



Engineers from the 8th Brigade Engineer Battalion, 2nd Armored Brigade Combat Team, 1st Cavalry Division, clear obstacles from the road during an exercise in the Republic of Korea on Dec. 8, 2015. The Army has replaced individual permanent change of station tours to Korea with rotational forces of combat units. (Photo by Staff Sgt. John Healy)

Korea Enduring Equipment Sets: From Theory to Practice

Eighth Army implemented Korea enduring equipment sets to save millions of dollars in transportation costs.

■ By Maj. Edward K. Woo

The chief of staff of the Army directed rotating brigade combat teams (BCTs) to the Republic of Korea (ROK) in late summer of 2014. This decision marked the end of an era as the Army replaced individual permanent change of station tours to Korea with rotational forces of trained and equipped combat units.

The new strategic direction was

implemented as the 1st BCT, 2nd Infantry Division (2nd ID), cased its colors in June 2015 and the first of the BCT-sized Korea Rotational Forces (KRFs) assumed its mission. The Army now implements KRFs similarly to how it deployed forces to Iraq and Afghanistan.

Rotating whole BCTs from the continental United States for nine months instead of deploying Soldiers

on individual tours results in formations that arrive fully trained and can remain at full combat strength for the duration of the deployment.

Determining the benefits of rotating forces requires answers to a number of basic questions. How will the Army equip the rotational force? What equipment will rotational forces bring as to-accompany-troops (TAT) equipment? Is it more cost-

efficient to transport equipment from the continental United States or to build equipment sets on the Korean peninsula? How does the Army account for a newly established equipment set?

This article answers some of these fundamental questions and illustrates how Army logistics leaders in the 19th Expeditionary Sustainment Command (19th ESC) and Eighth Army translated theory into practice.

This article can also help logisticians understand the complexities of equipment sourcing and materiel management to support rotational forces. It may serve as a guide for overcoming similar problems in other theaters of operation.

KEES Theory

Korea enduring equipment sets (KEES) are forward positioned in the ROK to support deployed rotational forces. A KEES is neither a process nor an ad hoc organization; each is a documented equipment set with supply, maintenance, and modernization management processes.

The theory of KEES is based on the model of other Army activity sets, such as theater-provided equipment sets in the U.S. Central Command area of responsibility and European activity sets. The decision to establish KEES saved the Army roughly \$3 million in second destination transportation costs per rotation.

Under the leadership of the 19th ESC and Eighth Army, the request was sent to Headquarters, Department of the Army (HQDA), to reconfigure KEES authorizations using the out-of-cycle modified table of organization and equipment (MTOE) process. The Army G-4 prioritized KEES while the 19th ESC, Eighth Army, and U.S. Army Pacific (USARPAC) codified its implementation.

Phase 1: Solve the E-MTOE

The most significant effort of equipping the rotational force was not configuring TAT equipment

but, instead, optimizing the KEES. Department of the Army Pamphlet 708-3, Cataloging of Supplies and Equipment, Army Adopted Items of Materiel, and List of Reportable Items, defines TAT equipment as “items excluded from prepositioning that accompany the deploying troops, such as individual weapons, protective masks, and so on.”

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The equipment-only MTOE (E-MTOE) was built in anticipation of KRFs. However, the authorization documents evolved because of KEES restructuring that resulted from prohibitive deployment and distribution costs.

Another reason for the E-MTOE adjustment was that KEES E-MTOEs were built using standard Army pre-positioned stock (APS) codes and business rules based on extended periods of storage, routine exercise of the equipment, and the need for continued maintenance of the equipment.

However, KEES ended up being more similar to theater-provided equipment than APS. APS business rules do not apply to the KEES because rotational units will actively exercise and maintain the equipment without interruption.

Consequently, Eighth Army and 8th Theater Sustainment Command (TSC) asset visibility and force integration experts executed a detailed line item number (LIN) analysis to create an accurate force structure for KEES authorizations. KEES evolved into sets of armored vehicles, major weapon systems, selected communications and intelligence equipment, and other items deemed critical for each mission.

To optimize KEES authorizations,

the 2nd ID and the 19th ESC, with endorsement from Eighth Army and USARPAC, requested that 155 LINs be removed from TAT and authorized on the E-MTOE. An updated KEES E-MTOE was approved and published in February 2015. The update included increased authorizations for the KEES, thus reducing the amount of TAT that units were

required to deploy with to Korea.

KEES authorizations were successfully documented with effective dates beginning in September 2015 for 13 separate unit identification codes. This critical step was the necessary spark to begin asset redistribution.

