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**THE ARMY PREPOSITION AFLOAT PROGRAM:  
IS IT A PROGRAM WE NEED?**

**BY**

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## ABSTRACT

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TITLE: THE ARMY PREPOSITION AFLOAT PROGRAM: IS IT A PROGRAM WE NEED?

FORMAT: "USAWC Strategy Research Project"

DATE: 20 APR 98      PAGES: 25      CLASSIFICATION: Unclassified

The U.S. Army maintains a set of equipment and supplies afloat on ships in order to support the U.S. Army's force projection concept. The Army War Reserve-3 consists of equipment for a heavy brigade, a composite transportation group, a heavy corps support group, a terminal services company for port operations, and a 15-day supply of most required classes. This paper addresses the evolution of the APA program, describes the current and planned APA program, discusses management of the APA, and looks critically at the value of the program in support of today's power projection Army.

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## INTRODUCTION

...it costs us approximately \$60-70 thousand dollars a day per ship to put it in the afloat prepositioning mode. Additionally, the equipment aboard these ships must be duplicated. In order to train troops, you must have equipment ashore as well as aboard the ships. Currently, we are in fairly decent shape because as we have gone through the drawdown, we have ended up with excess equipment to put on those ships. As we modernize our equipment, we face a bill for duplicate equipment for ashore and afloat prepositioning.

— GEN Robert L. Rutherford<sup>1</sup>

The Army's Pre-positioned Afloat (APA) program is designed to support the U.S. Army's force projection concept. Army War Reserve-3 (AWR-3) equipment and supplies are theoretically available for employment in any theater and across the full range of possible contingencies. AWR-3 provides a CINC with the ability to reinforce forces, in an area where sufficient port capability exists, with a viable heavy armor capability. When combined with the pre-positioned equipment ashore in some theaters, AWR-3 can become a lethal defensive and offensive striking arm for the CINC.

The APA program provides a unique capability to the war-fighting CINC, but is it worth the cost? In this day of flat, or decreasing budgets, can the U.S. Army afford to devote the resources required to maintain and modernize a

heavy brigade of modern equipment with associated supplies floating around the world while many active duty units wait diligently to receive the same modern, upgraded equipment?

This paper addresses these issues and attempts to provide a clear, unemotional assessment to the reader. Where appropriate, recommendations or changes to the current program are provided.

If a conflict broke out in the Persian Gulf today, the Army would try to deploy a full heavy division to the region in about two weeks. This strategy reduces the risk to the early deploying light forces, but is more ambitious than the requirement laid down by the Army Strategic Mobility Program (ASMP) and places significant demands on U.S. strategic mobility. This stated goal actually would require the transportation system to deliver a heavy division to the Persian Gulf in about half the time it did in 1990. The task is even harder today because Army units require more floor space and has gotten heavier over time as it has modernized its equipment. Yet deployments to the Persian Gulf, such as Operation Vigilant Warrior in 1994, suggests that the Army may be able to achieve its goals through pre-positioning.<sup>2</sup>

The United States is in the midst of reducing the size of its military forces. Most types of combat forces have been cut, but the same is not true for strategic mobility forces. The Department of Defense is holding the current airlift capability constant, while expanding the number and capacity of sealift ships.<sup>3</sup>

One reason that the Department of Defense places so much emphasis on strategic lift is because the United States has reduced the number of troops it bases abroad. In 1989, for example, 48 percent of the Army's active-duty forces were based outside the United States. That figure is expected to fall to about 32 percent by 1999.<sup>4</sup> This suggests that the United States must deploy over significant distances to reach regional conflicts. Another reason for the emphasis is the experience of the deployment to the Persian Gulf area in 1990. Although this deployment was vast in scope, deployment of heavy units was slow in occurring and all forces weren't in place for seven months. One final reason for the emphasis on mobility forces has to do with the military build-up of the 1980s. The Department of Defense spent great sums of money to modernize the force with the latest tactical aircraft, combat ships, and armored vehicles during the build-up. Now that most of these



modernization efforts are complete, more money is available to accomplish a significant upgrade to mobility forces.<sup>5</sup>

A capability such as the APA comes at a high price. This price includes the real dollars involved with procuring the massive naval ships necessary to warehouse and move the APA around the world, the investment required by the U.S. Army to obtain and maintain an additional set of equipment, and the organizational expense to provide direction and oversight to a program of this magnitude.

