Army Prepositioned Stocks: Indispensable to America’s Global Force-projection Capability

Introduction

As the Army looks to the future, the coming decades are likely to be ones of persistent conflict—protracted confrontation among state, non-state and individual actors who use violence to achieve their political and ideological ends. In this era, the Army will continue to have a central, enduring role in implementing the National Security Strategy, resulting in high demand for Army forces and capabilities. The Army’s senior leadership, responding to this strategic environment and the National Security Strategy that flows from it, is building an expeditionary- and campaign-quality force capable of deploying rapidly into any operational environment, conducting operations with modular forces anywhere in the world and sustaining operations as long as necessary to accomplish the mission.

In this uncertain, complex and ambiguous world, the Army’s expeditionary capability relies heavily on prepositioned equipment and materiel, ready for issue to Soldiers. The Army Prepositioned Stocks (APS) program supports the National Military Strategy by strategically prepositioning vital war stocks afloat and ashore worldwide, thereby reducing the deployment response times of the modular, expeditionary Army. With the National Defense Strategy dictating a greater proportion of troops home-based in the United States, APS abroad and afloat are indispensable to America’s global force-projection capability.

The requirement for APS is compelling. Resetting equipment for future deployments and other contingencies and transforming the force to improve the Army’s ability to meet the needs of the combatant commanders are imperatives for mitigating near-term risk. Equally pressing is the need for substantially rebuilding APS, which has been heavily employed and depleted over the past five years. Balancing risk and affordability is key to implementing a successful APS strategy. In an era of high cost, limited resources and competing requirements, full funding of APS must not be overlooked.
What is APS?

The APS program consists of prepositioned unit sets of equipment, operational project stocks, Army War Reserve Sustainment Stocks and War Reserve Stocks for Allies.

Prepositioned unit sets consist of equipment configured into mission-driven sets and positioned ashore and afloat to reduce deployment response times.

Operational project (OPROJ) stocks are materiel above unit sets tailored to key strategic capabilities essential to the Army’s ability to execute its force projection strategy. OPROJ stocks are designed to support one or more Army operations, plans or contingencies.

Army War Reserve Sustainment Stocks are procured by the Army in peacetime to meet increased wartime requirements. They consist of major and secondary items to sustain operations by replacing combat losses and supplies consumed. Army War Reserve Sustainment Stocks are prepositioned in or near a theater of operations to be used until wartime production and supply lines can be established.
War Reserve Stocks for Allies (WRSA) ensures United States preparedness to assist designated allies in case of war. WRSA assets are prepositioned in the appropriate theater and owned and financed by the United States.

APS Locations. There are five Army prepositioned sets:

- APS-1 (in the continental United States, or CONUS) has operational project stocks, sustainment stocks and ammunition.
- APS-2 stocks (in Europe) include prepositioned sets, operational project stocks, ammunition and WRSA.
- The APS-3 (Afloat) stocks aboard ships have prepositioned sets, ammunition, operational project stocks and sustainment stocks.
- APS-4 (Northeast Asia) has prepositioned sets, operational project stocks, sustainment stocks, ammunition and watercraft.
- APS-5 stocks (in Southwest Asia) include prepositioned sets, operational project stocks, sustainment stocks, ammunition and watercraft. This set has been heavily deployed and is in continual operation.

Army Materiel Command manages this Department of the Army mission through its subordinate, Army Sustainment Command (ASC), which has day-to-day responsibility for execution.

Working through its global network of Army Field Support Brigades (AFSBs) and battalions, ASC stores, maintains, issues and resets APS equipment. Its AFSBs coordinate the reception and issue of APS units and secondary items to the operation during the theater-opening phase.

Past and Present Successes

As the Army transforms to a modular, expeditionary force, APS is likewise adapting to maintain its crucial role. All APS stocks are configured as standard brigade combat teams. Equipping early-arriving combat forces with matching APS equipment is critical to preserving the receiving unit’s fighting capabilities and minimizing training and sustainment challenges.

The APS program works—the vanguard for Operation Iraqi Freedom in 2003 was predominantly equipped with APS materiel. The Army issued three APS brigade sets and supporting equipment (218 unit sets) to the 3d Infantry Division, validating a concept born in the Cold War. It also issued operational project sets such as the Force Provider modules that continue to provide base support for both Operation Enduring Freedom and Operation Iraqi Freedom.

The Army reset the APS capabilities used in Operation Iraqi Freedom (OIF) and was able to use those sets again to support Operation Iraqi Freedom force increases and acceleration of brigade combat team deployments.

