There is no indication that the future will see a decrease in fuel prices, so organizations must increase fuel economy.

contemporary issues

Analysis: KC-135 Lean Fueling Operations Meeting the Army's Equipping Challenge

Contemporary Issues in this edition presents two articles: "Analysis: KC-135 Lean Fueling Operations" and "Meeting the Army's Equipping Challenge."

In "Analysis: KC-135 Lean Fueling Operations" Major Bruce P. Heseltine, USAF, outlines how the use of lean and just-in-time fueling procedures, coupled with the development of a tanker dispatch system, would enable the KC-135 community to markedly improve mission planning using a fixed targeted shutdown fuel quantity. Under this approach, aircraft would be loaded with only the fuel needed to accomplish a given mission, while significantly reducing unnecessary ferrying of fuel. The net result would be a decrease in the amount of fuel required (or purchased) each year. Further, the concepts and findings addressed in this article could be tailored to various Air Mobility Command (AMC) aircraft mission processes. AMC is the largest consumer of fuel in the DoD, and flew over 142,000 sorties in 2005. If $200 were saved on every sortie the command could save over $28M per year. While $28M is a significant amount of money, initial indications show the possibility of savings in excess of $160M per year through the application of major fuel efficiency initiatives across the command.

Colonel Jim Campbell, USA, in "Meeting the Army's Equipping Challenge" explores the United States Army's current equipping strategy, and suggests the modifications needed to help create conditions and metrics to assess current equipment requirements as well as requirements for the future. Campbell argues that first, it would be beneficial for the Army to modify readiness assessments of equipment required for mission accomplishment, and to develop metrics that more accurately reflect actual mission essential needs (including unit status report methodology). Second, a modified program similar to the Army Prepositioned Stock program is needed that is capable of rotational operations to facilitate the use of prepositioned equipment in current and future contingency operations. Finally, increased budgetary allocations specifically tied to achieving equipping strategies with improved acquisition programs and increased efficiency of the US industrial base will potentially increase the amount of military specific equipment available for use by soldiers. Alone, these measures will have a minor impact on the current situation, but taken collectively they provide a potential solution to overcome the current equipping dilemma facing the Army.

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Meeting the Army's Equipping Challenge

Jim Campbell, Colonel, USA

Introduction

Today's Army faces different challenges than it did in previous years. Given the Army's high operating tempo (OPTEMPO), its transformation tomodular design, and potential contingency requirements, the Army must ask itself if it is ready to meet its equipping goals for today and for the future. This article explores the United States Army's current equipping strategy, and suggests the modifications needed to help create conditions and metrics to assess current equipment requirements as well as requirements for the future. First, it would be beneficial for the Army to modify readiness assessments of equipment required for mission accomplishment, and to develop metrics that more accurately reflect actual mission essential needs (including unit status report [USR] methodology). Second, a modified program similar to the Army Prepositioned Stock (APS) program is needed that is capable of rotational operations to facilitate the use of prepositioned equipment in current and future contingency operations. Finally, increased budgetary allocations specifically tied to achieving equipping strategies with improved acquisition programs and increased efficiency of the US industrial base will potentially increase the amount of military specific equipment available for use by soldiers. Alone, these measures will have a minor impact on the current situation, but taken collectively they provide a potential solution to overcome the current equipping dilemma facing the Army.

The recently adopted Army Force Generation (ARFORGEN) model combines equipment transfers, new production, and a *validated* reduction of modified table of equipment (MTOE) authorizations to meet readiness and mission requirements. The Army is not meeting its equipping requirements with new equipment production or procurement. Therefore, a large percentage of equipment is being transferred between units as they cycle through deployment windows. This equipment shuffle strategy does not equal sustained readiness. Stripping units of MTOE equipment during deployments to fill shortages in another unit merely delays fixing the problem. It does not leave commanders or soldiers with the confidence that they will have equipment upon redeployment to train and improve unit readiness for the next mission. Likewise, a reduction of authorized equipment should not be the optimal solution. An arbitrary percentage of fill does not provide equipment critical for readiness, and further diminishes a commander's confidence that he will get the right equipment in sufficient quantities required for training or mission accomplishment. Nevertheless, these initiatives may be the only way the Army can continue this period of high OPTEMPO until more funding and quicker procurement capabilities are available.

