USAWC STRATEGY RESEARCH PROJECT

Transforming Army Petroleum Under the Executive Agency Concept

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REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

1. REPORT DATE (DD-MM-YYYY)	2. REPORT TYPE	3. DATES COVERED (FROM - TO)
07-04-2003		xx-xx-2002 to xx-xx-2003

4. TITLE AND SUBTITLE
Transforming Army Petroleum Under the Executive Agency Concept
Unclassified

5a. CONTRACT NUMBER
5b. GRANT NUMBER
5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Foster, James M. ; Author

5d. PROJECT NUMBER
5e. TASK NUMBER
5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME AND ADDRESS
U.S. Army War College
Carlisle Barracks
Carlisle, PA17013-5050

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS
,

10. SPONSOR/MONITOR'S ACRONYM(S)
11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
APUBLIC RELEASE
,

13. SUPPLEMENTARY NOTES

14. ABSTRACT
See attached file.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE	Same as Report (SAR)	29	Rife, Dave RifeD@awc.carlisle.army.mil
Unclassified	Unclassified	Unclassified			19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number DSN

ABSTRACT

AUTHOR: COL James M. Foster

TITLE: Transforming Army Petroleum Under the Executive Agency Concept

FORMAT: Strategy Research Project

DATE: 07 April 2003 PAGES: 29 CLASSIFICATION: Unclassified

Senior Army leaders must fully embrace executive agency (EA) to ensure the U.S. Army continues meeting its bulk petroleum mission today and well into the future. To do so, these leaders must first understand what EA is and then comprehend the Army's bulk petroleum mission and how it relates to EA. They must understand the Army petroleum organization for force management and policy development and how they relate to EA. Last, but not least, senior leaders need to know the changes necessary to take full advantage of EA. These same leaders must fully embrace the necessary changes and become full, participating partners with the Defense Logistics Agency (DLA) and the other Services to breathe life into EA for bulk petroleum. This new approach to managing a commodity is expected to provide the opportunity for senior Army leaders to improve the Army's ability to perform its bulk petroleum mission and to enhance its relevancy by being a principle architect in the new strategic system for managing bulk petroleum. The Army will benefit by ensuring bulk petroleum logistics remain a combat/force multiplier. The end result will be better bulk petroleum support for all U.S. land-based forces.

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TRANSFORMING ARMY PETROLEUM UNDER THE EXECUTIVE AGENCY CONCEPT

> "We also owe it to the nation to change ourselves-our organizations, our methods, our materiel, our structure, and our institutions-to meet the demands of a changing, ever dangerous world in which single-service operations will become increasingly rare." [1]
>
> — GEN Kevin P. Byrnes

Crude oil is the single most influential natural resource in the world today and has been for the last 75 years. The lack of it and the desire to obtain it have been the impetus for many recent wars, conflicts and other forms of strained relations between nations. The most abundant products refined from crude oil are the different types of fuel: primarily gasoline, diesel fuel, kerosene, and fuel oil. Adequate fuel supplies are critical in modern war.

Bulk petroleum is one of the first logistical considerations whenever a combatant commander gives the order to initiate crisis action planning in order to address a situation. The United States Transportation Command (USTRANSCOM) is dependent on airplanes, ships, trains and trucks to execute its mission of strategic movement but the critical supply that all modes of transportation have in common is fuel. A common U.S. Army Transportation Corps bumper sticker goes something like this, "Nothing Happens Until Something Moves." In order to tell the whole story, this saying should always be followed by, " and Nothing Moves Until it is Fueled." The dominant, root source of physical power for most of our earth-based strategic platforms is some sort of fuel or petroleum product. This paper addresses one aspect of providing this critical strategic resource.

The Department of Defense (DoD) has long recognized the importance of effectively and efficiently managing bulk petroleum . Though its name and organization structure has changed since its creation, the Defense Energy Support Center (DESC) (formerly the Defense Fuel Supply Center) to ensure the U.S. military has, or can quickly obtain, all of the bulk petroleum (and later energy) necessary to execute its various missions. Complementary to Title 10 USC responsibilities, each military department has specific bulk petroleum related responsibilities assigned to them by the Secretary of Defense and included in joint doctrinal publications.

The Army's bulk petroleum mission stretches from the strategic level, through the operational level and into the tactical level. DoD Directive 4140.25, dated April 20, 1999, clearly defines responsibilities common to each of the military departments in addition to providing each military department very specific guidance. The Army's specific bulk petroleum responsibilities as provided in the directive is to,

> . . . (p)rovide wartime planning and management of overland petroleum distribution support, including inland waterways, to U.S. land-based forces of all DoD Components. To ensure wartime support, the Army shall fund and maintain tactical storage and distribution systems to supplement fixed facilities. The Army shall also provide the necessary force structure to operate and install tactical petroleum storage and distribution systems, including pipelines. The Army shall maintain laboratories for certification testing of petroleum and related products used in ground vehicle and equipment system applications, and other than fixed-wing aircraft. [2]

Joint Pub 3.04, Joint Bulk Petroleum Doctrine, further clarifies this mission and adds specified tasks.

The other military departments have been given bulk petroleum missions and specified tasks uniquely suited to their abilities. When these capabilities are combined with the capabilities of the Army and added to the various contractors involved with bulk petroleum operations, the entire bulk petroleum system takes shape. It is an interdependent system that is inextricably linked both vertically (wholesale, theater, and retail levels) and horizontally (DESC, Services, and contractors). Problems in any one of the areas can have significant impacts on the others. Therefore, it is essential that each Service be ready and able to execute its bulk petroleum mission when called upon to do so.

Senior Army leaders must fully embrace EA to ensure the U.S. Army continues meeting its bulk petroleum mission today and well into the future. To do so, these leaders must first understand what EA is and then comprehend the Army's bulk petroleum mission and how it relates to EA. They must understand the Army petroleum organizations above corps-level and how they relate to EA. Last, but not least, senior leaders need to know the changes necessary to take full advantage of EA. These same leaders must fully embrace the necessary changes and become full, participating partners with the Defense Logistics Agency (DLA) and the other Services to breathe life into EA for bulk petroleum. This new approach to managing a commodity is expected to provide the opportunity for senior Army leaders to improve the Army's ability to perform its bulk petroleum mission and to enhance its relevancy by being a principle architect in the new strategic system for managing bulk petroleum. The Army will benefit by ensuring bulk petroleum logistics remain a combat/force multiplier. The end result will be better bulk petroleum support for all U.S. land-based forces.

