a specific combatant command or multinational operation as defined in the combatant or subordinate joint force commander's operation plan, operation order, and/or directives. (JP 4-0)

level I threat

A small enemy force that can be defeated by those units normally operating in the echelon support area or by the perimeter defenses established by friendly bases and base clusters. (ATP 3-91)

level II threat

An enemy force or activities that can be defeated by a base or base cluster's defensive capabilities when augmented by a response force. (ATP 3-91)

level III threat

An enemy force or activities beyond the defensive capability of both the base and base cluster and any local reserve or response force. (ATP 3-91)

levels of warfare

A framework for defining and clarifying the relationship among national objectives, the operational approach, and tactical tasks. (ADP 1-01)

maritime domain

The oceans, seas, seabed, bays, estuaries, islands, coastal areas, rivers and littorals and the airspace above and the water below. (JP 3-32)

mass casualty

Any number of human casualties produced across a period of time that exceeds available medical support capabilities. (JP 4-02)

military engagement

Contact and interaction between individuals or elements of the Armed Forces of the United States and those of another nation's armed forces, or foreign and domestic civilian authorities or agencies, to build trust and confidence, share information, coordinate mutual activities, and maintain influence. (JP 3-0)

mobile defense

A type of defensive operation that concentrates on the destruction or defeat of the enemy through a decisive attack by a striking force. (ADP 3-90)

mobilization

The process by which the Armed Forces of the United States, or part of them, are brought to a state of readiness for war or other national emergency. (JP 4-05)

mode operations

The execution of movements using various conveyances (truck, lighterage, railcar, aircraft) to transport cargo. (ADP 4-0)

motor transport operation

A ground support function that includes moving and transferring units, personnel, equipment, and supplies by motor vehicle to support operations. (ATP 4-11)

movement to contact

A type of offensive operation designed to establish or regain contact to develop the situation. (FM 3-90)

multidomain operations

The combined arms employment of joint and Army capabilities to create and exploit relative advantages to achieve objectives, defeat enemy forces, and consolidate gains on behalf of joint force commanders. (FM 3-0)

national strategic level of warfare

The level of warfare at which the U.S. government formulates policy goals and ways to achieve them by synchronizing action across government and unified action partners and employing the instruments of national power. (FM 3-0)

offensive operation

An operation to defeat or destroy enemy forces and gain control of terrain, resources, and population centers. (ADP 3-0)

operational contract support

The process of planning for and obtaining supplies, services, and construction from commercial sources in support of combatant commander-directed operations. (JP 4-10)

operational environment

The aggregate of the conditions, circumstances, and influences that affect the employment of capabilities and bear on the decisions of the commander. (JP 3-0)

operational framework

A cognitive toll used to assist commanders and staffs in clearly visualizing and describing the application of combat power in time, space, purpose, and resources in the concept of operations. (ADP 1-01)

operational level of warfare

The level of warfare in which campaigns and operations are planned, conducted, and sustained to achieve operational objectives to support achievement of strategic objectives. (JP 3-0)

operational reach

The distance and duration across which a force can successfully employ military capabilities. (JP 3-0)

personnel services

Sustainment functions that man and fund the force, maintain Soldier and family readiness, promote the moral and ethical values of the nation, and enable the fighting qualities of the Army. (ADP 4-0)

planning

The art and science of understanding a situation, envisioning a desired future, and determining effective ways to bring that future about. (ADP 5-0)

***precision sustainment**

The effective delivery of the right capabilities at the point of employment enabling commander’s freedom of action, extending operational reach, and prolonging endurance.