#### **THE EVOLUTION OF THE APA PROGRAM**

The APA got its official start in 1992 with the congressionally mandated mobility requirements study, but the U.S. Army maintained some equipment and supplies afloat prior to this date. The APA has a heritage that dates back to 1980. In his State of the Union address in that year, President Carter established the Persian Gulf region as a vital national interest of the United States of America. President Carter then directed the Department of Defense to establish a Rapid Deployment Joint Task Force (RDJTF) with force projection and sustainment capabilities. He supported this through the inclusion of several RDJTF related expenses in his FY 1981 budget. In the coming years, President Reagan continued to strengthen the RDJTF and

upgraded it to a unified command in 1983 — the United States Central Command (CENTCOM). To support the stated objectives, the U.S. Army identified equipment and supplies to be placed on ships and pre-positioned in the Indian Ocean. In this early Afloat Pre-positioning Force (APF) program, there were only four ships: three loaded primarily with ammunition and one loaded with watercraft and materiel handling.<sup>6</sup> Supplies and equipment were identified for general use and not specific units. By the late 1980s, the expense to maintain these stocks afloat grew to almost \$60 million annually.<sup>7</sup>

Following the Persian Gulf War, Congress directed the Department of Defense to determine its strategic mobility requirements to support the policy of force projection. This resulted in a Mobility Requirements Study (MRS), published in 1993. The MRS identified the investments needed in sealift, airlift, pre-positioned equipment, and transportation infrastructure. One recommendation from the MRS was that an Army heavy brigade and basic elements of a theater Army logistics infrastructure be put aboard ships and pre-positioned in a geographically strategic location.<sup>8</sup> The Army implemented the MRS through the ASMP Bottom-Up Review Update in 1995. The ASMP reinforced the recommendations of the MRS and placed an increased emphasis on pre-positioning to improve U.S. mobility. The Army

also developed a timeline to deploy a five-division contingency force, with associated support structure, to anywhere in the world in 75 days.<sup>9</sup> The standard timeline includes the goal of deploying a heavy brigade, using the APA, in 15 days.

Initially, equipment to support the APA came from units that were inactivated and removed from USAREUR. The 21<sup>st</sup> Theater Army Area Command (TAACOM) was tasked to gather the equipment, prepare it for storage aboard ships, and load it at the port of Antwerp, Belgium.<sup>10</sup> Representatives from Depot System Command inspected all of the equipment at various motor pools throughout Europe. Once the equipment met the required standards, property accountability was transferred to USAMC. The equipment was moved to Antwerp and loaded aboard contracted roll-on-roll-off ships. These ships sailed to Charleston, South Carolina where additional equipment was loaded and stowage plans were finalized.<sup>11</sup> Ammunition basic loads and other supplies were loaded and the ships moved to anchorage in Diego Garcia. The equipment would stay on these contracted ships until the delivery of the first converted LMSR ships in 1997.

#### **CURRENT STATUS OF APA**

The current policy for the APA program is to maintain a heavy brigade set of equipment uploaded on ships, along with

associated combat support and combat service support equipment. Equipment to support the requirements for ship off-load, port, and onward-movement operations is included in the mix.

Sustainment supplies for the heavy brigade and the initial elements of the contingency corps are also included.