In support of this thesis, it is essential to analyze the emerging EA for bulk petroleum and offer an approach relative to it for senior Army leaders to consider. The Army's bulk petroleum mission and how it relates to executive agency must be analyzed. The Army's petroleum organizations (above corps-level and at the Department-level) and how they interact and

contribute to mission success must be analyzed. Lastly, recommendations for improvements must be specified for consideration.

EXECUTIVE AGENCY (EA) FOR BULK PETROLEUM

The Defense Logistics Agency (DLA), represented by DESC, is the lead Department of Defense (DoD) agency, in coordination with the Joint Staff, in making the DoD petroleum infrastructure (systems, organizations, personnel, doctrine, facilities, etc.) a more viable support network. The DoD petroleum infrastructure is in the throes of mandated change toward management by EA. This change is dictated officially by the current administration and unofficially by the transformation of our combat, combat support and combat service support forces. DESC has the lead to ensure the DoD petroleum infrastructure changes to ensure the petroleum needs of all our forces are met in the most effective and efficient ways possible. [3]

Prior to EA, the bulk petroleum supply and distribution system had a more distinctive division between DESC-owned and Service-owned product. DESC maintained visibility over the stocks they owned and managed facilities directly holding wholesale bulk petroleum. They were not chartered to synchronize bulk petroleum support across the entire spectrum of support. Their focus was primarily on providing wholesale bulk petroleum to the point of need at the lowest delivered cost. Over the last ten years, DESC has evolved to be more and more engaged in the entire bulk petroleum supply and distribution system, from refinery-to-foxhole, and the need to ensure the system is effective first and then efficient.

The Deputy Under Secretary of Defense (Logistics and Materiel Readiness) directed DLA to take action to become the DoD executive agent for bulk petroleum and provide end-to-end (source to customer) distribution becoming the single point of contact to orchestrate the supply chain for bulk petroleum implementing the same process during peacetime, contingency, or war, within and outside of the continental United States.[4] DLA, in turn, has delegated the authority to execute this mission to DESC. EA is the current military name for the more common business term “supply chain management.” It means that DESC will be responsible “for all bulk petroleum owned by DoD and be responsible for all bulk petroleum supply management from source of supply to the point of customer acceptance, with emphasis on improving efficiency.” [5]

In the most recent Focused Logistics Campaign Plan, promulgated by the Joint Staff’s Director for Logistics, the EA effort was explained in two ways. First, intent and desired results for EA were defined:

> . . . **Executive Agents.** The primary intent of the EA initiative is to assess and align EA designations with warfighter requirements arising from the National

> Defense Strategy. The desired result of this initiative is a formal assignment process focusing logistics EA responsibilities in support of warfighting requirements; EA assignments that support the warfighter across the full spectrum of operations, including support on an end-to-end basis and rapid response to all deployments; improved crisis/deliberate planning to include EA responsibility and alignment of resource (budget, force structure, etc.) responsibilities associated with the EA. [6]

Later in the Focused Logistics Campaign Plan, EA was further explained:

> " . . . ***Reengineering the Executive Agency (EA) Process.*** Many studies, reports, and wargames – including Focused Logistics Wargame 01 – have identified elements that promote inefficiencies and waste scarce resources. EAs render a unique capability by providing and coordinating common support to the warfighter. A robust EA assignment process improves efficiency by minimizing duplication of effort and resources among the Services and agencies. OSD, the Joint Staff, the Services, and the combat support agencies have chartered a working group to review the EA assignment process end-to-end to ensure that it is a more effective tool for supporting logistics transformation. . . . [7]

This means that DESC will eventually have oversight of virtually all bulk petroleum bought and sold in DoD. Provided DESC is able to achieve total asset visibility, they will eventually have a view of practically all DoD bulk petroleum, from point of transfer from the seller to DoD and then issuance to the consuming piece of equipment[89] My sensing is that the expanded use of EA is part of the Bush administration's efforts to deliver on political campaign promises to make our government run more efficiently. EA in this situation is expected to make DESC the grand synchronizer of bulk petroleum management across the entire DoD. Expected outcomes are continued effectiveness, increased efficiencies, and elimination of unnecessary redundancies within the bulk petroleum supply system. Previously, EA normally involved a specified Service given a mission to essentially synchronize the effort of the other Services. This current application of EA stretches the definition of EA found in the DoD Dictionary and applied in Joint doctrine. The DoD Dictionary defines executive agent as,

> A term used to indicate a delegation of authority by the SecDef to a subordinate to act on the Secretary's behalf. An agreement between equals does not create an executive agent. For example, a Service cannot become a DoD EA for a particular matter with simply the agreement of the other Services; such authority must be delegated by the Secretary of Defense (SecDef). Designation as EA, in and of itself, confers no authority. The exact nature and scope of the authority delegated must be stated in the document designating the EA. An EA may be limited to providing only administration and support or coordinating common functions, or it may be delegated authority, direction, and control over specified resources for specified purposes. [10]

It must be noted to ensure readers are not misled, DESC will not gain total visibility of all bulk petroleum handled in DoD. There is a decentralized amount of bulk petroleum properly

bought and sold by each Service. These are purchases that have been approved by DESC or fit in the category of authorized local purchases of bulk petroleum. They include one time purchases and annual purchases by an installation that is deemed too small to be economical for DESC to handle. Thus, the Service Control Points (SCPs) are given the authority to direct the local purchase (per DoD 41440.25-M).

DESC has always controlled (either through DoD-owned inventory or by contract management) a sizable chunk of the bulk petroleum supply chain. Significant achievements in (fiscally) capitalizing bulk petroleum over the last ten years and the execution of the move to extend DESC ownership of DoD bulk petroleum stocks, combined with the large amount of money DESC has available has placed DESC in a very influential position regarding the control of bulk petroleum within DoD. Nonetheless, effectiveness and efficiency can improve with the support of the Services.

Some things won't change with EA implementation. Services will retain their basic bulk petroleum responsibilities outlined in DoDD 4140.25, DoD Management Policy for Energy Commodities and Related Services, April 20, 1999 and Joint Publication 4-03, Joint Bulk Petroleum Doctrine, dated 25 July 1995. The Services will retain Title 10 USC responsibilities to train, equip and sustain their forces. The Army will retain its specific mission of being prepared to manage the storage and distribution of bulk petroleum in support of U.S. land-based forces during war. Additionally, the Services retain the specific missions defined for them in the DoD directive and joint doctrine.