We need to change the way the Army approaches readiness. A focused effort to determine unit requirements; specifically, what is needed to achieve readiness and training for contingency operations and deployments is the first step in this process. Army MTOEs are designed to provide the

equipment and personnel required to accomplish a broad scope of assigned missions. These authorization documents are focused on large scale operations conducted continuously over a 24-hour period. They include the operational, logistical and administrative tools necessary to sustain full scale combat operations. While absolutely essential for forced entry and initial combat operations, they may not be appropriate for other types of missions, such as humanitarian, peace enforcement, other types of stability operations and the current rotational environment to support the Global War on Terror (GWOT) in Southwest Asia. Taking a new approach in determining what a unit requires to train and prepare for the most likely deployment scenarios will allow the Army to reallocate equipment and achieve efficiencies without taking risk in operational capability and readiness.

	AOE	Modular MTOE
.50 Cal MG	277	865
M240B MG	372	563
TOW	180	112
LRAS	0	48
105MM How	54	64
120MM Mortar	0	48
HMMWV	1,862	3,349
Ambulance	61	178
FMTV	843	1,343
HEMTT	214	323
LHS	0	150
Apache	72	48
Kiowa Warrior	32	60
Chinook	48	24
TUAV	0	4

Table 1. 101st Airborne Division Equipment Changes with Modular Design

Article Acronyms

AERC – Army Equipping and Reuse Conference
AFSC – Army Field Support Command
AMC - Army Materiel Command
APS – Army Prepositioned Stock
AR – Army Requisition
ARFORGEN – Army Force Generation
CFLCC – Combined Force Land Component Command
CONUS – Continental United States
CRS – Congressional Research Service
DoD – Department of Defense
FOB – Forward Operating Base
GDP – Gross Domestic Product
GAO – General Accountability Office
GWOT – Global War on Terror
JRAC – Joint Rapid Acquisition Cell
LBE – Left Behind Equipment
MEEL – Mission Essential Equipment Lists
MTOE – Modified Table of Equipment
OEF – Operation Enduring Freedom
OIF – Operation Iraqi Freedom
OPTEMPO – Operating Tempo
PCTEF – Percent Effective
QDR – Quadrennial Defense Review
REF – Rapid Equipping Force
RFI – Rapid Fielding Initiative
USR – Unit Status Report

Another potential solution to the Army's equipping challenge is a modified and refocused effort to use prepositioned resources. A majority of the original APS assets for Southwest Asia were consumed by initial operations in Iraq. While the equipment in the APS fleet was used to support subsequent deployments and operations, there have been recent efforts to rebuild the APS fleet in Southwest Asia to prepare for future requirements. A program similar to APS could be integrated to support the current operations in Afghanistan and Iraq to provide a baseline equipment pool for use in sector as well as to reduce recurring equipping requirements for units preparing to deploy and to eliminate the strain on deploying forces to move equipment via strategic lift.

The third recommendation to improve the Army's equipping strategy is to increase funding and improve the production and procurement of materiel. The fiscal year (FY) 2007 Army budget estimation is $111.8B with $24.7B for procurement.[1] It is questionable whether this budget allocation for equipment procurement is enough to meet the full spectrum of demands of the Army. While we cannot afford to decrease the amount of money allocated to support current combat operations, we also cannot continue to neglect equipping forces to prepare them for deployment to Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF), force development and transformation, or other contingency foci.

The Army's challenge to fully outfit its units to facilitate readiness and training for deployment and contingency operations has been exacerbated by fighting a war while conducting major force transformation. The ARFORGEN process does provide a temporary solution, but also delays fixing the problem. A more aggressive equipping strategy is necessary in the short term to ensure the Army can meet the current and other unforeseen challenges it will face. Equipping the force is essential to set the conditions for commanders and soldiers to prepare for these missions. While no guarantee for success, the recommendations offered in this article can provide potential solutions to overcome the current equipping challenge in the Army.

The Current Environment: The Army Equipping Strategy

The 2006 Quadrennial Defense Review (QDR) identifies the requirement to reorganize and equip 281 Army modular brigades (active and reserve component).[2] At varying stages of this transformation process, units are finding that the new design of their organizations requires more equipment than previously authorized and, in many cases, new technology to improve lethality and battle space dominance. To illustrate this point, the 101st Airborne Division's equipment requirements increased up to four times or more for certain end items in 2004 when units began moving toward the modular design (see Table 1 for an example of equipment changes).