The APA equipment set is earmarked for the first heavy brigade to arrive on the ground during contingency operations. As discussed earlier, the goal is for this brigade to be ready to fight not later than C+15. The APA brigade set includes equipment for a 2x2 heavy brigade: two armored and two mechanized battalions plus supporting units.<sup>12</sup> It also includes equipment for a field artillery battalion, a MLRS battery, a heavy engineer battalion, an enhanced support battalion, an air defense artillery battery, a military police company, a signal company, a military intelligence company, a chemical company, and a brigade headquarters and headquarters company (HHC).<sup>13</sup>

The theater-opening units that are part of the APA include a port operations unit, a transportation unit with line haul capability for all classes of supply, a combat surgical hospital (296 beds), water purification, and essential elements to form a class VII reserve in theater. The APA also includes sustainment stocks (less bulk fuel) for the brigade for 15 days plus sustainment for the Army's contingency corps until C+38.<sup>14</sup>

Until last year, all of the equipment was stored aboard eight of the relatively small, contracted Roll-on/Roll-off (RO-RO) ships.<sup>15</sup> The *USNS Gordon*, the first of a series of converted Large Medium-Speed Roll-on/Roll-off (LMSR) ships, was loaded with some of this equipment and supplies at the Naval Weapons Station Charleston, S.C., in February 1997. The *USNS Shughart* and *USNS Yano* were loaded in June and October 1997, respectively. By June 1998, 2 more LMSRs are scheduled to pass through the NWSC and load with APA equipment.<sup>16</sup> The intended end state for the APA fleet is 16 ships: 8 LMSRs, 3 Lighter Aboard Ship (LASH) vessels, 2 container ships, 2 Heavy-Lift Pre-positioned Ship (HLPS) vessels, and 1 auxiliary crane ship.<sup>17</sup>

#### MANAGING THE APA

During peacetime, the APA ships are under the combatant command (COCOM) of the CINC, U.S. Pacific Command, from whom they receive daily operations support, siting, and security. Administrative control resides with the Commander, Military Sealift Command (MSC). Administrative direction, support, management, and accountability of the equipment and supplies aboard the APA ships reside with the U.S. Army Materiel Command (USAMC) and the U.S. Army Medical Materiel Agency (USAMMA). During a crisis, APA operations are conducted under command of a

designated unified combatant commander. The Chairman, Joint Chiefs of Staff will direct supporting CINCs to provide forces and/or support. The APA ships will be under the operational control of a fleet commander or naval component commander during transit to the area of operations (AO).<sup>18</sup>

The most critical area in management of the APA is maintenance and modernization of the equipment. The Combat Equipment Group-Asia (CEG-A), a subordinate of the Army War Reserve Support Command, has its headquarters at the Naval Weapons Station, Charleston, South Carolina. The Army War Reserve Support Command, a subordinate to the Army Materiel Command, has the mission to implement Army power projection and global pre-positioning strategies, to maintain Army war reserves materiel, store and account for the materiel, coordinate the fielding and force modernization actions, and report readiness of Army war reserves stocks.<sup>19</sup>

Once it is determined by Department of the Army (DCSOPS) what the actual authorizations will be for the various units that make up the pre-positioned afloat unit sets, the Logistics Integration Agency (LIA) conducts the shipload planning necessary to meet the requirements for the APA. The LIA determines the best plan for the transloading of equipment from other ships and integration of newly received equipment. The LIA is also

currently conducting planning for the upload and transload to the new Bob Hope class LMSRs starting in FY 99.<sup>20</sup>

The equipment placed aboard the APA ships is prepared by a civilian contract organization working under the control of CEG-A. This contractor, currently Lear Services<sup>21</sup>, runs a full-service maintenance facility at Charleston that prepares equipment to 10/20 standards before loading the equipment aboard ship. The ships are scheduled back for maintenance cycles about every 2½ years. During this ship maintenance cycle, all equipment is downloaded, inspected, and maintained. Any upgrades or modifications that need to be applied are done at this point. Equipment that is scheduled for replacement is disposed of.<sup>22</sup> Equipment for the APA comes from a variety of sources. Much of the original equipment was transferred from war reserve stocks in Europe. Additionally, the program receives equipment in transfer from other Army units, from rebuild facilities such as Anniston Army Depot, and straight from manufacturers.<sup>23</sup>

