NAVAL WAR COLLEGE
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LOGISTICS CIVIL AUGMENTATION PROGRAM (LOGCAP) AND THE OPERATIONAL COMMANDER

BY

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations. The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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The Logistics Civil Augmentation Program (LOGCAP) and the Operational Commander

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Today, operational commanders face a myriad of decisions to make in support of major operations plans, contingency plans and campaign plans. Perhaps one of the most difficult decisions is how to support these plans logistically. Operational logistic support decisions are never easy to develop and have become more difficult due to the recent draw down of the military force structure and the advent of Joint Vision 2010. The Logistics Civil Augmentation Program (LOGCAP) is a viable resource that the operational commander can utilize to augment force structure. However, operational commanders must have an understanding of the concepts and underlying parameters for the incorporation of LOGCAP. Initially, the commander must first examine stated criteria to determine if the use of LOGCAP is justified. If these criteria are met, the commander must then understand how LOGCAP contractors will integrate into the command and control structure, how LOGCAP fits into their operational campaign and contingency planning process, and the additional force protection requirements that LOGCAP may demand. Finally, an understanding of the assimilation of these key elements is warranted to provide the commander with the ability to extend operational reach. This paper will address these issues and provide operational commanders with a better understanding of how to effectively incorporate LOGCAP into their operational logistics scheme.
INTRODUCTION

Logistics is the foundation of combat power. It is the process of planning and executing the movement and sustainment of operating forces in the execution of a military strategy and operations. The art of logistics is how to integrate the strategic, operational, and tactical sustainment efforts within the theater, while scheduling the mobilization and deployment of units, personnel and supplies in support of the employment concept of a geographic combatant commander (Joint Publication 4-0).

Today, operational commanders face a myriad of decisions to make in support of major operations plans, contingency plans and campaign plans. Perhaps one of the most difficult decisions is how to support these plans logistically. Operational logistic support decisions are never easy to develop and have become more difficult due to the recent draw down of the military force structure and the advent of Joint Vision 2010. The Logistics Civil Augmentation Program (LOGCAP) is a viable resource that the operational commander can utilize to augment force structure. However, operational commanders must have an understanding of the concepts and underlying parameters for the incorporation of LOGCAP. Initially, the commander must first examine stated criteria to determine if the use of LOGCAP is justified. If these criteria are met, the commander must then understand how LOGCAP contractors will integrate into the command and control structure, how LOGCAP fits into their operational campaign and contingency planning process, and the additional force protection requirements that LOGCAP may demand. Finally, an understanding of the assimilation of these key elements is warranted to provide the commander with the ability to extend operational reach. This paper will address these issues and provide operational commanders with a better understanding of how to effectively incorporate LOGCAP into their operational logistics scheme.
WHAT IS LOGCAP

LOGCAP is a program that augments current combat support and combat service support force structure capabilities by providing contracted logistical support and engineering services to operational commanders. LOGCAP is a comprehensive multi-functional umbrella support contract that contains peacetime requirements with contingency clauses that may be executed during a national emergency. These contracts provide leverage to the logistic and engineering service support functions by providing a rapid and responsive contracting capability to operational commanders that may not otherwise exist in current global operations and contingency plans.1 "The LOGCAP contractor has the ability and authority to obtain manpower, materials and equipment from anywhere in the world in order to provide required logistic support and engineering services under the contract. LOGCAP does not have to depend on a host nation’s infrastructure. As you can see, this is a very powerful feature and offers the commander maximum flexibility."2 The objective of the LOGCAP program is to pre-plan the use of civilian contractor support functions during wartime and other contingencies. Pre-planned support functions and how the contractor intends to carry out these functions take shape in the form of program concept plans. Two types of program concept plans exist. They are Generic Capabilities Plans and Specified Capabilities Plans. The United States Army Materiel Command is currently drafting a new LOGCAP regulation that provides a detailed description of each type of concept plan.3

According to the draft, Generic Capabilities Plans provide the contractor a baseline for support and are tailored to meet specific requirements and situations. Generic Capabilities Plans consist of two separate types of plans, a Worldwide Management Plan and a Generic
Undeveloped and Developed Country Plan. The Worldwide Management Plan provides the foundation and planning timeline for other concept plans. It provides a general description of equipment, materials, personnel, and supporting services required to receive, house and sustain up to 25,000 troops in eight base camps for up to 180 days. The Generic Undeveloped and Developed Country Plans use the Worldwide Management Plan as a baseline and tailor it to meet two specific hypothetical scenarios, one in an undeveloped country and another in a developed country. These country scenarios allow the contractor flexibility to develop different strategies to overcome unique obstacles in each scenario.