Based on recent demands related to these operations, the Army has improved its methodology for determining War Reserve secondary items. The Army invested $982 million in Fiscal Year 2008 to synchronize War Reserve secondary items with requirements.

Throughout the APS enterprise, commercial practices such as Lean Six Sigma and value-stream mapping (a means to capture the sequence of activities in a process, then plot economies) are improving readiness and reducing maintenance expenses. In Korea, applying modern practices dramatically raised the prepositioned brigade set’s maintenance readiness while reducing sustainment costs and also reconfiguring to the new modular heavy brigade
combat team design to support that combatant commander’s needs.

In 2008, the safe download, maintenance cycle and upload of 1,800 containers of APS ammunition from MV *Page* took place at Military Ocean Terminal at Sunny Point, North Carolina. MV *Page* carries 99 percent of its required APS ammunition, while its sister ship, MV *Carter*, is at over 90 percent of its required load. In what has been a close-in fight against terrorist enemies, well-stocked prepositioned ammunition is crucial to success.

A little-known but vital component of APS—watercraft—garnered attention in 2008. The APS watercraft program, which includes Landing Craft – Utility (LCU), Medium Landing Craft, large and small tugs, warping tugs and modular causeway capability, successfully completed Pacific Reach 08, providing reserve component units an opportunity to train on vessels at the APS-4 site in Yokohama, Japan. The exercise tested and validated the hand-off process. The condition and responsiveness of the entire APS watercraft fleet continues to improve with the implementation of a new maintenance strategy and as the command, control, communications, computers and intelligence (C4I) navigational suites are upgraded on the LCU 2000s. Both APS watercraft sites initiated long-term maintenance contracts and developed new initiatives in storage and inventory procedures, sustaining continuous improvement aimed at efficient and effective use of assets for contingency and humanitarian operations.

**Challenges**

There are shortcomings in present-day APS. At the outset of current operations in Southwest Asia, plans called for rapidly reconstituting APS as combat units left the field. Subsequent events delayed that plan, requiring APS reconstitution on the fly. After more than five years supporting combat operations, global APS is only partly rebuilt.

Significant equipment shortages exist in APS, including material handling equipment, logistics automation equipment, port-opening materiel, special shelters, communications gear, up-armored High-mobility Multipurpose Wheeled Vehicles (HMMWVs) and crew-served weapons.

To fill gaps, APS utilizes substitute items to fill shortages of several varieties of armored vehicles. Filling all shortages of authorized equipment in current APS unit sets (after sourcing of all known available equipment) could cost millions.

Equipment modernization—a major issue—is also expensive. A September 2005 Government Accountability Office report confirms the need, noting, “Billions of dollars in future investments will be needed to recapitalize equipment and develop future [APS] programs.”

While the Army has elevated APS priority for new equipment, outdated materiel (such as M939-series trucks) persists, straining the supply chain by demanding parts and services going out of the inventory. Dwindling demand across the Army leads to higher costs and longer lead times, further degrading APS readiness. These issues do not disappear once APS leaves the warehouses and ships. Maintaining operational readiness after issue to fighting units presents challenges as unfamiliar equipment and supply issues can negatively impact operational capability.

New equipment is sorely needed to replace that which was issued over five years ago and has been
cycled through reset, often more than once. Much of the materiel has become what is now known as theater-provided equipment (TPE), remaining in place and handed over to succeeding deployed units.

By design, prepositioned equipment and materiel are the first to fight. Outdated, outmoded and nonstandard APS equipment is a hazard on at least two counts: it is increasingly difficult and expensive to maintain; and, more important, it puts Soldiers at unnecessary risk by delivering less-capable equipment than they have been trained to take into battle.

The logistics automation backbone for APS is the Army War Reserve Deployment System (AWRDS), which interfaces with various Standard Army Management Information Systems (STAMIS). End-to-end APS visibility is a significant challenge and will remain so until logistics automation modernization efforts are complete. As an interim, the Army is mitigating this challenge via locally developed solutions—for example, the APS Common Operating Picture (COP), which provides a real-time readiness picture of APS.

It is not just the age and condition of APS equipment and cumbersome systems at issue. The salient issue is whether APS possesses the right equipment in sufficient numbers, properly sited and well-maintained.

The Army Force Generation (ARFORGEN) process is underway and building momentum. Key to successful ARFORGEN outcome is matching materiel to missions and ensuring continuity throughout the process. Training with one type of equipment, then deploying and receiving another type from APS, handicaps Soldier effectiveness and puts the mission at risk.