While the ships are deployed at sea, civilian contractors maintain an eight-man surveillance team aboard. These teams are responsible for starting and checking over the equipment onboard. All powered equipment, less the M1 Abrams tanks, is exercised at least every 180 days. The teams are capable of performing limited maintenance onboard the ship.<sup>24</sup>

One of the vital ingredients of the APA program is the battle books that are produced for each ship. They provide a wealth of information that not only includes an overview of the APA program, but detailed data for the specific ship. The battle book lists the units whose equipment is stored on the ship, the equipment authorized for these units, and what equipment, if any, is not on board at the time of publication. Additionally, each battle book contains a detailed, foldout stowage plan for the ship that describes where all of the equipment and containers are stowed. The battle book also describes the basic loads of ammunition down to Department of Defense Identification Code, quantity, and container number.<sup>25</sup>

#### **ANALYSIS**

The APA equipment is intended to give the Army the capability to use a heavy brigade in early entry forces as part of a crisis response. The soldiers of this heavy brigade are expected to arrive in the theater via air transport<sup>26</sup>, draw the APA equipment and be operationally ready within 15 days of the initial decision to deploy. The deployment standards discussed earlier envision a light or airborne brigade to be inserted into the theater by C+4, with the remainder of the division closing by C+12. Of course, this force would be transported almost



exclusively by air. The airframes are not available to get a heavy brigade into a theater quickly. While the light forces certainly present a credible initial force, heavy assets in the area of operations will increase the lethality and survivability of early entry forces. Heavy forces also provide the first real offensive capability for a JTF or combined force commander.

Given these facts, equipment needs to be available for a heavy brigade that will preclude a long wait to receive primary combat equipment shipped from home station. This can be accomplished in two ways. Equipment can be pre-positioned ashore in locations that are believed to be in close proximity to high threat contingency areas. Alternately, equipment can be placed aboard ships and pre-positioned at various locations around the world. The Report of the Quadrennial Defense Review calls for a complementary program of land-based and afloat pre-positioned equipment and supplies.

The October 1994 *Operation Vigilant Warrior* validated the need for pre-positioned equipment and demonstrated that both land-based and afloat equipment in the Persian Gulf are essential ingredients for establishing a credible ground force quickly. Given that we can not afford to have piles of equipment all around the world, we must pick carefully when deciding where to place land-based pre-positioned equipment. As General Rutherford

stated in the opening epigraph, you must guess correctly on where it will be needed and accept that the equipment is particularly vulnerable to loss. It is also increasingly difficult to obtain basing rights with foreign states to construct these pre-positioned sites. In my opinion, we have gone about as far as possible with land-based pre-positioning.

APA takes us that next step, but there are drawbacks to a policy of pre-positioned afloat equipment that must be addressed. It costs from \$60-70 thousand dollars a day to operate the APA fleet.<sup>27</sup> Are we prepared to invest that much money to keep one brigade's equipment available on the world's oceans? Equipment on board a ship is extremely hard to maintain and modernize. As with any pre-positioned equipment, a duplicate set is maintained and this is certainly costly in itself. The equipment set must be maintained with equipment as modern as that currently fielded to potential deploying units. When the time comes to modernize major combat systems, pre-positioned equipment sets must be planned into the priority list at the same level as the units that will potentially use this equipment. It is apparent that modernizing pre-positioned equipment sets in concert with high priority units will further delay the modernization of other lower priority units. While this is unfortunate, it is necessary to ensure that units will receive equipment from the APA program

that they are trained to use and is in a combat ready status. The APA equipment sets must be funded and filled to the same standard as any Force Package-1 unit. The Army appears to be committed to this effort.<sup>28</sup>

### CONCLUSIONS

The threat of global war has diminished significantly over the last decade. The United States continues to reduce the size of its standing military forces and the number of soldiers, sailors, airmen, and marines permanently stationed at overseas locations. The defense budget is much lower than during the 1980s. Throughout the defense establishment, leaders look for ways to maintain the readiness of the remaining forces, while preparing for the future with the development of critical, new weapon systems. These two keystone objectives must be accomplished while simultaneously accomplishing the military missions undertaken as part of the United States' policy of global engagement. There are numerous ongoing requirements vying for the two primary assets the U.S. military has - money and time.