Regional Management Plans and Major Commands (MACOM) Specific Requirements Support Plans make up the category of Specific Capabilities Plans. Regional Management Plans use the Worldwide Management Plan as the baseline to tailor support requirements based upon a specific region. They define and capitalize on resources, potential suppliers and common infrastructure. MACOM Specific Requirements Support Plans also use the Worldwide Management Plan as a baseline and then tailor's requirements in support of specific operations plans and military operations other than war. MACOM plans improve the definition and specifics of support requirements during the planning process in order to enhance execution and control costs. A synopsis of the LOGCAP Concept Plan is provided in Appendix A.

The LOGCAP umbrella support contract is centrally funded and administered by Headquarters Department of the Army, Deputy Chief of Staff for Logistics. The United States Army Materiel Command manages and executes the LOGCAP program. The Army Materiel Command Program Managers developed LOGCAP Support teams to provide
guidance and serve as a centralized structure for planning in support of operational commanders. Army Materiel Command Draft Pamphlet, explains that LOGCAP Support teams are responsible for the execution and integration of LOGCAP augmentation capabilities into forces deployed in support of contingencies and other operations. Ultimately, their goal is to facilitate the unity of the contractor and the supported unit to enhance force capabilities. The teams consist of Army Materiel Command representatives and contractor representatives. If specific support requirements dictate, additional representatives from other organizations will be added to the teams. LOGCAP Support teams will deploy worldwide to ensure the day to day implementation of the program in support of operations using LOGCAP capabilities.  

**WHY LOGCAP**

The May 1997 United States National Security Strategy is a reflection of the changing world that we live in. No longer confined in a bipolar cold war with the Soviet Union, the United States has attempted to adjust its national strategy to prepare for the 21st century. Consequently, “the United States Armed Forces is in a period of significant force structure reductions, and yet are increasingly called upon to meet new operational commitments overseas. Compounding this situation is a decline in overseas basing. These realities place higher stakes on logistic capabilities. A reduced logistics force structure must now support increased power projection requirements. Projecting United States interests means fighting and winning in two major theaters of war, simultaneously, or near simultaneously.” All of these challenges must be met with a logistic and sustainment capability that may not necessarily exist in the active force structure.
A final report released in 1996 by BDM Federal, Inc. states that the current combat support and combat service support force structure has not been able to fully satisfy worldwide requirements. This inability to provide support is due primarily to force structure draw down initiatives causing an increasing dependency on the reserve component to provide combat service and combat service support functions. Under the current structure, the National Guard and Reserve contain approximately seventy percent of the combat support and combat service support needed to support the force. Inherent with reserve component activation is the fact that most of these units will not be available to the operational commander until Day +30 to Day +60, and may be as late as Day +120. Additionally, the current combat support and combat service support force structure can not adequately support all the real world requirements for wartime and military operations other than war. Therefore, operational commanders must consider other alternate sources to provide logistical support and engineering services.

Other alternatives available to the operational commander include Pre-Planned Weapon System Sustainment Contracts, Service Component Command Contingency Contracts and Host Nation Support. Unfortunately, these contracts and services may not be available, as an infrastructure may not exist in each theater of operation. Therefore, LOGCAP becomes a viable option for augmentation of the current force structure. However, prior to the use of LOGCAP, commanders must first exhaust all other means of support. This support includes the activation National Guard and Reserve units and the use of other support that was discussed previously. A 1997 General Accounting Office (GAO) report states that "LOGCAP should be the choice of last resort, but may be necessary because of troop
ceilings, unavailability of host nation support and the need to keep military units available to
respond to another major regional conflict. If resources are exhausted and all the other
indicated criteria has been met, then LOGCAP is a program that provides the operational
commander a feasible option for implementation in support of our Nation's National Security
Strategy.

