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Could a Rotational Equipping Strategy Save the Army Money?

The long-standing conflicts in Iraq and Afghanistan have prompted U.S. Army leaders to alter the ways that units are made ready to fight. Following the 2006 Army Force Generation (ARFORGEN) model, readiness is built over time as units progress through a three-part cycle of unit training, unit deployment, and recovery and individual training. Although early steps have been taken to equip units according to this new management structure, further changes in equipping policies are needed as DoD budgets continue to tighten and the wars begin to wind down.

A recent RAND Arroyo Center study sought to help the Army meet new equipping challenges by constructing a fast-running analytic model to simulate the deployment of units and the allocation of equipment to units according to the new ARFORGEN cycle. From the model, Arroyo researchers were able to determine whether equipment levels could be reduced at any point in the rotational management cycle while not hindering the Army's ability to conduct critical operations and meet goals.

New Deployment Schedules and Old Equipping Methods May Produce Excess

Current methods of equipping soldiers, like former ways of managing units, are based primarily upon outdated principles of tiered readiness. During the Cold War era, the Army was structured for mass mobilization. Multiple tiers of forces were prepared to act where and when needed: top tiers were ready to deploy at a moment's notice, and other tiers were ready to follow in support. Army equipping policy still reflects the tiered tradition in that it aims to provide units with 100 percent of their equipment at all times, deployed or not. Moreover, equipment issued to a particular unit remains in that unit until it becomes unusable or obsolete.

The rotational ARFORGEN schedule does not require that all units be fully and constantly

equipped. As units circulate through the rotation, different levels of readiness are warranted. When units are deployed, they must have all of their wartime requirements. When they return, however, during the reset phase of rest and individual training, they may need far less equipment. As units move to group training in the ready stage, they may then begin to pick up equipment to meet preparatory needs.

The Arroyo Rotational Equipping Model enabled researchers to analyze how rotational equipping might affect Army inventory requirements by taking force structure, equipping demands, and rules of how units rotate through the ARFORGEN cycle and producing minimum (called "rotational low") and maximum ("rotational high") equipping levels for both long-term steady-state and surge deployments.

Key findings:

- Long-term commitments to Iraq and Afghanistan have caused the Army to employ a rotational strategy for its units.
- However, it still provides units with all their equipment, even though some have years between deployments.
- A rotational equipping strategy reduces the amount of equipment units have in the early phases of the ARFORGEN cycle, thus enabling reductions in overall equipment authorizations.
- Such a strategy could reduce costs by \$5–\$10 billion from FY 12 and beyond.

Rotational Equipping Can Trim the Army Budget

The Arroyo team found that inventories of required or high-end items could be reduced by 25 percent

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if equipment was rotated in closer accordance with the ARFORGEN cycle. Substantial savings can be gleaned from these reductions. For example, it is estimated that upgrades of the Army's fleet of AH-64 Apache helicopters through 2015 could cost the Army \$8.5 billion, with an additional \$2.2 billion put toward building new Apaches. The rotational equipping strategy (RES), however, would cut the total platforms by 11 to 29 percent overall, and thus reduce both near-term new purchases and mid- and far-term upgrades. The table shows the magnitude of savings that a RES can deliver for three systems: Apaches (AH-64), Chinooks (CH-47), and Paladins (M109). In total, the team estimated that the Army could save between \$5 and \$10 billion on new purchases and upgrades in top procurement programs, with additional savings if the RES were applied widely.

Rotational Equipping Would Involve Major Changes

Of course, the potential cost savings made possible through rotational equipping can only be realized if deep changes in equipping policy are made. An enterprise approach must be taken to make the best of available resources. This new approach to equipment will affect both Army culture and force management in three immediate ways:

- **The status quo is challenged.** Unit commanders would need to accept lower equipping levels. Unlike legacy equipping policies where units were allotted 100 percent of their equipment, the Army will need to reduce the

equipment that units have in their *reset* and *ready* phases. Units will have access to only a small amount of equipment in early phases and then progressively more as they move toward deployment.

- **Units will need to manage equipment differently.** The Army will need to enhance the flexibility of equipment-sharing policies and practices among units. Units will have to receive and return equipment as they move through different phases, and units will have to be able to push larger amounts of equipment to deployed forces during surges. New processes will entail careful management, as equipment must constantly move among rotational units.
- **Rotational equipping goals will need continual appraisal.** The study relied on certain assumptions drawn from current Army demands and future projections. However, the specific allocation of resources against these goals should always reflect current Army priorities. As operational forecasts and equipping realities change, goals will need to be readdressed, and equipping management procedures will need to be updated quickly.

In summary, this study demonstrates how the Army might have numerous opportunities to reduce future budgets and bring the equipping strategy more in line with personnel policies. Moving forward, however, the Army should consider the significant changes a rotational equipping strategy will elicit throughout the force and DoD. ■

Savings/Avoidance for Three Systems under RES

System/ Approach	Total MTOE + TDA + APS	Rotational Low	Savings/Avoidance \$B	Rotational High	Savings/Avoidance \$B
AH-64D Cut upgrades	772	550	1.5	688	.03
AH-64D No new buy			3.0		.115
CH-47	404	368	1.5	398	
M109	616	454	0.5	567	N/A ^a
^a The number of upgraded systems is lower than the total in the rotational high option. MTOE = Modification Table of Equipment; TDA = Table of Distribution and Allowances; APS = Army Prepositioned Stocks.					

This research brief describes work done by RAND Arroyo Center and documented in *Efficiencies from Applying a Rotational Equipping Strategy*, by Christopher G. Perrin, Edward Wu, Aaron Martin, Gregory Midgette, and Brendan See, MG-1092-A (available at <http://www.rand.org/pubs/monographs/MG1092.html>), 2011, 84 pp., \$22.50, ISBN: 978-0-8330-5200-1. This research brief was written by Kate Giglio and Jerry Sollinger. The RAND Corporation is a nonprofit institution that helps improve policy and decisionmaking through research and analysis. RAND's publications do not necessarily reflect the opinions of its research clients and sponsors. RAND® is a registered trademark.



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