The DESC has the EA mission with the specified task of ensuring the entire bulk petroleum supply chain works effectively and efficiently to support combatant commanders. In large part, this is a validation and enlargement of what DESC has been doing (or attempting to do) for some time. EA is a logical next step for increasing DESC's central authority with the combatant commanders and the Services' logistics. The concept provides a "one-stop-shopping" national military capacity.

EA is expected to allow DESC to better influence deliberate and crisis action planning in order to get the best mix of contractors and military bulk petroleum handling units into operations. Placing DESC petroleum planners in select combatant commanders' joint petroleum offices (JPOs) should raise the level of DESC influence across the board. These planners are expected to be more then traditional liaison officers. They will be hired, paid, and trained by DESC while working essentially for two supervisors: the local Chief of the Joint Petroleum Office and the DESC Deputy Commander for Operations. However, high-performing JPOs have always been actively engaged and influential in the planning process in their

respective combatant command. They know how to engage their combatant command's operational planning groups (OPGs) and influence decisions. Regardless of the best efforts of the best petroleum and logistics planners, OPGs and their leaders don't always follow the path of logistical efficiency. Therefore, bulk petroleum planners have frequently had to figure out how to support difficult situations. This aspect of logistics planning will not change, thus, dedicated petroleum planners will be most helpful when JPOs face the most arduous planning tasks.

This additional petroleum planner provided by DESC will be welcomed by the often over-worked JPOs. We should expect these new planners will be quickly indoctrinated and allowed to focus on what they were hired to do: synchronize and optimize bulk petroleum logistics in support of all the plans generated by the combatant commanders. Combatant commanders will no longer need to "look back." Instead, they will be able to focus forward into their area of operation. They will be critical to ensuring the best use of scarce strategic resources and optimizing the Services' contributions.

A serious shortfall that occurred about 10 years ago was the disintegration of petroleum organization structure at the Office of the Secretary of Defense (OSD) level. Prior to 1994, an entire section on the OSD staff, led by a senior executive service civilian (equivalent to a military flag officer) and manned by an Air Force Colonel and several senior civilians, existed to lead and synchronize the petroleum and energy related efforts of the Services. This office was dismantled and absorbed into other portions of the OSD. The Joint Staff (J-4, Petroleum Logistics Officer) absorbed a majority of the old section's policy functions. However, the Joint Staff does not directly control funding and does not normally direct the Services to take specific action. Resurrecting an office at the OSD level could be very beneficial. It could directly influence budgeting and oversee earmarked funds encouraging the Services to better synchronize and integrate their development of equipment and training. However, adding organization structure to OSD is highly unlikely in today's environment; therefore, the EA alternative is the next best choice to accomplish the tasks.

The 2001 Quadrennial Defense Review Report and Joint Vision 2020 provide compelling arguments supporting the need for transformation across DoD. The EA initiative is a major driver in the overhaul of the DoD petroleum system but it will not ensure execution of all the change that may be necessary in Service bulk petroleum systems. Senior leaders in the Army have been emphasizing the need for transformation in the Army for more than two years. The EA initiative for bulk petroleum is the right mechanism to propel Army petroleum into the future and now is the time to take advantage of it.

Therefore, EA is a concept to be embraced by the Army. Senior leaders must lead subordinates to find the best methods for integrating Army petroleum capability into EA processes and solutions. Senior leaders must ensure the Army planning, programming, budgeting and execution system (PPBES) supports the development of organizations with the tools necessary to engage and shape EA.

THE ARMY'S BULK PETROLEUM MISSION

"My men can eat their belts, but my tanks gotta have gas!" [11]

— GEN George S. Patton

In simple terms, the Army's bulk petroleum mission is to ensure all Army forces have enough bulk petroleum to accomplish all assigned and anticipated tasks and to accomplish the mission/specific tasks detailed in Department of Defense Directive (DoDD) 4140 .25 and Joint Pub 4-03. This is a simple statement for an involved, and many times complex, system of support that stretches across the entire spectrum of operations from the tactical through the operational and into the strategic.

Title 10 USC requires the Secretary of the Army and Chief of Staff of the Army to train and maintain ground forces and provide these forces to combatant commanders as directed. Generally speaking, Army forces are expected to interface with designated sources of supply/services and distribution points in order to ensure supplies and services reach their destination. Therefore, the Army maintains an organic petroleum supply and distribution capability (doctrine, soldiers, training, and equipment) to ensure bulk petroleum moves from the source of supply (normally Defense Energy Support Center contractors) to the point of need.

The Army is also given specific bulk petroleum mission guidance in DoD Directive 4140.25, subject: DoD Management Policy for Energy Commodities and Related Services, dated 20 April 1999:

> The Secretary of the Army shall provide wartime planning and management of overland petroleum distribution support, including inland waterways, to U.S. land-based forces of all DoD Components. To ensure wartime support, the Army shall fund and maintain tactical storage and distribution systems to supplement fixed facilities. The Army shall also provide the necessary force structure to operate and install tactical petroleum storage and distribution systems, including pipelines. The Army shall maintain laboratories for certification testing of petroleum and related products used in ground vehicle and equipment system applications, and other than fixed-wing aircraft." [12]

The same DoD directive also assigns each of the Military Departments the following tasks:

> 1) Provide for the operation of petroleum facilities under their cognizance; control the receipt, issue, and management of petroleum stocks at operating locations in coordination with DLA. Plan, program, fund, and perform operational and organizational maintenance of facilities located on their installations in support of their missions. 2) Prescribe additional policies, procedures, research, development, acquisition, planning, programming, and budgeting guidance to implement fuel standardization policy, and eliminate the need to stock, store, and issue bulk motor gasoline to the maximum extent practical. 3) Assist DLA in the selection and assignment of priority to the petroleum MILCON projects identified for the DLA MILCON program; and provide technical support to identify and execute projects for DLA-funded maintenance, repair, environmental compliance, and construction at Military Service petroleum facilities. 4) Compute wartime petroleum demands based on Combatant Commander OPLANs, compute wartime fuel consumption rates, establish the daily wartime demand profiles, and compute war reserve requirements by location in accordance with Joint Staff Planning Guidance. This data will be provided and coordinated with the subordinate commands and the Joint Petroleum Offices. 6) Provide information on all prepositioned war reserve stocks to DLA and the combatant commanders, in accordance with DoD Directive 4140.25-M. 7) Maintain sufficient base-level testing capabilities and mobile laboratory capabilities as defined by their individual testing, oversight, and evaluation in support of daily operational mission requirements. [13]