BACKGROUND

The use of civilian contractors during wartime is not new and has continued to evolve
over the years. Our nation's founding fathers found it necessary to contract supply and
services during the Revolutionary War and continued the practice during the Civil War.
Additionally, contracted services were used during the World Wars, the Korean War and the
conflict in Vietnam. During the Vietnam War, President Johnson's decision not to call up the
reserve forces led the United States military to rely extensively on contracted support and
services. The continuing reliance upon the use of civilian contractors led to the need for a
pre-planned methodology. The Army formalized this concept in 1985 with Army Regulation
700-137, Logistics Civil Augmentation Program (LOGCAP).

Initially, the LOGCAP program was not utilized to its full potential. Eventually, several
pertinent planning issues and resource considerations led to the Army's full implementation
of the LOGCAP program. First, the National Command Authority placed limits on current
operations with ceilings for active and reserve forces. Second, engineering resources are no
longer available in the Army force structure. Third, quality of life concerns during extended
military operations other than war become an issue. Finally, formal host nation support
agreements do not exist in all areas of operation. Consequently, the use of LOGCAP grew
as logisticians and commanders began to rely upon contractor support. LOGCAP has matured from its infancy over the years into a multi-functional user's program. “Initially the program concept was that each Army component of a unified command would individually plan and contract for its own logistics and engineering services. In 1992, the concept was changed to provide a single, centrally managed worldwide planning and services contract. Although it originated as an Army program, LOGCAP is available to the other services.”

LOGCAP has successfully participated in several operations since its inception. The program has provided various different support packages and the support provided has been conducted at different points of entry during these operations. Appendix B provides an overview of previous LOGCAP operations.

COMMAND AND CONTROL

“Command and control is perhaps the single most important operational function. It binds together all other operational functions.” Today, operational commanders must be prepared to participate in conventional warfare and military operations other than war. The advent of military operations other than war implies that operational commanders can expect to find a menagerie of different service component units, non-government organizations, private organizations and coalition countries within their theater of operations. Unity of command and control of these various participants represents a unique challenge to commanders. Inherent with military operations other than war are nonstandard military missions that extend our combat support and combat service support unit's ability to support operations. This extension fosters a growing dependency on the use of LOGCAP to augment force structure and dictates that operational commanders have a clear understanding of what
LOGCAP is, how it functions and how LOGCAP fits into the chain of command. Without a thorough understanding of LOGCAP, a commander's ability to exercise command and control is minimized. Additionally, a clear understanding of the program will facilitate unity of effort and reduce duplication of effort. The use of LOGCAP also provides the commander with continuity of support versus a military force that is often susceptible to the high turnover of personnel.  

Joint Publication 4-0 states that the logistic support systems must be in harmony with the structure and employment of the combat forces it supports. Whenever feasible, commanders should organize peacetime chains of command and their staffs to avoid reorganization during war. The design of the LOGCAP program facilitates this process. The program is conducive to the operational commander's needs and equips them with the necessary tools to facilitate command and control of the contractors. Specifically, LOGCAP Support Teams were developed and tasked with the goal of integrating contractor personnel into the military command and control framework. Integration of the contractor into the military command structure is crucial as ideas and philosophies of how a particular mission is supported may vary. The contractor must thoroughly understand the commander's concept of support. Early integration into the command structure will facilitate this process.  

During the initial phases of Operation Joint Endeavor, "the command was slow to integrate the contractor into the daily operational updates. This may be attributable to a lack of understanding the role of the contractor and the need for integration in the overall operation." Early integration of LOGCAP contractors during the planning process will alleviate problems of this nature. LOGCAP Support Teams will act as a liaison between the
commander and the contractor, providing a single focal point for coordination and planning. Additionally, these teams are available to educate the commander and their staffs on proper procedures for the execution and implementation of LOGCAP. Full utilization of the Support Team is the crucial tool in maintaining effective command and control of the LOGCAP program. The LOGCAP support team will provide the necessary link between the contractor and military unit.

CAMPAIGN AND CONTINGENCY PLANNING

"Operational planning is based on the inputs from national security and military strategy documents, and the more specific guidance contained in the Joint Strategic Capabilities Plan. The most important aspect of these plans is the sequencing and synchronization of one's own friendly forces and the concept of logistical sustainment. A plan for a major operation or campaign cannot succeed if not accompanied with a soundly based plan of logistics." Major operations and campaign / contingency plans will determine whether or not a commander accomplishes their objectives and is the key to an operational commander's success. During the deliberate planning process, the operational commander provides a clear vision of how they see the mission unfolding. Staffs will analyze alternate courses of action and develop a concept of the operation for the course of action chosen by the commander. Furthermore, the staff will develop the concept into a completed campaign or contingency plan. Inherent with this plan is how to sustain the force logistically. If a plan includes LOGCAP support and services, it is critical that they be involved in phase three of the deliberate planning process. Rapid, responsive and flexible support of operations is the key
to logistical success. This type of aggressive support is not possible without extensive prior coordination and planning.