The Army equipping strategy, as defined in the 2006 Army Posture Statement, identifies maintaining funding support for current equipment modernization programs as one of the underlying principles to achieve modularity and remain relevant for future requirements.[3] While this measure addresses modernization, it does not specifically address current shortfalls due to a rise in requirements from OIF and OEF, or the addition

of equipment based on the modular design. The Army does address these equipping requirements by stating that full funding of the 2007 Presidential Budget is required to support wartime demands and the Army equipping initiatives.[4]

Sponsored by the Secretary of the Army for Acquisition, Logistics and Technology, RAND Corporation conducted a study on equipment availability and mission accomplishment. While specifically oriented towards availability due to maintenance or equipment damage, the report concluded that equipment availability had a significant impact on unit effectiveness during combat.[5] Although this study's conclusions are not specifically tied to equipping per se, they do provide additional support to the necessity of equipping our units to make them more agile, lethal, and capable to meet current and future operational requirements.

Realizing the necessity to equip the force to meet mission requirements, the Army is going through the process of developing specific initiatives to meet the current equipping challenge. During an equipping strategy brief to the Army War College in 2006, a briefer from the Army G8 provided the equipping priority list where transforming forces, APS, and non-deploying forces fall into the fourth priority and below.[6] Therefore, there are areas receiving higher priority for equipment, which leads to less equipment to achieve transformation to the modular force and its associated readiness levels. This priority system will create an environment of tiered readiness until enough materiel is produced and procured to meet existing shortages. Reports from the Government Accountability Office (GAO), analysis from RAND and other agencies, as well as Army conferences, have been used to determine alternatives. In June 2006, the Army G8 hosted the semiannual Army Equipping and Reuse Conference (AERC). By design, the AERC charter is to accomplish the following to support the Army equipping strategy:

- Determine a methodology to use all available Army equipment
- Determine the total quantity of key systems required to support transformation
- Determine the dollar value to resource transformation
- Establish reuse as a source of supply to create equipping solutions
- Develop integrated fielding plans, reuse, distribution, reset, and retrograde equipping instructions[7]

In response to study recommendations, senior Army staff meetings, and existing resource constraints, the ARFORGEN program was adopted as an interim strategy to maintain the Army's ability to execute its current contingency requirements. Putting it into perspective from one Army source, "the new strategic context of continuous operations renders obsolete the old Army readiness paradigm of *all ready, all the time*."[8] Basically, ARFORGEN is a new approach to readiness which creates varying degrees of preparedness on a cyclical basis to meet known deployment requirements. The ARFORGEN methodology is based on a 1 to 3 ratio of deployment to home stationing goal that is not achievable based on current mission requirements and will continue to make equipping a challenge for those units that are not in a deployment window. Stating directly from Addendum E of the Army Posture Statement:

> The ARFORGEN process creates operational readiness cycles where individual units increase their readiness over time, culminating in full mission readiness and availability to deploy. Manning, equipping, resourcing, and training processes are synchronized to the ARFORGEN process. To achieve the readiness progression required by operational readiness cycles, units transition through three ARFORGEN-defined readiness pools.[9]

With units at varying degrees of readiness and with current operational requirements in Southwest Asia, it is questionable whether the Army can continue with transformation to the modular design and still be ready to provide significant forces for another contingency if required. Figure 1 provides a view of the ARFORGEN model and implications of force readiness levels.

Because of competing demands for equipment, ARFORGEN is an interim strategy that has been adopted until the Army can achieve its equipping goals. This bridging strategy will use a combination of equipping units to less than MTOE authorizations, use of a force feasibility review,[10] and left behind equipment (LBE) transfers.[11] Using this methodology, the Army will continue to face critical shortages of equipment and materiel required to achieve the modular force design and prepare for contingency operations outside of Southwest Asia. Using this guidance, the planned sourcing for equipping units preparing