Likewise, Joint Pub 4-03, Joint Bulk Petroleum Doctrine, provides the Army a very broad and significant mission:

> The Army shall provide **management of overland petroleum support, including inland waterways, to US land-based forces of all the DoD components.** To ensure wartime support, the Army shall fund and maintain tactical storage and distribution systems to supplement existing fixed facilities. The Army shall be responsible for inland distribution during wartime to include providing the necessary force structure to construct, operate, and maintain inland petroleum distribution systems. In an undeveloped theater, this also includes providing a system that transports bulk petroleum inland from the high-water mark of the designated ocean beach. [14]

Additionally, Joint Pub 4-03 tasks each Service with the following regarding bulk petroleum support :

> Provide for the operation of petroleum facilities under Service ownership. Implement fuel standardization policies. Assist DLA in selection and assignment priority of fuel-related military construction projects and provide base-level technical support for DLA-funded maintenance, repair, and construction at its fuel facilities. Manage military unique or theater-assigned bulk petroleum transportation assets. Compute wartime petroleum demands based upon combatant commander operation plans, wartime fuel consumption rates, war

> reserve requirements by location, and establish daily wartime demand profile. Organize, train, and equip fuel support forces.[15]

The OSD guidance and joint doctrine are intended to be complementary reinforcing and OSD directives drive the joint doctrine. The soon-to-be-published Joint Pub 4-03 will not change the Army's (or the other Service's) bulk petroleum mission and specified tasks nor will it change the Services' common tasks. In the simplest language, the Army's petroleum mission is to manage overland bulk petroleum support to all U.S. land-based forces in time of war.

This statement sounds simple enough and even appears executable. However, the last four words, "in time of war" compound the effort required to execute the mission. These four words drive Army force developers to minimize the force and place as much as possible in unmanned units and then manned reserve component units (U.S. Army Reserve and U.S. Army National Guard). The same words complicate the Army planners' task of building the right mix of Army forces to support operations other than war.

In peacetime, DESC, through its regional commands, is responsible for managing bulk petroleum support to all U.S. forces (both on land and at sea). During recent conflicts, combatant commanders have preferred to minimize changes in support relationships and minimize force vulnerability (maximize force protection); therefore, combatant commanders and Army component commanders have been reluctant to bring all the necessary Army bulk petroleum assets into an operation to execute the Army's wartime bulk petroleum mission. Therefore, Army skills to execute this mission have atrophied and increasing amounts of pressure are placed on DESC to perform, essentially, the Army's mission. This is manifested in the large amount of commercial tanker trucks moving fuel in Operation Enduring Freedom and the supply and distribution mission performed by contractors in the Former Republic of Yugoslavia since 1996 in support of Army forces.

The Army's bulk petroleum mission today does not lessen as we move into the EA era. As EA for bulk petroleum becomes a reality, the Army must become better connected on many levels: interpersonal relationships, cyber or automated systems, and physical equipment, to name a few. The primary focus of the EA is to achieve greater efficiency, without sacrificing effectiveness, through the better use of timely information, understanding, and influence.

Army petroleum officers and senior noncommissioned officers are well connected to leaders within the EA and with the other Service's petroleum leaders. Together they attend meetings, arrange support, develop plans, and train together. All of the bulk petroleum leaders within the DoD appear to be well connected and able to work together. This is a critical strength as the community draws closer together in the transition to an EA.

When the Army's bulk petroleum mission is tied with the EA effort one of the benefits will be the need for the Army to leap ahead to the future in asset visibility. This need is recognized by U.S. Army Combined Arms Support Command's (CASCOM) Combat Development Center-Quartermaster (CDC-QM); nevertheless, the valiant attempts to gain the necessary funding to bring it to life have failed. DESC's role of improving bulk petroleum distribution effectiveness and efficiency is dependent upon asset visibility (creating a near real-time location inventory, static or in-transit). Each of the Services is responsible for building automating systems that interface with DESC's automated systems. Failure to modernize in this way will cause less and less attention to be given to the Army and may eventually lead to the Army being overlooked for necessary missions which may lead to the erosion of resources needed to maintain petroleum supply and distribution units. Failure to modernize bulk petroleum asset visibility may render the Army irrelevant in the strategic bulk petroleum world.

The Army is responsible for creating the wartime theater land-based bulk petroleum supply and distribution architecture. This system is an intricate, complementary extension of the strategic bulk petroleum supply and distribution system created and executed by DESC. As the EA for bulk petroleum becomes reality, the dividing lines between wholesale, theater, and retail petroleum supply and distribution will become blurred and eventually non-existent.

Like a pipeline, any break or stoppage in the upstream always has an impact on the downstream. A simple pipeline pump station or tank farm transfer pump out of service can have wholesale and theater level implications dependent on the organizations denied bulk petroleum. This becomes exacerbated as we strive to reduce our logistics footprint and eliminate redundancy.

The Army can create a bulk petroleum supply and distribution system that works in harmony with the support established by DESC if leaders understand the interface between the Army, DESC, supported U.S. forces, and other customers. The bulk petroleum supply and distribution system is in essence a system of systems that are interconnected and interdependent. While the efforts made by DESC in procuring and moving bulk petroleum from a commercial source might be easy to understand as being strategic, the distinction between wholesale, theater, and retail quickly blend together as the bulk petroleum moves forward to fill needs.

This mission and these specified tasks give the Army significant responsibilities for supporting the other Services and DESC. It does not give the Army incentive to cooperate with the other Services to develop joint automated systems. The incentive for that initiative is found

in the funding DESC provides for developing a software system for managing DESC bulk petroleum.

Presently, the Army is focused on finding the best way to fuel the objective and interim forces without losing the ability to support legacy forces. Complementing the wholesale level of bulk petroleum support appears to happen despite the best efforts of some to reduce Army petroleum capability above the corps-level.