The LOGCAP program encourages an active planning process between the contractor and supported unit. Once the unit identifies logistic support and engineering service shortfalls and, or requirements, the LOGCAP Project Manager will initiate the teaming of the unit, the contractor and a LOGCAP Support Team. The unit and contractor will put together specific support plans tailored to fit the unit’s concept of the operation. As a support plan is developed, the contractor and unit representatives will determine when identified requirements should arrive in the theater of operations. Several different mechanisms of employment are available within the LOGCAP contract to facilitate responsive support for any scenario. LOGCAP can provide support on a surge basis during times of crisis, as a transitional sustainment force or for the initial building of infrastructure. A combination of identified support requirements along with the operation’s environmental conditions is instrumental in determining when LOGCAP will enter the theater of operations. A determination is also made as to whether or not LOGCAP is inserted into the unit’s Time Phase Deployment Data.

When a support plan is approved and funded, the contractor will conduct a detailed analysis of the area of operations. This analysis is a precursor to the execution of a plan. It allows the contractor to establish future possible contacts and an in depth knowledge of the area's infrastructure. “These analyses will also enhance the regional and country studies that the commander’s staff perform.”22 Exercises often flush out problems in plans. Operational Commanders should include contractor participation in exercises. Each exercise that the
contractor participates in will improve their performance of required support. Additionally, an exchange of skills and knowledge will take place, valuable lessons will be learned and cohesion will cultivate.

During the planning process, LOGCAP Support Teams will address and attempt to alleviate the reoccurrence of problems that were identified during previous operations. For example, during Operation Joint Endeavor, “the LOGCAP contractor entered the theater concurrent with military units on 1 December 1995. Although the contractor was mobilized in Kaposvar, Hungary, they were unable to begin operations and award subcontracts until 5 December, when negotiations between the United States Army and the Hungarian government were concluded.” The contractor began work once negotiations were complete. However, “Hungary did not recognize the contractor as part of the military and as a result did not consider them to be a part of the Status of Forces Agreement. Therefore, the contractor had to pay tariffs on all goods brought into the country and Hungary levied value-added taxes on all goods and services purchased. These costs were passed onto the Army.” This problem arose because host nation governments must first grant contractors permission to conduct business with their local establishments. Permission is normally included in a Status of Forces Agreement and normally negotiated prior to deployments. The alleviation of problems such as this should be accomplished during the planning process. The integration of LOGCAP into the planning process of campaign or contingency plans may be a strenuous process, but is necessary to ensure that a sound logistics support and engineering service plan exists.
FORCE PROTECTION AND SECURITY

"Operational protection is aimed at preserving the combat effectiveness of one’s own and friendly forces and assets deployed within a given theater of operations." One of the operational commander’s most important responsibilities is the protection of forces. The use of LOGCAP in a theater of operations places additional security requirements on the operational commander. There are several reasons for this additional demand on resources. The first is the operational commander’s requirement to provide protection for supporting contractors. In an Engineer Professional Bulletin, Lieutenant Colonel Nicholas Kolar, Deputy Commander, Transatlantic Programs Center, wrote “A salient contract condition is that United States forces provide security for contractor personnel. This may appear to be a simple provision but it has proven difficult to execute, especially at the beginning and end of operations. Close coordination between units and the contractor is required, since logistic support is required up to the last soldiers departure." However, civilian contractors are indoctrinated to the assumption that support provided during certain operations may take place in a hostile environment. Lieutenant Colonel Kolar went on to state that “This assumption has often become a reality. In Somalia, banditry and warlord hostilities were pervasive. Despite the contractor’s best efforts, a contractor employee was injured by small-arms fire. In Haiti, impoverished conditions created their own dangers. Something as simple as transporting trash to the dump became dangerous when hoards of poor Haitians tried to climb on or stop the trucks to siege the “treasures” on board. In Bosnia, the proliferation of mines and a tenuous peace have created a unique set of force protection and security concerns."
Force protection concerns may very well present obstacles in the form of uncertainties to operational commanders. This may result in "operational commanders developing operations plans or deploying on contingency operations, with fundamental questions. Will LOGCAP work? Will contractors show up in time of war? Will they remain if the fighting gets close? How will they react in the event of a chemical or biological weapons attack? Like almost any aspect of war, the true effectiveness of the war plan will only be known as it is executed, subject to the fog and friction of war. The same is true with LOGCAP."  28