Meanwhile, the United States has to be prepared to face an aggressor anywhere in the world and, today, do it primarily through force projection. The days of large numbers of units

forward positioned throughout the world at various trouble spots, poised to immediately react are over. This raises the critical question of how to best prepare for this daunting mission. The strategy laid down in the current National Security Strategy and National Military Strategy hinges on the capability of the United States to project large forces around the world in a timely manner. Strategic airlift can not meet the requirement to get adequate heavy forces into a theater in time to assist in halting an aggressor state in preparation for a build-up and subsequent counterattack. Heavy surge sea-lift can easily pick-up and move heavy units to a threatened area, but require too much transit time to be the sole strategy for moving heavy forces in time. The United States can only meet the required timelines when CONUS-based heavy units are flown into a theater and joined with pre-positioned equipment. Only the APA program provides the ultimate flexibility to respond quickly to a variety of world trouble spots.

The APA is a costly endeavor. The new LMSR ships are expensive. However, the United States can not afford the possible alternatives to meet our current stated strategy. There are only two - go back to a forward based military with most active units stationed outside the United States, or buy significantly more, and more capable, strategic airlift. Neither

of these options is practical. Pre-positioned equipment sets, and especially pre-positioned afloat sets, are the best answer.

The pre-positioned afloat equipment sets provide the U.S. Army with a strong capability to meet the requirements of a force projection military. Given the stated planning requirement for a two near-simultaneous Major Theater Wars (MTW) scenario, the APA provides unparalleled flexibility to the U.S. Army. The capability to have an operational heavy brigade ashore in a hostile environment in two weeks is a capability we need. The defense establishment must continue to support the U.S. Army's APA program with adequate funding for both the required strategic sea lift platforms and the duplicate, modernized equipment sets that will be loaded on these ships. The ability of the United States to influence world events may very possibly hinge on the viability of this program.

Word Count: 4311

## GLOSSARY

APA	Army Pre-positioned Afloat
ASCC	Army service component commander
ASL	authorized stockage list
ASMP	Army Strategic Mobility Program
AWR	Army war reserve
AWRPS	Army reserve pre-positioned sets
CEG-A	Combat Equipment Group-Asia
CINC	commander in chief
CINCTRANS	CINC, Transportation Command
CJCS	Chairman, Joint Chiefs of Staff
CMMC	corps materiel management center
CONUS	continental United States
COSCOM	corps support command
COSIS	care of supplies in storage
CSB	corps support battalion
CSG	corps support group
CSS	combat service support
CTG	composite transportation group
FOS	follow-on sustainment
FSS	fast sealift ships
HLPS	heavy lift pre-positioned ships

JFC	joint force commander
JLOTS	joint logistics over the shore
JTF	joint task force
LASH	lighter aboard ship
LIA	Logistics Integration Agency
LMSR	large medium-speed roll-on/roll-off
LSE	logistics support element
MCC	movement control center
MES	medical equipment sets
MHE	materials handling equipment
MOU	memorandum of understanding
MRS	Mobility Requirement Study
MSC	Military Sealift Command
MTW	major theater war
MV	motor vessel
PLL	prescribed load list
PMCS	preventive maintenance checks and services
POD	port of debarkation
POE	port of embarkation
POL	petroleum, oil and lubricants
PSA	port support activity
RBE	remain-behind equipment
RO/RO	roll-on/roll-off