In simple terms, the Army's bulk petroleum mission is to manage bulk petroleum supply and distribution in support of land-based, U.S. forces in time of war. This means that during war, and when specifically tasked by the combatant commander, the Army organizes and manages theater-level land-based bulk petroleum operations. When this happens, the Army becomes responsible for synchronizing efforts to store theater-level bulk petroleum and then transport it to the point where land-based forces take control of it. These forces can be in-theater and include, land-based elements of Air Force, Marine, Navy, and/or Army Service Component Commands. When this mission is activated, the Army's petroleum group is normally the unit designated to execute the mission. This requires the petroleum group to assume the mission from the DESC regional command (the normal executers of the peacetime variant of this mission). The petroleum group becomes the architect for building the bulk petroleum support architecture for the land-based theater of operations. The group also integrates the bulk petroleum supply and distribution efforts of DESC (providing contractor support), the Army, the other Services, the host nation and, potentially, coalition forces. When the Army is not called forward by the combatant commander to perform this mission, the task remains with DESC and its regional command.

In the future, the Army petroleum mission will become more complex. The most vivid picture of the future of military petroleum distribution was composed by Army Colonel Jack Vance, a former Deputy Commander for Operations at DESC, in his email dated 14 January 2003, answering William Perdue's (CASCOM DCD-QM) question, "Does DESC have a vision for fuel support in 2015?":

> . . . If you assume we (Army) continue to move along the Objective Force doctrine, it is likely that we would operate from fixed bases (airports, seaports, etc.) where commercial fuel products would likely be available. Second assumption would be by 2015 most of our military equipment would be capable of using commercial spec fuel, making it much easier to use commercial fuel logistics support . . . where applicable. For major road movements, I still believe we will be looking at some type of line haul fuel trucks for off-road operations. Point-to-point resupply of bases, where commercial capability doesn't exist will likely be resupplied by quickly installed hoselines/pipelines. The risk with this type of resupply is securing the conduits from tampering/pilferage. What will

> change with any changes in fuel type? While DoD may see some changes away from fossil fuels by 2015, it is not likely to happen across the board – especially for ground systems (e.g., tanks, trucks, etc.) as the expense for these new alternative systems usually far exceed the cost of keeping the current fossil burners, and relatively speaking, cheap fuel. Besides, establishing alternative fuel systems will just result in DoD handling another product on the battlefield. The ultimate efficiency/effective logistics solution is to move to abundant commercial spec energy products (e.g., Jet A-1, DF, etc.). Obviously, automated systems will likely be in place by then that will tell the logistics system when, where, and how much resupply needs to take place prior to needing it. Fuel storage and delivery systems will be fully automated to issue/receive and report quantities/quality of fuel products in real time. Global access to commercial fuel markets will also be likely, thereby greatly reducing the need to keep large static depot stocks of fuel products in place. Where do we need to improve?: Automation of fuels accounting and requirements generation; Quickly installed automated long haul conduit systems (e.g., hoselines, pipelines, etc.); Movement to commercial fuel, additize only when needed and then only after product is in DoD hands; Self-monitoring fuel quality sensors; Self-monitoring fuel quantity on-board sensors; Self-healing portable fuel storage containers (e.g., collapsible containers). [16]

The battles of the future will require bulk petroleum support, robust soldiers, and systems to support friendly forces. A glimpse into the objective force's battle space can be seen in the February 2003 issue of Army Magazine. BG Michael A. Vane, Deputy Chief of Staff for Doctrine, Concepts and Strategy at Training and Doctrine Command (TRADOC), and Dr. Richard J. McCallum shared some of the results of the Army Transformation Wargame – Vigilant Warrior 2002. The conclusions drawn from Vigilant Warrior 2002 provides the Army petroleum leaders with the insight necessary to prepare for the future. BG Vane and Dr. McCallum shared that,

> Tomorrow's battlespace will be noncontiguous and more vertical than ever. . . . Swift and decisive action will be predicated upon operational maneuver from strategic distances and the simultaneous employment of combat-ready units upon arrival. Every effort will be made to avoid large, fixed air terminals and seaports. This entry approach will retain combat initiative while avoiding the vulnerabilities and time penalties associated with the traditional employment phases of reception, staging, onward movement and force integration. . . . Global sustainment issues must be examined in more detail. The war game identified the direct linkages between raw material sources, production capacity and the employment and sustainment of combat systems. Ultimately, strategic responsiveness and agility will be paced by a focused logistics system that ensures the availability of munitions and other key logistical assets. . . . Today's transformation strategy is a comprehensive and continuous process that addresses the readiness of people and equipment to perform as integrated members of future joint, coalition and interagency teams. [17]

In reality, the Army has rarely been called forward to execute its theater-level bulk petroleum mission in accordance with joint or Service doctrine. For example, during Desert Shield/Desert Storm, the 475th Quartermaster Group, headquartered in Farrell, Pennsylvania, was called to active duty and sent to the Arabian Peninsula to execute this mission. Due to force protection considerations and force cap restrictions, Army bulk petroleum supply and distribution units are deployed sparingly to assist a warfighting commander and the DESC region command. The tendency has been to keep the theater mission in the hands of the DESC region commander and have the Army take care of its own or provide support on a very specific, limited, area basis. Nonetheless, the Army's bulk petroleum mission remains the same and the Army must stay ready with the organizations, doctrine, and training to execute the mission.

Army leaders must provide resources to modernize asset visibility by placing the information on Global Combat Support System-Army (GCSS-Army). Then DESC must have access to the information and the information must interface with DESC's automated systems. Army leaders must fully accept and embrace the Army's bulk petroleum mission. Recommend Army leaders recognize Army responsibility to interface and support the EA and to provide support to the other Services. Of course, this support to the EA and the other Services must be quantified and a realistic cost associated with it in order to decide how best to execute the mission.

The U.S. Army Petroleum Center (APC) should be the focal point for synchronizing the Army mission, specified tasks, implied tasks, and priorities within the Army. The next step will be to synchronize the Army effort with DESC and the other Services.

THE ARMY'S PETROLEUM ORGANIZATION FOR FORCE MANAGEMENT AND POLICY DEVELOPMENT

To be strategically influential and responsive with EA, the Army must improve upon a portion of the current petroleum force management and policy organization. The Army must empower petroleum leaders to make decisions and lead Army petroleum elements into a very close working relationship with DESC, Army service component commands (ASCCs), the other Services, and major players managing the distribution of Army funds. The Army's Petroleum Advisory Group (PAG) and the APC need to transform in order to lead the rest of Army petroleum into the future.