Operational commanders will want answers to these questions. Unfortunately, the answers to these questions are not always forthcoming. Although, with careful thought and consideration, reasonable assurances that LOGCAP support will take place can be assumed. During an interview with Colonel Moore, Program Manager for LOGCAP, Army Materiel Command, several of the questions highlighted above were presented. Colonel Moore stated that the current LOGCAP contract is held by a contractor whose vast majority of management personnel have spent time in the military or are retired military. Although this statement does not guarantee their participation, these individuals are percept to the possibility of hostile environments. Colonel Moore believes that contract support will take place regardless of whether or not hostile conditions exist in the theater of operations. Finally, he states that if recent history is a guide, then it is quite reasonable to expect contractors to be actively engaged in the theater of operations. 29 A LOGCAP progress report written by Colonel Clow, while attending the Army War College, summarizes the risk of utilizing LOGCAP in succulent terms. Colonel Clow wrote, "There is risk involved with using contractors, just as there are risks involved with the conduct of any war. The secret is...

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the successful management of that risk." Contractor performance is voluntary and therefore presents a degree of risk for the operational commander. Additionally, personnel and equipment may have to be diverted from the main battle space to assist in the provision of security for the contractors. This diversion of assets may degrade the commanders ability to successfully conduct their mission. However, with current infrastructure shortfalls and the delay associated with the call-up of the reserves, operational commanders may have to assume the risk involved. Although LOGCAP may present a force protection burden in some scenarios, the positive aspects of LOGCAP such as operational reach, may negate the risks involved.

**OPERATIONAL REACH**

Joint Pub 4-0 states that "Operational reach is the distance over which military power can be concentrated and employed decisively." The distance that operational commanders must cover to concentrate and decisively employ operating forces is contingent upon whether or not these forces can be logistically supported and sustained. As discussed previously, the availability of active combat support and combat service support forces is minimal. Furthermore, the National Guard and Reserves may not be available, troop ceiling constraints could exist and host nation support may not be accessible in the theater of operations. Therefore, to extend operational reach, commanders can use LOGCAP to accomplish their mission. LOGCAP support can augment force structure in support of numerous scenarios, regardless of whether the operation is conventional war or operations other than war.

The National Command Authority (NCA) often limits the number of participants that commanders can utilize during operations other than war. These ceilings may impact upon
the commander's ability to accomplish the mission. Often, commanders determine that the size of the force available is inadequate. This results in an insufficient amount of support and sustainment for operating forces. Inherent within LOGCAP is the capability to provide the logistic and engineering support required for military operations other than war. Therefore, LOGCAP will allow operational commanders the flexibility to utilize active forces as they deem necessary to accomplish the mission within the limits set by the NCA.

LOGCAP also provides operational commanders flexibility during the conduct of conventional war. For commanders to defeat the enemy, they must achieve depth, initiative and acquire the advantage with the concentration of forces and logistics. Frequently, there is not enough support forces to satisfactorily provide logistics and engineering support throughout the battlefield. As the commander extends the main battle space into the enemy’s depths, support forces must be able to sustain operating forces. The establishment of forward bases will occur as lines of communications extend to reach operating forces. When this occurs, LOGCAP can provide support and sustainment in the theater portion of the communications zone as active support forces move forward in the main battle space. LOGCAP's ability to provide support in the rear areas frees critical support forces needed to extend a commander's operational reach as they mass and employ forces decisively.