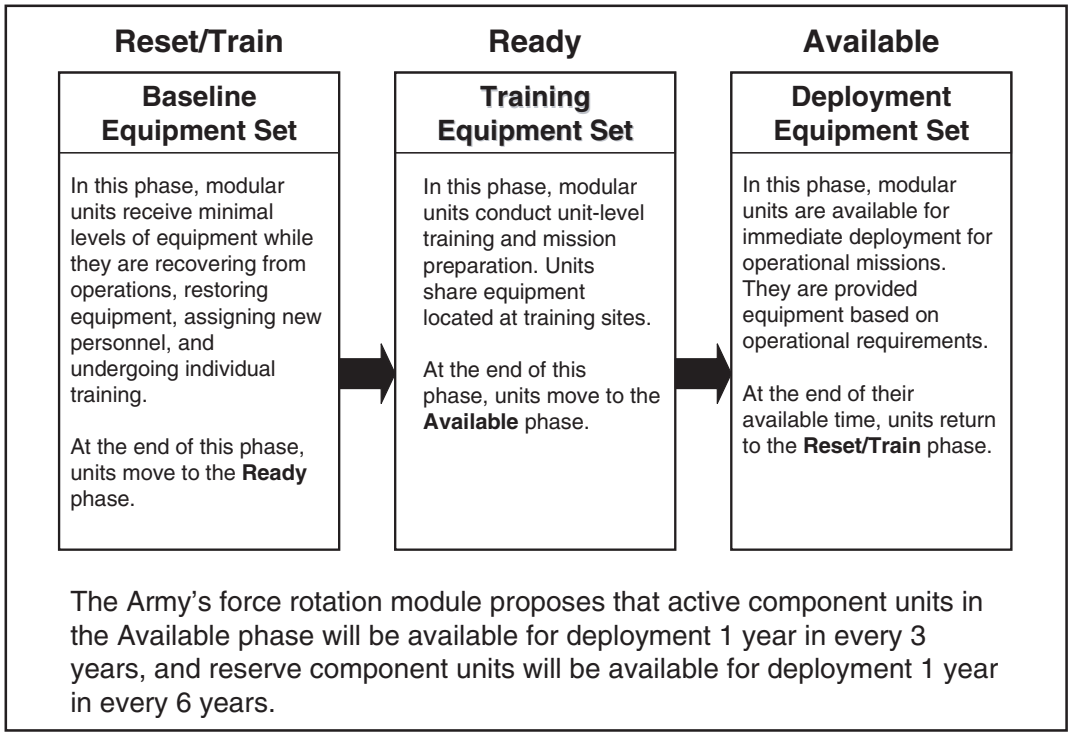

Figure 1. Force Rotation and Equipping Phases

to return to combat in Southwest Asia includes transfers from units already deployed, new production, and redistribution of excess. Whether all these items arrive before critical training gates is of the most benefit is questionable.

For the purpose of illustration, the 101st Airborne Division's recent redeployment from Iraq and reconstitution efforts reflects an example of the equipping challenge. During the division's deployment, over 3,100 vehicles were transferred to continental United States (CONUS) forces, Combined Force Land Component Command (CFLCC) for use in Southwest Asia, and Army Materiel Command (AMC) refurbishment programs.[12] During the transformation process to the modular design, units in the 101st Airborne Division went from an S1 to S4 rating for equipment on hand. After the transfer of equipment (during its most recent deployment), unit readiness due to equipment on hand fell further, leaving units with numerous critical shortages identified as essential in training soldiers and units to prepare them for the next deployment.[13]

With a few months of training time remaining prior to deployment for another mission in Southwest Asia, the soldiers and units preparing to deploy into combat once again will lose precious time available to hone their skills. Although specifically addressing one unit, these circumstances replicate the ARFORGEN process which does not provide an optimal situation to prepare for real world contingency deployments and does not provide the readiness level commensurate with the task at hand.

Readiness Assessments

The majority of today's forces are inadequately equipped in accordance with their MTOE authorizations. Chapter 5 of Army Regulation (AR) 220-1 directs units to calculate their equipment on-hand ratings by comparing a unit's fill of equipment to its wartime requirements.[14] Many of our units are reporting S4 (the lowest readiness rating for equipment possible in a unit) prior to their deployments. Shortages of vehicles, radios, and weapons directly affect a unit's ability to train for its mission to conduct large scale contingency operations. Many below-the-line shortages, while not seen as a direct impact on readiness, do affect the unit's ability to continue operations for long durations. Tool sets, diagnostic equipment, slings, power generation, and other items that are not seen as key pieces of equipment for direct combat operations have an impact on the sustainment of the force during long scale operations, such as our units experience today.