The APC stands at the center of the Army petroleum network. Other stakeholders involved in major Army petroleum decisions include: Headquarters, Department of the Army (HQDA), G-4 Army Petroleum Team (DALO-SMT); CASCOM, DCD-QM; Quartermaster Center

and School (QMC&S), Petroleum and Water Department (PWD); Program Manager, Petroleum and Water Systems (PMPAWS); Tank-automotive and Armaments Command (TACOM) Research and Development Center (TARDEC), Fuels and Lubes Team and Petroleum Equipment Team; 49th Quartermaster Group (the Active Army petroleum group); 475th Quartermaster Group (the U.S. Army Reserve petroleum group); Office of the Chief, Army Reserves (OCAR); National Guard Bureau (NGB); HQDA, G3-QM Organizational Integrator; HQDA, G8-Force Development-Focused Logistics (DAPR-FDL); and the senior Army petroleum officers working in DESC.

Of course, the petroleum offices for the ASCCs also have a significant stake in petroleum operations (e.g., Forces Command, U.S. Army Europe, Third U.S. Army/Army Central, U.S. Army South, U.S. Army Pacific, Eight U.S. Army), and the Army petroleum officers in the joint petroleum offices (U.S. European Command, U.S. Pacific Command, U.S. Southern Command, U.S. Transportation Command) believe they should be included in decisions relative to their current and future operations.

Involving this many stakeholders in a decision-making body without a clear-cut leader and some responsibility to the other members is a recipe for unproductive meetings or at least a challenge to gain consensus. Meetings can quickly become gatherings of subject matter experts pontificating on their latest important projects. The senior officers at these type of gatherings are not able to make many significant or binding decisions because they have no command, control, or leverage over the attendees.

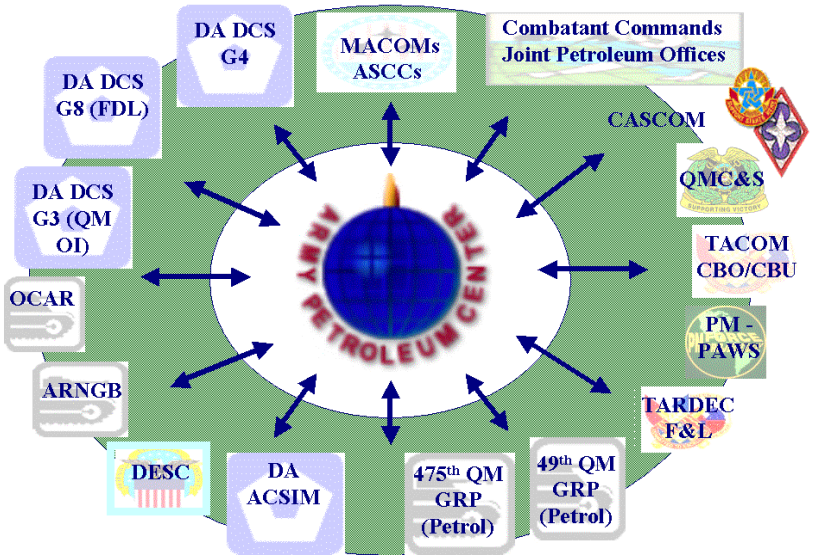

FIGURE 1: ARMY BULK PETROLEUM STAKEHOLDERS

Prior to the fall of the iron curtain, and for a short time thereafter, the Petroleum Advisory Group (PAG) was the senior decision making body on petroleum matters in the Army. For most of its useful life, PAG membership was focused on a few (five to seven) petroleum Colonels (or equivalent civilians) in key billets or with influence over critical processes. These PAG members were considered the "movers and shakers" in Army Petroleum and very few, if any, significant changes were made to Amy Petroleum without their approval. The major players by position were: Chief, Army Energy Office; Commander (later Director), APC; Chief, QMC&S, PWD; Program Manager, Petroleum and Water Systems; Director, CASCOM, DCD-QM; and the technical experts (fuel, lubes and petroleum equipment) from the Fort Belvoir Research, Development, and Evaluation Center (BRDEC, later reorganized into TARDEC.)

Since the fall of the iron curtain and Desert Shield/Desert Storm, the PAG has dwindled into a group of senior Army petroleum leaders without the authority to make binding decisions regarding Army petroleum or to be significant players in any related process. An additional sign of the PAG's irrelevance is the lack of senior leaders deferring to its collective view on important Army petroleum issues. In 1995, the Quartermaster General chartered the PAG to be his advisor on all Army bulk petroleum issues and to illuminate the path to the future of Army petroleum. The PAG was comprised of Army petroleum Colonels and equivalent civilians. It was a great idea never realized. The PAG was not empowered to make decisions nor recommendations on funding and was not at liberty to commit resources of any kind. Meetings were normally series of information briefs punctuated with discussion on the current state of events and what should be done. They were essentially meetings to exchange ideas, identify issues, and discuss ways to resolve issues. The downgrading and loss of key Army petroleum Colonel positions (Chief, Army Energy Office and Director, QMC&S, PWD) coupled with a loss of control over funds were contributing factors to the failure of the new PAG.

During the first three years, the Chief of the Army Energy Office (DALO-TSE) served as the leader of this most recent PAG. Upon closure of the Army Energy Office and elimination of the Chief's position (Colonel), leadership of the PAG became increasingly nebulous. This lack of formal leadership and lack of control over funding rendered the PAG inept at instituting change or providing strategic leadership. The PAG is now dormant and presently, there is not an Army petroleum guiding body under development, neither formal nor informal.

To remedy this lack of centralized power to make decisions, I propose the establishment of a Petroleum Council of Colonels (PetrolCoC) to guide execution of the Army's bulk petroleum mission, to guide interaction with the EA, and to advise senior Army decision makers on the impact that their decision have on bulk petroleum logistics. The PetrolCoC must be responsive

to a Petroleum General Officer Steering Committee (PetrolGOSC). Membership of the PetrolCoC should be chartered by position. The leader of the PetrolCoC should be the Commander, APC. Membership on the council should include: Chief, DALO-TST; Director, CASCOM, DCD-QM; Program Manager, Force Projection; Chief, DAPR-FDL; Director, QMC&S, PWD; and the senior Army petroleum officer assigned to DESC. The council must have the authority to establish working groups and the authority to task (and hold accountable) individuals serving on the working groups.