The Way Ahead

The Army developed a new APS strategy to configure and position campaign-quality expeditionary capabilities to meet the emerging 21st century strategic realities. APS Strategy 2015 positions equipment for land-based, modular heavy brigade combat teams afloat and for modular infantry brigade combat teams at strategic locations worldwide.

These sets are augmented with essential combat support/combat service support unit sets, medical support sets, watercraft, operational project sets, munitions and sustainment stocks to support operations in austere environments. In addition, the employment concepts for APS are broadened to include support to emerging combatant commander rotational unit concepts and lesser contingency operations. Finally, APS equipment will continue to be modernized to match unit home station equipment to reduce training requirements upon deployment. The implementation of APS Strategy 2015 will provide combatant commanders with responsive capabilities to execute lesser contingencies and theater security cooperation activities, while reducing lift requirements in the early phases of military operations.

Equipment: The Army’s limited APS equipment modernization plan calls for deliveries of the M1A1 Abrams Integrated Management (AIM) Situational Awareness (SA), M2/3A2 Operation Desert Storm – Engineer (ODS-E) Bradley Fighting Vehicles and M7 Bradley Fire Support Team (BFIST) in FY 2011. Up-armored HMMWs are also expected for all units except APS-5, and APS combat support equipment in Europe, Korea and Afloat is in line for the latest protective armor.

Systems: For the APS strategy to be successful, logistics systems modernization and integration must occur. Including APS requirements in the development and fielding of Logistics Modernization Program (LMP, the Army’s comprehensive business transformation and technological modernization
effort) and Global Combat Support System-Army (GCSS-A, the retail system for delivery to Soldiers) will yield universal asset visibility and link national and tactical levels.

Facilities

APS-2 (Europe)

New storage and maintenance facilities have recently been constructed at Camp Darby/Leghorn Army Depot (Livorno, Italy), and a project to improve Class V facilities is also underway. Combining new and existing facilities provides the capability and capacity to support the 2015 requirements. An additional $4.4 million is required to purchase new equipment and install a rail loading dock.

APS-3 (Afloat)

Charleston, South Carolina, is the site of a government-owned, contractor-operated (GOCO) facility where the contractor provides Technical Manual-10/-20 (TM-10/-20) maintenance services for all prepositioned stocks except Class V (ammunition).

The Charleston Naval Weapons station provides ammunition storage and supply capability for handling the ammunition loaded on the infantry brigade combat team (IBCT) and Soldier support battalion (SSB) ships.

Only two new maintenance buildings—providing less than 50 percent of required maintenance capability—have been added to aging Navy structures designed to support ballistic missiles. Additional resources are required to modernize and maintain the infrastructure.

Modernization plans include a tactical-vehicle maintenance and paint/blast complex and a supply operations building, at a cost of $18 million and $34 million, respectively. Also planned are a medical maintenance/supply facility, and an administration facility with an estimated cost of $4 million each. Controlled-humidity warehouse capacity (at an estimated total cost of $25 million) is required to keep materiel in a high state of readiness.

APS-4 (Northeast Asia)

Korea – A new $9.4 million maintenance facility (16 workbays plus offices) at Camp Carroll (Waegwan), funded by the Republic of Korea as a Logistics Cost Share project, became operational in February 2008. In planning since 2002, a $35 million controlled-humidity vehicle storage warehouse project is also host-nation funded and will begin construction in early 2009. Once completed, the 350,000-square foot warehouse will be the largest of its kind in the Army. Replacements of obsolete general-purpose warehouses and improvements to rail and container handling yards are in development, but severe site space limitations will require innovative designs.

Japan – Indoor (general-purpose warehouses) and outdoor (hardstand) storage spaces at Sagami General Depot need considerable improvement; more than half of the warehousing is obsolete beyond repair and none of the hardstands are paved. Projects in development include a pair of modern container yards, improved roadways and controlled-humidity warehouses, with a total estimated cost in excess of $100 million. The APS-4 watercraft mission at Yokohama North Dock has functional buildings, but requires upgrades to the load-rating of the dockside paving, dredging to accommodate larger vessels, and a modern electro-mechanical boat-lift/storage system.
APS-5 (Southwest Asia)

Qatar facilities, located at Camp As Saliyah, were completed in 1997 and include warehouses and maintenance shops. At the outset of Operation Iraqi Freedom, 17 warehouses were diverted from APS storage to other Department of the Army priority missions. Some diverted warehouses may be returned to APS use in the future. Twelve soft-skinned warehouse extensions were installed in 2005 to provide additional interim APS storage space.