In a 1971 GAO report, the authors stated the Army had a poor unit equipment reporting system and indicated it needed to improve the process for identifying essential equipment needs.[15] The same trend resurfaced in a 1999 report. In this subsequent report, the GAO indicated the USR was not comprehensive enough and recommended commanders specifically identify operational impact of equipment shortages.[16] Many commanders still consider the USR as a report card. We need to shift this focus to more tangible readiness issues instead of a percentage of equipment fill. The Army has made progress in this direction by integrating the percent effective (PCTEF) rating portion of the USR for deploying and deployed forces. The PCTEF rating is a Joint requirement and measures a unit's ability to accomplish its specific mission or operational deployment.[17]

Based on the most likely operational area of employment, it would be more beneficial to refocus the readiness reporting system to accurately reflect the mission essential equipment required for the mission a unit will most likely receive. While this appears to be part of the objective of ARFORGEN, there will be equipping delays until a unit is in its deployment window, which postpones valuable individual and team training time to prepare for the range of missions assigned. Commanders should address equipping requirements with specificity of the mission, range or scope of operations, timeframe required and required capability, all tied to a specific purpose. We should also look at redundant capabilities and equipment tied to *less likely* missions so that planning can include the resources required to achieve mission success before opting to choose certain courses of action. While this may result in some duplicity of effort for reporting, it will ultimately provide the Army with a more accurate picture of critical equipping needs and will allow our senior leaders to prioritize the equipping effort.

Taking this reporting methodology one step further, criteria such as mission essential and mission enhancing must be applied to ensure we allocate the right equipment in sufficient quantities to positively influence mission accomplishment without allocating too much equipment, thereby reducing training and mission preparedness in other units. The specific missions assigned to units operating in Southwest Asia are easier to address based on historical reference and trends from commanders and soldiers that have operated in the area. Assessing needs based on other threats or operational environments are not as easily defined and will require more latitude due to the uncertainty of the enemy and the operational environment. Nevertheless, with new guidelines to address readiness for the next mission, commanders can more accurately identify the shortages that affect the training and readiness of their soldiers and can provide the Army with the *no-kidding* bottom line requirements to adequately equip the force.

Right Sizing Equipment Requirements for OIF, OEF, and a Restructured Army Prepositioned Stocks-Like System

> The Army Prepositioned Stocks (APS) program supports the national military strategy by prepositioning critical warfighting stocks in strategic locations worldwide to reduce deployment response times for an expeditionary and transforming Army. Prior to OIF, the core of the program was six brigade sets—two afloat and four ashore (one in Europe, one in Korea, and two in Southwest Asia). APS remains a critical component of Army power projection.[18]

The APS program is vital to the rapid deployment and employment of ground forces around the world. Managed by the Army Field Support Command (AFSC) component of the Army Materiel Command (AMC), equipment and supply sets are built to support Army ground combat forces to enable the rapid deployment of personnel (primarily) when the situation warrants boots on the ground without the time to deploy unit equipment. Upon such deployments, APS equipment is then issued to units for use in initial entry and contingency operations.

During the execution of OIF (rotations I through III), the Army expended a great deal of its materiel in APS sets to equip and sustain units operating in Iraq. The APS program deteriorated to the point that $248M was specifically set aside by Congress to reconstitute the APS-5 set in Kuwait.[19] The use of APS equipment to support combat operations was essential to fill capability gaps and continues in various areas to provide capability that would

otherwise not exist. Expanding this concept, we need a more focused effort on the equipping strategy used for forces engaged in OIF and OEF, and enforcement of the right amount of materiel to support soldiers in the fight.

An Army strategic studies paper, "The Army Prepositioned Stocks Program: Are We There Yet?" validates the need for APS programs and offers suggestions to ensure its continued relevance for the future by recommending continuous evolvement to support GWOT, transformation, and prepositioning of more combat support and service support equipment.[20] Additional benefits could be achieved by modifying the program to create a support structure specifically for GWOT operations in Southwest Asia. There are already satellite programs in Kuwait and Iraq that conduct refurbishment, support, and some reconstitution of equipment for deployed forces. Using the existing infrastructure and adding personnel, AMC could provide a rotational support structure specifically tied to equipment requirements in Iraq and Afghanistan.