The PetrolGOSC should originate the charter for the PetrolCoC and they must be responsive to the Army G-4. Membership on this steering committee should include: The Quartermaster General (leader); Director for Sustainment, Army G-4; Deputy Commander, TACOM; and Director, Force Development, Army G-8. Their mission is to receive feedback from the PetrolCoC, provide the PetrolCoC advice and guidance, advocate the best use of Army bulk petroleum management assets, and ensure Army petroleum remains relative and viable.

Ensuring bulk petroleum management assets remain relative and viable will require a powerfully influential link between the PetrolGSOC/PetrolCoC and funding streams for equipment, force structure, doctrine development, concept demonstrations, and relative science and technology efforts. The connection to funding was a critical consideration when membership of the two bodies was conceived.

The APC must transform into an Army Petroleum Center of Excellence (APCE). Presently, the APC is the Army's control point for bulk petroleum. Their present mission isto:

> Provide petroleum support to the Army by ensuring the adequate quantities of high quality bulk and packaged products and coal are supplied to Army installations and units when and where required; that assistance is rendered as necessary for proper functioning and readiness of tactical and non-tactical petroleum units and equipment; and that testing of petroleum products and coal is performed accurately and efficiently. [18]

The APC is presently focused on quality surveillance, automation interface between installations and DESC, determining bulk petroleum requirements during specified periods, petroleum related facility repair and construction projects, and liaison assistance visits as requested.

The APCE must be established to serve as the focal point for Army petroleum management and should serve as the unifying organization in the Army for all petroleum related issues. This includes having a direct (and thus very influential) link with the PM, PAWS; TARDEC, Fuels and Lubes Team; USAQMC&S, PWD; CASCOM, DCD; and DALO-TST. .In addition to unifying the Army petroleum community, the APCE must provide support to the Army

Service Components Commands, tactical-level units, Joint Staff, other Services, DESC, and combatant commands. Changing from the APC to the APCE is the next step to ensuring the Army has one organization that has interest and unifying control over bulk petroleum matters. This change emphasizes the APCE's role as an SCP that provides a one-stop approach to finding Army bulk petroleum answers. Consolidating the Army petroleum effort under the APCE facilitates the EA effort.

The APCE is needed to serve as the synchronizer of Army petroleum management. It must operate well and be influential at the wholesale level in addition to being flexible enough to operate equally well as it interfaces with units from theater army through the corps and division into the main support and forward support battalions. The APCE must have the connections to know what is happening throughout the Army with regards to petroleum management. At the wholesale level, the APCE must be engaged with DESC (and the Joint Staff and DALO-TST) as decisions are made as to how best spend limited bulk petroleum related military construction dollars. They must influence decisions on how best to build automation architecture to serve all of the Services' needs. There will be give and take in these relationships and the APCE must understand the Army's wants and needs in order to know what can be offered for elimination and what cannot. In a strategic sense, the APCE must take on a new role as advocate for funding of necessary petroleum handling equipment. This has traditionally been the exclusive domain of the DAPR-FDL, PM-PAWS, DALO-TST, and CASCOM DCD-QM. APCE's entry into this realm is not meant to detract from anyone's role but to serve a unifying function. The APCE should have the best understanding of the entire picture and the impact of funding (or the lack of funding) of specific equipment. The APCE should continue APC's role as the experts on fixed facility petroleum operations. In this capacity, they should provide the newly organized Installation Management Command the expertise and leadership to ensure the Army's power projection bases, training bases, and industrial facilities have effective and efficient bulk petroleum systems. This ensures bulk petroleum management serves as a strategic logistics multiplier and better enables the Army to be ready when a decision is made to use Army forces to execute a mission.

Formally establishing APCE as the lead organization for Army petroleum will ensure a stronger Army presence within the DoD petroleum community and thus a more influential role for the Army. A greater influence will allow Army petroleum issues to receive more consideration and will increase the Army's ability to perform its petroleum mission. The APCE has the potential to better integrate Army petroleum efforts than has happened in the past.

Currently, leaders of the APC propose to establish a liaison team at Fort Belvoir in the McNamara Building to be co-located with DESC and the other Service Control Points. This is Phase I of their plan and it was to be accomplished by the end of March 2003. As of the completion date of this paper it has not been accomplished. Funding is the impediment. Phase II of the plan is to establish the APCE as an interim organization by the end of September 2003. This includes establishing the military positions and transfer of the Army Oil Analysis Program (AOAP). Phase III is targeted for completion by December 2005 and includes the completed relocation of the bulk of the organization to Fort Belvoir (from New Cumberland), the adjustments to the organization structure, and the establishment of the proper working relationship between the Army petroleum players. However, most important is the relationship between APCE and the PM-PAWS and TARDEC, Fuels and Lubes Branch. The major issues restraining the execution of the APC plan is the lack of facilities offered by real estate managers at DLA Headquarters, the lack of funds available to move APC employees, and the problems associated with establishing military positions and obtaining the soldiers (officers and NCOs) to fill the positions. [19]

The proposal to transform the APC into the APCE and move it to Fort Belvoir is critical to maintaining Army bulk petroleum relevancy and becoming a major influence as DESC transforms to EA. Critical to this change to an APCE is the need to make the leader of the APCE a Colonel designated as a commander to ensure the Army has equal footing with the other Services in regard to bulk petroleum decision making and support.

Counterparts to the APC are the Air Force Petroleum Office (AFPO) and the Navy Petroleum Office (NPO). Individually, they are the synthesizer for all things petroleum within their Service and all Service positions related to petroleum emanate from them. Collectively, they are the Service Control Points (SCPs) providing DESC with Service-level input, decisions, and positions on issues of interest or concern. The AFPO and NPO are co-located with DESC Headquarters at Fort Belvoir, Virginia and each is commanded by an O-6. In the Marines, petroleum support is within the engineer realm; thus, the Marines' Engineer Advocate, an O-6 located at Headquarters, Marines Corps, is the lead for Marine petroleum issues.

Contrasting the AFPO and NPO is the present APC which has been led by a civilian (GM-14 or 15) for the last ten years. The last military commander relinquished command in 1993 and with him went some of the influence the APC had with the other SCPs. Though the SCPs have enjoyed a positive working relationship over the last ten years, the APC's influence would have been enhanced with a Colonel commanding it. Presently, the APC is located over 100 miles away from Fort Belvoir in New Cumberland, Pennsylvania. Computers, video

teleconferences, and other communication devices are great tools employed by APC to stay in touch with the other SCPs and DESC; however, these tools do not fill the void created by APC being so far away from the focal point of bulk petroleum in the DoD. From personal observation, I can attest to the Army missing opportunities to retain its high-level of relevancy in DoD bulk petroleum due to the APC not being physically present at Fort Belvoir on a daily basis.