Additional storage and maintenance facilities are required in Qatar for the APS-5 mission: six controlled-humidity warehouses to store equipment and a 10-bay workshop primarily to maintain operational projects. Total estimated cost is well over $40 million. Other Military Construction, Army (MCA)-size projects are being considered to improve the storage and handling of containers, provide added limited-service maintenance shades and improve the vehicle paint facility.

At Camp Arifjan, Kuwait, three general-purpose warehouses and nine controlled-humidity warehouses have been permanently or temporarily converted to other high-priority uses and are not available for the APS storage mission in the foreseeable future.

To support the APS 2015 plan, 16 additional maintenance bays and nearly a million square feet of controlled-humidity storage warehouses are required—at an estimated cost of more than $110 million.

APS-5 watercraft storage sites, located on Kuwait Naval Base (KNB) and Camp Arifjan, Kuwait, require $10 million in additional storage and maintenance facilities. At Camp Arifjan, storage site for modular causeway materials, improved hardstand, workshop and controlled-humidity warehousing will cost $7 million, while permanent shades over the on-land (dry) storage lots at Kuwait Naval Base will cost $3 million.

What Is Needed

An enormous effort is required to rebuild the Army’s prepositioned stocks while implementing a strategy to move from supplemental funding to base funding.

For APS, the strategic considerations are:

- overcoming current shortfalls in equipment;
- balancing support to both steady state and surge operations;
- access to debarkation points;
- emerging combatant commander requirements and evolving missions (e.g., rotational unit strategies);
- integration with lift capabilities;
- force projection infrastructure; and
- modernization.

Obsolescent and outdated APS equipment will not serve the National Military Strategy. APS must be planned and fully funded as an integral part of Army transformation and modernization. As new equipment comes into the inventory, the proper proportion must be allocated to APS. The family of Future Combat
Systems holds great promise for the Army—but only if it is in the right place, at the right time and in the right quantities and condition.

Conclusion

The paramount APS issue is, and always will be, “fightability.” The APS promise to Soldiers and their leaders is that the equipment they receive at the forward edge is the most modern and best-maintained available. The Army’s newly revised APS strategy—APS 2015—requires substantial resource allocation. APS remains a critical element of the Army Power Projection Program and supports operations in the global war on terrorism—making it a high priority for resource allocation.

Implementing the APS Strategy will transform the capability, just as the Army is transforming. Lessons learned from the 2003 issue of APS equipment to troops in the vanguard of Operation Iraqi Freedom will feature prominently, as will examination of the enterprise model.

The APS configuration provides both strategic and operational flexibility and improves combatant commanders’ ability to respond to the full range of contingencies. In addition to being a cornerstone for Army power projection with brigade sets prepositioned worldwide, operational project sets in APS will continue to provide specialized capabilities, such as inland petroleum distribution systems, Force Provider base camp modules, special operations forces support, bridging equipment and more. Prepositioned sustainment supplies provide deploying units with crucial materiel support until lines of communication are opened.

APS must be synchronized with all factors bearing on future operations. By contributing to a balanced suite of capabilities, force projection enabled by APS presents an enemy with multiple challenges—and gives Soldiers a decisive edge. Support for the APS transformation strategy is essential to achieve the full capability of the modular expeditionary Army.

“10-30-30”

In 2003, in a memorandum titled “Operational Availability Action Items,” the Secretary of Defense established stringent deployment objectives. Department of Defense (DoD) Joint Swiftness Objectives mandated capability to deploy to a distant theater in 10 days, defeat an enemy in 30 days, and be ready for an additional fight within another 30 days, thus the “10-30-30” description.

To meet the 10-30-30 goals, the Army requires future APS to satisfy the strategic requirements outlined below:

- support forward presence requirements of the NMS and regional combatant commander;
- support the full range of military operations—swiftly defeat the efforts of aggressors, win decisively and conduct lesser contingency operations in all relevant geographical regions—as a part of joint and combined expeditionary forces;
- enable rapid force buildup, consistent with demanding SDTE timelines. The proposed Army deployment metrics include deploying and employing a brigade combat team (BCT) in four to seven days, deploying and employing three BCTs/like capability in 10 days, deploying nine BCTs/like capability in 20 days and deploying 15 BCTs/like capability in 30 days;
- facilitate early employment of combat and logistics capabilities with minimal equipment reinforcement from the continental United States;
- incorporate and facilitate transformation capabilities and effects—e.g., support the Stryker Brigade Combat Teams (SBCT), Future Combat Systems (FCS) and the Army modular force; and
- leverage basing initiatives identified in the Integrated Global Presence and Basing Strategy (IGPBS).