Without degrading operational capability, the amount of equipment currently in Iraq can be significantly decreased. While forces currently in sector have begun the process of excess elimination, there is much more that can be done. In today's environment, Level I armor vehicles are required to conduct *off-forward operating base* (FOB) operations; yet there are significant amounts of Level II and *soft-skinned* vehicles being used for administrative and convenience movements. Options that include walking, commercial vehicles and buses, and a motor pool type operation to share the vehicles required for on-FOB administrative type tasks would reduce the amount of nonmission essential vehicles and produce more equipment for return to the CONUS and enrollment in refurbishment programs and subsequent issue to meet training and readiness requirements in the Army. There have been significant efforts to reduce the equipment footprint in Iraq and return items to CONUS for refurbishment, but as many as 7,000-plus vehicles still remain in theater waiting for return.[21] Reliance on contractors to deliver a large quantity of sustainment stocks supports a reduction of medium to heavy platforms and their return for refurbishment and reissue. An increased use of aerial delivery by intratheater air assets will further reduce the requirement for large numbers of tactical convoys, and subsequently reduce the number of vehicles required for sustainment operations.

Prior to each unit's deployment into Iraq, leaders' reconnaissance trips, communications with forces currently engaged, and conferences are held to help prepare the units for their deployment. Part of this process is a validation and submission of mission essential equipment lists (MEEL). Completed by both the current and deploying units, these lists are intended to identify the equipment required to operate in the specific sector assigned. Inevitably, there are differences between commands on the preferred weapons, vehicles, and optics, of choice to execute the mission. It would be more beneficial for all involved to establish a baseline authorization document for units operating in theater and then to equip the units accordingly. Unique or emerging technology can easily be addressed during subsequent deployments without revisiting the entire equipment list every year. Accomplishing this small feat would set the stage for the adoption of an effective equipment rotation program for units operating in Southwest Asia.

This conceptual program entails the development and improvement of the right set of equipment based on mission requirements, and facilitates its issue to units operating in sector. Simultaneously, an identical equipment set (or sets) would be staged, maintained or refurbished in order to prepare for future rotations. Based on OPTEMPO, wear rates and recommendations by senior maintenance experts, these sets would rotate in a similar fashion as the soldiers and units currently conducting operations in sector.

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In addition to providing equipment needed for the current fight, this concept would accomplish seven objectives.

- Better maintenance and operational rates for equipment required to support the fight
- Decreased transportation costs to ship unit equipment to Southwest Asia
- Improved supply stocks to support operations in the specific environment where soldiers are currently focused
- Known equipment types and density requirements for operations in Iraq and Afghanistan
- Reduced requirements to replace fatigued equipment
- Increased or more efficient ability to install upgrades on equipment without impacting operations in sector
- More equipment available off the assembly line or from refurbishment centers for issue to fill training and readiness requirements by nondeployed forces

Increased Budgetary Allocations and Improved Acquisition

Historically, the Army has been under resourced—and it is a fact that the decade preceding the attacks of September 11, 2001 was no

exception. Army investment accounts were under funded by approximately $100B, and 500,000 soldiers were reduced from total Army end strength. There was approximately $56B in equipment shortages at the opening of the ground campaign in Iraq in the spring of 2003.[22]

Based on the December 2006 Congressional Research Service (CRS) Report, the Army would need $17.1B in FY07 to conduct equipment reset, another $12B to $13B during the conflict and beyond to continue reset efforts, and over $41B to meet current equipment shortages.[23] The Army's budget allocation for FY06 was $96.8B and is expected to be $111.8B for FY07.[24] The Army's allocation for FY07 procurement of equipment is $24.7B.[25] This allocation of funds is not adequate to meet the requirements to continue operations in Southwest Asia, transform to the modular force, and prepare for future contingency requirements. Congressional supplemental dollars are generally targeted to continue the war effort, and provide little for research and development programs or equipment procurement to continue transformation or improve readiness for units that are not deployed.

There is no doubt we are a military at war, but are we a nation at war? The percentage of our nation's Gross Domestic Product (GDP) and output of consumer goods compared to other times of war or conflict suggests we are not a nation at war. Table 2 provides a comparative view of expenditures of GDP for defense during varying times since World War II.[26]

The trend suggests that the percent of GDP designated for defense spending during time of crisis is directly related to perceived or real threat to our national security or existence. While this may be an unfair assessment, these numbers could be interpreted to indicate that our government leaders and the American people are no longer willing to expend the dollars necessary to provide the materiel needed to adequately sustain the Armed Forces during its time of conflict as long as our way of life is not immediately or directly threatened.