RECOMMENDATIONS

The LOGCAP program is a viable resource that operational commanders can use to augment combat and combat service support force structure shortfalls. The LOGCAP program's success depends upon the operational commander's ability to incorporate LOGCAP in to operational logistics scheme. Success is possible with the implementation of
the following recommendations. First, to ensure that the commander’s intent is met, LOGCAP must be integrated into the chain of command. The senior logistic operator must have command and control of LOGCAP. This will facilitate unity of effort and reduce the fog and friction of war. Second, LOGCAP contractors must be involved in the deliberate planning process. Their integration into phase three of this process will ensure that logistics and engineering support bridges any operations-logistics gaps. Thirdly, to establish familiarity between the contractor and supported unit, LOGCAP should participate in all training exercises. At the conclusion of each training exercise, conduct an after action review to identify shortfalls for adjustment or correction. Finally, include LOGCAP contractors in all computer exercises and provide professional development seminars.

CONCLUSION

As we proceed into the 21st century, the United States Armed Forces will continue to be challenged with expanding roles and functions in support of our nation's security strategy and interests. With a diminishing military force structure that may very likely continue to decrease, operational commanders will still face demanding challenges with diminishing resources. Commanders must continually seek methods to make logistics more effective in the execution of their missions. Future operations may take place in theaters that have little or no infrastructure, or where Host Nation Support does not exist. The National Guard and Reserves may be activated to participate. However, their arrival in theater may not satisfy time demanded logistical requirements. Therefore, operational commanders face the employment of nontraditional means of logistical support for future operations. As Colonel Clow stated in his LOGCAP progress report, “LOGCAP is a national asset that provides an
alternative to the operational commander and ensures that support for forces exists under the following circumstances: (1) The present force structure cannot provide the necessary capabilities for support requirements; (2) The designated support force, active or reserve, is engaged elsewhere; (3) The reserve component is not activated; Or, (4) when the situation warrants the lowest military profile possible.  

It is inevitable that the LOGCAP will continue to play a critical role in providing logistical support to our nation’s military. The program’s capabilities are vast and allow maximum flexibility to operational commanders in the application of logistics. Operational commanders need to know that the LOGCAP program exists. It is imperative that commanders be familiar with the LOGCAP program to facilitate its use during major operations, contingency operations and/or campaigns. The fusion of LOGCAP into the operational commander’s planning process will set the stage for unity of effort and effective command and control. Force protection may cause concern, but the advantages significantly outweigh the security issues. Overall, LOGCAP is a logistical force multiplier that, if effectively incorporated into their operational logistics scheme, will increase the probability of success.
NOTES


4 Ibid.

5 Ibid.

6 Ibid, 11, 17.


8 BDM Federal, Inc., Operational and Organizational Implications of the Logistics Civil Augmentation Program and Army Total Asset Visibility on Operation Joint Endeavor and Future Operations Other Than War, DASW01-95-D-0085 (McLean, VA: 1997), 2-1.


10 U.S. Army Materiel Command, 3.


12 Nichols, 3.

13 General Accounting Office, 8.


19 Russell, 15.


21 Vego, 201, 209.

22 Nichols, 16.

23 Kolar, 5.

24 Russell, 14.

25 Vego, 187.

26 Kolar, 3

27 Ibid, 3.


30 Clow, 19.

31 Joint Pub 4-0, IV-5-IV-6.

32 Joint Pub 4-0, IV-6.

33 Clow, 31.
BIBLIOGRAPHY


APPENDIX A
LOGCAP Concept Plan

LOGCAP Concept Plan

- Generic Capabilities Plan
- Specified Capabilities Plan

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APPENDIX B

1. Somalia, “Operation Restore Hope,” December 1992, Base camp construction and maintenance; food service and supply; laundry; field showers; latrines; water production, storage and distribution; sewage/solid waste removal; bulk fuel receipt, storage and issue; transportation for passengers and cargo; and linguist support.


3. Haiti, “Operation Uphold Democracy,” base camp construction and maintenance; food service and supply; laundry; bulk fuel receipt, storage and issue; airport and seaport operations; and transportation services.

4. Saudi Arabia/Kuwait, “Operation Vigilant Warrior,” Food service and supply; transportation; convoy support; shuttle bus service; laundry; and off loading and storing containers from ships.


6. Bosnia, Croatia and Hungary, “Operation Joint Endeavor,” Base camp construction and maintenance; food service and supply; laundry; showers; latrines; water production, storage and distribution; sewage/solid waste removal; bulk fuel receipt, storage and issue; shuttle bus service; heavy equipment transportation; mail delivery; construction material storage and distribution; railhead operations; and seaport operations.