The lack of a soldier leading the APC also impacts the relevancy the APC has within the Army. The civilians of APC are experts in petroleum and in no way shirk from their duties to ensure soldiers get the bulk petroleum support they need to ensure tactical success. However, the APC does not realize its full potential and will probably not until it is commanded by a Colonel. A commander is also needed to ensure Army Service Component Commands and senior Army leaders recognize APC as the Army leader on bulk petroleum issues and the lead interface between the Army and DESC.

Therefore, to regain a high-level of relevancy and influence, the leader of the APC must be a soldier. This leader must be a petroleum expert who understands the needs and challenges that combat commanders face in the field during peace and war. This ideal leader needs to be a graduate of a senior service college (SSC) in order to best understand the strategic and operational level of military operations. Additionally, a SSC graduate is most likely to have established rapport with some of the key staff personnel influencing the senior leaders deciding how best to execute operations. These informal relationships can instill the confidence needed to sway decision makers to do what is best to support a force and to ensure missions succeed. The best leader of APC will be one who has commanded at company, battalion, and brigade levels. This experience engenders confidence in warfighters by helping them realize that the leader understands their business and will consider commanders on the ground when developing/recommending solutions.

The presence of a Colonel representing Army interests, advocating Army petroleum capabilities, and influencing DESC and the SCPs will have tremendous positive effects for EA. A commander of APCE can ensure the Army is fully integrated in the complex solutions needed to fuel military operations now and into the future.

RECOMMENDATIONS

Senior leaders must embrace DESC's role as EA for bulk petroleum and transform Army petroleum management and policy. They must challenge subordinates to find the best methods for integrating Army petroleum capability into EA processes and solutions. Of course, the Army PPBES must be adjusted to support the development of capabilities and provide organizations

the tools necessary to engage and shape EA. Asset visibility of bulk petroleum management data must be built into GCSS-Army. Then this information must be made accessible to DESC and it must interface with DESC's wholesale bulk petroleum automated information management system.

The Quartermaster General should lead the effort to replace the PAG with a Petrol-GOSC and a Petrol-CoC with the expressed purpose of ensuring Army bulk petroleum management assets remain relative and viable. These two organizations must contain the correct members and develop a connection and the ability to influence the Army PPBES.

Senior leaders should support the transition of the APC to the APCE, establishment of the APC liaison office at DESC Headquarters, co-locate APCE with DESC Headquarters, and place a Colonel in command of the APCE.

CONCLUSIONS

This paper has established the strategic link between Army petroleum, DESC, and the EA concept for bulk petroleum. It has analyzed EA and explained its basics. The Army's bulk petroleum mission has been analyzed and how the Army interfaces/supports EA has been detailed. The Army's critical petroleum organizations above corps-level and institutionally have been detailed and analyzed with respect to how to improve Army petroleum and how to best support EA. Throughout the paper, recommendations are offered for improving Army petroleum and improving the interface with EA.

EA is the way of the future for managing commodities with DoD. Senior Army leaders must fully embrace EA to ensure the U.S. Army continues meeting its bulk petroleum mission today and well into the future.

WORD COUNT = 8,515

ENDNOTES

[1] GEN Kevin P. Byrnes, "Accelerating Transformation," Army – The Magazine of the United States Army, February 2003, 28.

[2] Department of Defense, DoD Management Policy for Energy Commodities and Related Services, Department of Defense Directive 4140.25 (Washington, D.C.: U.S. Department of Defense, 20 April 1999, 9.

[3] Deputy Under Secretary of Defense for Logistics and Materiel Readiness Diane K. Morales, "Executive Agency Taskings," memorandum for Director, Defense Logistics Agency, Washington, D.C., 15 February 2002.

[4] Ibid.

[5] Department of Defense, DoD Executive Agent (EA) for Bulk Petroleum, Department of Defense Draft Directive 5128.XX (Washington, D.C.: U.S. Department of Defense, 25 November 2002, 2.

[6] The Joint Staff, Focused Logistics Campaign Plan, (Washington, D.C.: U.S. Joint Staff, undated), 14.

[7] Ibid, 35.

[8] Department of Defense, DoD Dictionary of Military Terms, (Washington, D.C.: U.S. Department of Defense, 9 January 2003) found at <http://www.dtic.mil/doctrine/jel/dodict/data/t/05421.html> on 25 March 2003.

[9] The DoD Dictionary of Military Terms defines total asset visibility as, " the capability to provide users with timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, materiel, and supplies. It also includes the capability to act upon that information to improve overall performance of Department of Defense's logistic practices."

[10] Department of Defense, DoD Dictionary of Military Terms, (Washington, D.C.: U.S. Department of Defense, 9 January 2003) found at <http://www.dtic.mil/doctrine/jel/dodict/data/e/01943.html> on 25 March 2003.

[11] U.S. Army Quartermaster Corps Historian, "Quartermaster – Red Ball Express – 10 September 1944," undated; available from <http://www.qmmuseum.lee.army/historyweek/sep9-15.htm>; Internet; accessed 8 April 2003.

[12] Department of Defense, DoD Management Policy for Energy Commodities and Related Services, Department of Defense Directive 4140.25 (Washington, D.C.: U.S. Department of Defense, 20 April 1999, 9.

[13] Ibid, 8-9.

[14] The Joint Staff, Joint Bulk Petroleum Doctrine, Joint Pub 4-03 (Washington, D.C.:U.S. Joint Staff, 25 July 1995),II-4.

[15] Ibid.

[16] Colonel Jack Vance <Jack_Vance@hq.dla.mil>, “DESC Vision,” electronic mail message to William Perdue <perduew@lee.army.mil>, 14 January 2003.

[17] Brigadier General Michael A. Vane and Richard J, McCallum, Ph.D, “The Army – A Strategically Responsive Force”, Army – The Magazine of the United States Army, February 2003, 46.

[18] U.S. Army Petroleum Center website; available at <http://usapc.army.mil/general/apcmission.asp>; Internet; accessed 24 March 2003.

[19] U.S. Army Petroleum Center, “Creating the Army Petroleum Center of Excellence,” briefing slides, New Cumberland, PA, U.S. Army Petroleum Center, 6 February 2003.

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