Similarly, there has been a perceived deterioration in the military-industrial complex since the end of the Cold War.[27] Successful businesses operate based on supply, demand, and profit—and not necessarily in that order. While profitable for major weapons systems such as ships, aircraft, and tanks, the production of other items, unless they have a commercial benefit, put a business at risk.[28] In addition to funding, government subsidies or other incentives for businesses that have the capability to produce military specific equipment could be a significant catalyst to encouraging more production of items with little or no commercial value.

The specifications and special needs associated with many Army requirements (intelligence, surveillance and reconnaissance equipment, communications systems, night vision devices, and others) do not have a commensurate commercial application and require significant investment to build production capacity. Combined with marginal funding, the vendor base of legitimate businesses that can provide equipment based on the Army's demand schedule appears to be shrinking. For example, with an equipping budget of approximately $136B and slow materialization of the continuing resolution, one specific impact was the availability of 200 tactical satellite radio systems, but no money to purchase and provide them for units.[29]

	World War II	Korea	Vietnam	GWOT
Year	1944	1953	1968	2006
GDP %	39.3%	14.5%	9.6%	4.1%

Table 2. Comparative Expenditures of GDP for Defense

Vital to support contingency operations, the availability of these radios without the capability to buy and put them in the field led to shortages for mission requirements. The real concern is whether manufacturers will continue to produce military specific systems without the guarantee of sale and whether such equipment will be available when the money is allocated to procure them.

To ensure we have the right equipment that meets desired specifications, the Army began moving officers into the acquisition corps functional area in the early 1990s. Perceptions of their effectiveness differ, but the soldiers and civilians of the Army acquisition corps are our *frontline* units charged with ensuring we get the right equipment at the right time. Some changes may be beneficial to help them be more effective in accomplishing their mission. The Department of Defense (DoD) acquisition system has been under fire for many years. The Army acquisition system is no different. Studies from as far back as the early 1970s called for reform or change in one way or another. Significant programs to change the acquisition system were initiated in the mid-1990s by DoD, however, this is an ongoing process and additional change is still required.[30]

An Army War College Strategic Studies paper, "A Review of Acquisition for Transformation, Modernization, and Recapitalization," indicates the Army acquisition process is too long to support all the current equipping needs.[31] Equipment being used in Southwest Asia is being consumed at higher than anticipated rates due to destruction, battle damage, and high OPTEMPO. To remain relevant, the acquisition process must be more responsive to the needs of commanders and soldiers in the field and find innovative ways to make the procurement system faster. Programs such as rapid fielding initiative (RFI), rapid equipping force (REF) and the Joint rapid acquisition cell (JRAC) are movements in the right direction, but generally target emerging needs from units operating in combat or contingency operations and do not address the other side of the Army's equipping challenge (transformation, reconstitution, and others). Similar programs to get equipment through the procurement process and issued to units returning from operational deployments (in the midst of the transformation process or preparing for the next deployment) will benefit the whole Army and greatly assist in meeting the equipping requirements in today's environment.

While a major part of the equipping challenge our Army faces today is inadequate funding based on competing requirements, money alone is not the solution. The government does need to assess the allocation of funds to maintain the current OPTEMPO, but also needs to provide additional money to support equipping the force that is not directly engaged in contingency operations to support the GWOT. Additionally, there needs to be more participation of the military-industrial complex and other industries to provide the materiel necessary to continue supporting the soldiers in the fight and support Army transformation and the inevitable contingency operations in regions not yet realized. One could argue this should include a reduction of consumer luxury items to support national defense for the near term. Finally, a more concerted effort from the Army's acquisition experts is needed in order to find viable solutions

that make the most out of the funds available to get equipment to soldiers in the fastest way possible.

Conclusions

Equipping the Army has never been an easy task and will continue to be a challenge. In the ever-changing global environment of current and emerging threats to our national security, it is essential that we remain a strong and flexible force to provide options for our nation's leaders. Army transformation is a critical step in this process and provides forces that are adaptive, flexible, and ready to meet the threats of today and tomorrow. However, to reap the benefits of a modular force, it must be adequately equipped to execute the mission.

In the current operational situation with units engaged in the full spectrum of contingency operations around the world, and the Army in the midst of transforming its formations, the competition for equipment is exceeding the budgetary and industrial output to meet all demands. To meet its Title 10 responsibility of equipping the force, the Army continues to engage in short term solutions that delay fixing the readiness issues that affect the units organized to conduct a wide range of military operations. The ARFORGEN approach of cyclical readiness is, in the author's opinion, an attempt to fix a symptom without addressing the problem head on. This statement does not portend that our leadership is not trying to fix the equipping challenge. It does, however, warrant debate and alternatives that could provide possible solutions to the current equipping challenge.