***predictive logistics**

A system of sensors, communications, and applications (data support tools and data visualization) that enables quicker and more accurate sustainment decision making at echelon from tactical to strategic.

preparation

Those activities performed by units and Soldiers to improve their ability to execute an operation. (ADP 5-0)

principle

A comprehensive and fundamental rule or an assumption of central importance that guides how an organization approaches and thinks about the conduct of operations. (ADP 1-01)

pursuit

A type of offensive operation to catch or cut off a disorganized hostile force attempting to escape, with the aim of destroying it. (ADP 3-90)

rear operations

Tactical actions behind major subordinate maneuver forces that facilitate movement, extend operational reach, and maintain desired tempo. (FM 3-0)

reception

The process of receiving, off-loading, marshalling, accounting for, and transporting of personnel, equipment, and materiel from the strategic and/or intratheater deployment phase to a sea, air, or surface transportation point of debarkation to the marshalling area. (JP 3-35)

redeployment

(joint) The transfer or rotation of forces and materiel to support another commander's operational requirements, or to return personnel, equipment, and materiel to the home and/or demobilization stations for reintegration and/or out-processing. (JP 3-35)

retrograde

(Army) A type of defensive operation that involves organized movement away from the enemy. (ADP 3-90)

security assistance

A group of programs authorized by federal statutes by which the United States provides defense articles, military training, and other defense-related services by grant, lease, loan, credit, or cash sales in furtherance of national policies and objectives, and those that are funded and authorized through the Department of State to be administered by Department of Defense/Defense Security Cooperation Agency, which are considered part of security cooperation. (JP 3-20)

security cooperation

Department of Defense interactions with foreign security establishments to build relationships that promote specific United States security interests, develop allied and partner military and security capabilities for self-defense and multinational operations, and provide United States forces with peacetime and contingency access to allies and partners. (JP 3-20)

security force assistance

(joint) The Department of Defense activities that support the development of capacity and capability of foreign security forces and their supporting institutions. (JP 3-20)

staging

Assembling, holding, and organizing arriving personnel, equipment, and sustaining materiel in preparation for onward movement (JP 3-35).

striking force

A dedicated counterattack force in a mobile defense constituted with the bulk of available combat power. (ADP 3-90)

support area operations

The tactical actions securing lines of communications, bases, and base clusters that enable an echelon's sustainment and command and control. (FM 3-0)

sustainment

(Army) The provision of logistics, financial management, personnel services, and health service support necessary to maintain operations until successful mission completion. (ADP 4-0)

sustainment warfighting function

The related tasks and systems that provide support and services to enable freedom of action, extend operational reach, and prolong endurance. (ADP 3-0)

tactical level of warfare

The level of warfare at which forces plan and execute battles and engagements to achieve military objectives. (JP 3-0)

tactical mobility

The ability of friendly forces to move and maneuver freely on the battlefield relative to the enemy. (ADP 3-90)

theater closing

The process of redeploying Army forces and equipment from a theater, the drawdown and removal or disposition of Army non-unit equipment and materiel, and the transition of materiel and facilities back to host nation or civil authorities. (ADP 4-0)

theater distribution

The flow of personnel, equipment, and materiel within theater to meet the geographic combatant commander's missions. (JP 4-09)

theater opening

The ability to establish and operate ports of debarkation (air, sea, and rail), to establish a distribution system and sustainment bases, and to facilitate throughput for reception, staging, and onward movement of forces within a theater of operations. (ADP 4-0)

theater strategic level of warfare

The level of warfare at which combatant commanders synchronize with unified action partners and employ all elements of national power to fulfill policy aims within the assigned theater in support of the national strategy. (FM 3-0)

threat

Any combination of actors, entities, or forces that have the capability and intent to harm United States forces, United States national interests, or the homeland. (ADP 3-0)

troop movement

The movement of Soldiers and units from one place to another by any available means. (FM 3-90)

unified action

The synchronization, coordination, or integration of the activities of governmental and nongovernmental entities with military operations to achieve unity of effort. (JP 1, Volume 2)

unified action partner

Those military forces, governmental and nongovernmental organizations, and elements of the private sector with whom Army forces plan, coordinate, synchronize, and integrate during the conduct of operations. (ADP 3-0)

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14 August 2024

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