**RSL** recommended stockage list

**SDP** ship discharge party

**SLRP** survey, liaison, reconnaissance party

**SOP** standing operating procedures

**TAT** to accompany troops

**TDA** table of distribution and allowances

**TEU** 20-foot-equivalent units

**TOE** table of organization and equipment

**TOFM** theater-opening force module

**TPFDD** time-phased forces deployment data

**USAMC** US Army Materiel Command

**USAMCCOM** US Army Armament, Munitions, and Chemical Command

**USAMMA** US Army Medical Material Agency

**USTRANSCOM** US Transportation Command





## ENDNOTES

<sup>1</sup> Robert L. Rutherford, "Lift-Credible Power Projection," Speech, Los Angeles AFA Symposium, 27 October 1995.

<sup>2</sup> "Moving U.S. Forces: Options for Strategic Mobility." Available from <<http://www.cbo.gov>>. Internet. Accessed 18 January 1998, 1-3.

<sup>3</sup> Ibid., 1-4.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid.

<sup>6</sup> Stephen P. Richardson, "Army Afloat Prepositioning Maintenance Operation," Marine Corps Gazette (September 1994): 54.

<sup>7</sup> Kleimon, Robert J. "Army Afloat Prepositioning: Will It Work?" USAWC Military Studies Program, Carlisle Barracks, PA, 31 March 1989, 15.

<sup>8</sup> Robert A. Chilcoat and David S. Henderson, "Army Prepositioning Afloat," Joint Force Quarterly 4 (Spring 1994): 52.

<sup>9</sup> "Army Missions and Performance." Available from <<http://134.11.192.15/pubs/afr/fy94/>>; Internet; accessed 25 September 1997.

<sup>10</sup> Perry, Kathy J. "Logistics Support of Prepo Afloat." Army Logistician, January-February 1995, 25.

<sup>11</sup> Ibid., 27.

<sup>12</sup> Department of the Army, Army Pre-Positioned Afloat Operations, Field Manual 100-17-1 (Washington, D.C.: U.S. Department of the Army, 27 July 1996), 1-2.

<sup>13</sup> Lawrence J. Wark, "Army Reserve-3: Pre-positioned Equipment Afloat," Infantry 86 (March-April 1996): 7.

<sup>14</sup> Chilcoat and Henderson, 54.

<sup>15</sup> Wark, 7.

<sup>16</sup> Gil High, "Army Sealift Moves Forward," Soldiers (April 1997): 9.

<sup>17</sup> FM 100-17-1, C-1.

<sup>18</sup> Ibid., 2-0.

<sup>19</sup> "Army War Reserve Support Command." Available from <<http://147.217.15.5/sioec-co/index.htm>>. Internet. Accessed 17 January 1998.

<sup>20</sup> "AMC Logistics Integration Agency." Available from <[http://www.amc.army.mil/commands\\_activities/commands\\_activities.htm](http://www.amc.army.mil/commands_activities/commands_activities.htm)>. Internet. Accessed 17 January 1998.

<sup>21</sup> Granger, Dale, Commander Combat Equipment Group-Asia. Telephone interview by author, 18 January 1998.

<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

<sup>24</sup> Ibid.

<sup>25</sup> "Army War Reserve -3 & -5." Available from  
<<http://call.army.mil/call/newsletters/97-7/rsochp4.htm>>. Internet.  
Accessed 12 January 1998.

<sup>26</sup> Called the Fly-In Echelon (FIE).

<sup>27</sup> Rutherford.

<sup>28</sup> Based on discussion with LTC Bob Toguchi, 20 February 1998,  
at the US Army War College. LTC Toguchi's office in the  
Department of the Army, Deputy Chief of Staff, Operations, is  
charged with ensuring that the pre-positioned afloat unit sets  
are entered into the DA Master Priority List (DAMPL) at the same  
level as potential user units from the 3<sup>rd</sup> Infantry Division  
(Mech) and the 1<sup>st</sup> Cavalry Division.

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