This article was written in an attempt to provide options that may be part of the solution set to improving the equipping situation in the Army. There is no one, single area that will make the difference, and it will take a combination of solutions to overcome today's equipping challenge. A new perspective on readiness reporting, adapting an APS-like program into a solution for units currently operating in Southwest Asia and increased budget (dollars) specifically tied to procuring critical equipment shortages with matched industrial output, and quicker acquisition systems are three areas that could either provide a solution to the problem or at least start the dialog until a better solution is realized.

Real equipment requirements must be addressed first. Suspend or rewrite the unit status reporting regulations to address the mission essential equipment requirements based on the current missions that Army units are engaged in (or are most likely to be engaged in). Fashioned after the PCTEF assessment during actual deployment, this measure would allow commanders to get away from the full MTOE authorization assessment and concentrate on the equipment critical for their mission accomplishment. Simultaneously, a detailed review and validation of equipment required to support operations in Southwest Asia is needed to produce an authorization document of some type that does not require annual validation or rewrite by every unit that deploys. This would provide a clear target for critical equipment needs to meet the current threat, and in the case of units designated for other contingency operations the needs to confront emerging threats.

Supporting soldiers and operations in Southwest Asia is the most important equipping requirement today. Usage rates and consumption of equipment due to battle loss, damage, and fatigue do require replenishment; however, with an authorization document that addresses critical equipment needs, In the author's opinion, the Army can reduce the equipment footprint in theater. Once achieved, this effort would allow equipment to flow back to CONUS for refurbishment or to facilities in theater to be used to build and reconstitute a program similar to APS, which is specifically oriented towards sustaining OEF or OIF. While this program would have a significant cost in terms of money and materiel, it would provide long term benefits as described in this article.

Using a different approach to the problem and looking for alternative methods to achieve appropriate readiness levels, there are solutions available to help achieve a balance between readiness and training requirements, and continue to equip units currently involved in contingency operations.

The December 2006 CRS Report on equipment requirements, as well as the 2006 and 2007 Army Posture Statements, support increasing the Army's budget for support equipment procurement. An increased allocation of money specifically tied to equipment procurement is required; however, it must be supported by an industrial base that can readily provide the materiel needed. The typical consumers' ability to purchase goods is no less restrictive than it was before the war. The demand and cost associated with producing plasma televisions is more lucrative than the production of enhanced armor (individual and vehicle) or indirect fire systems. In the author's opinion, although potentially socially unacceptable and politically unpalatable, we need a shift of focus by industry to produce the types of equipment necessary for the Army (and the DoD) to maintain its ability to prepare for the mission assigned. Therefore, we must find alternative means to produce the equipment required to fight and win our nation's wars. To be effective, it must be accomplished without competing directly with the consumer markets. In the author's opinion, the government could enact legislation that either provides incentives for the production of military specific items or reduces the production of consumer goods in order to increase the output of industry to support the US armed forces mission. To help overcome the production

challenge there is also a strong case to continue efforts to reform the defense acquisition system to improve responsiveness.

The range and magnitude of requirements facing the Army today are formidable. Taken in their individual context they would present a challenge. Fighting and sustaining a war for multiple years requires a constant effort to keep soldiers and units equipped. Reconstituting units after a major deployment is another significant venture and requires money, materiel, and time. Conducting a major transformation of the entire force is yet another daunting task that competes for the resources needed to effectively execute the changes in our new modular design. Collectively, these challenges have exacerbated the Army's equipping challenge and, without more money, will continue to affect readiness across the force.

Based on the range of requirements it faces today, the original question of whether the Army can meet its equipping goals is answered with caution. Given its budgetary allocations, cost of equipment replacement programs, industrial capacity, and the rate of equipment requirements and destruction, the easy answer is no. However, using a different approach to the problem and looking for alternative methods to achieve appropriate readiness levels, there are solutions available to help achieve a balance between readiness and training requirements, and continue to equip units currently involved in contingency operations. Achieving this balance will require innovation, hard decisions, commitment to a plan, and additional funding specifically focused on a detailed equipping strategy.

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He who will not apply new remedies must expect new evils; for time is the greatest innovator.

—Viscount Francis Bacon