Phase 2: Identify Shortages

Once the authorizations were fixed, the next step was to fill projected shortages. Eighth Army, the 8th TSC, and the 19th ESC, with the assistance of the Army Sustainment Command, used the Decision Support Tool (DST) to create a sourcing strategy to optimize the KEES by filling gaps with excess equipment dispersed in USARPAC.

Another main source of supply to fill shortages was the 1st BCT, 2nd ID. The unit placed into KEES serviceable equipment that it no longer needed after casing its colors.

The DST course of action was successfully executed in March 2015. However, KEES still suffered from critical shortages of pacing items with an equipment readiness code of “P” (ERC-P). These shortages would have severely degraded readiness and ultimately required the assistance of outside agencies.

Phase 3: Fill Shortages

In March 2015, the Army Materiel

Command (AMC) and HQDA G-8 conducted systemic LIN reviews of critical KEES equipment shortages that the DST course of action could not source. The materiel enterprise team identified solutions to fill the remaining critical ERC-P shortages in a matter of weeks.

Mechanisms such as deploying home-station equipment, resourcing from APS, and accelerating the

KEES PBO is responsible for establishing accountability, and an Army civilian (along with eight Korean civilian employees) provides oversight until all equipment is transferred to the next unit.

The teamwork among the logistics organizations at all echelons was the catalyst to solving problems and accomplishing the mission. The operational planning teams synchronized

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fielding of engineering equipment were solutions that swiftly solved the equipment gaps by April 2015. This support from national-level providers exhibited globally responsive sustainment at its most effective.

Phase 4: Use Relationships

AMC, HQDA, Eighth Army, US-ARPAC, the 8th TSC, and the 19th ESC supported KEES to achieve one common objective: providing an enduring equipment set to meet the intent of the chief of staff of the Army's directive to employ rotational units in Korea.

To manage KEES property, the 19th ESC established and resourced a KEES property book office (PBO) charged with maintaining 100 percent accountability of the KEES as it is signed over from one rotational force to another. The 19th ESC KEES PBO relieves the rotational unit PBO so it can concentrate on organic property.

The 19th ESC created the KEES PBO team to serve as the central hub for equipping Forces Command rotational units and providing continuity for follow-on rotations.

When a rotational unit redeploys, that unit will transfer the equipment to the next rotational unit in lieu of transferring it to the KEES PBO. The

all of the KEES equipment efforts in the ROK, set critical priorities, determined support requirements, provided a strategic picture of rotational equipping, identified potential obstacles, and assisted in the development of policy for maintaining KEES in the long term.

Phase 5: Unify Effort

Achieving unity of effort required command emphasis and senior leader involvement, so the ability to exercise mission command at the operational level was a major element of success.

Logisticians and resource managers from Eighth Army, the 2nd ID, the 19th ESC, the Army Sustainment Command, the Distribution Management Center, USARPAC, the life cycle management commands, Army G-4, program executive office and project manager agencies, and Army G-8 routinely hosted and participated in working groups and readiness reviews to monitor progress and synchronize equipping efforts.

Conducting efficient and effective equipment sourcing requires unity of effort among the various leadership levels and a seamless strategic-to-tactical interface, and the KEES effort was an excellent example of this in practice.

Phase 6: Distribute and Equip

As soon as the KEES arrived at the seaport of debarkation, the U.S. Army Materiel Support Command-Korea (USAMSC-K) and the 25th Transportation Battalion (Movement Control) provided indispensable movement control and maintenance for high-profile KEES sustainment moves.

USAMSC-K and the 25th Transportation Battalion provided port clearance, railhead operations, heavy equipment transporter support, combined movement control, route analysis, maintenance, in-transit visibility, and oversized cargo relief to deliver the KEES to its final destination.

In one instance, oversized ERC-P items in a KEES for an echelon-above-brigade engineer battalion had to be deconstructed by USAMSC-K, controlled on multimodal nodes (rail and highway) by the 25th Transportation Battalion, and reconstructed by USAMSC-K for final delivery to meet host-nation railhead guidelines.

Although major milestones have been reached by numerous layers of management and operators, the work has just begun. With the establishment of KEES, the new challenge is modernizing equipment to ensure future KRFs have the best possible equipment available. Documenting mission-essential equipment is a challenge with out-of-cycle MTOE boards that are programmed semi-annually. Tying the equipping process to the force integrators is critical for success.

Applications for the Future

The 19th ESC's enhanced readiness and presence in Korea represent an enduring and unwavering U.S. commitment to its ROK counterparts. As logisticians in Korea maintain and modernize KEES to enhance warfighting capability, they are performing an essential role in maintaining that commitment.

To do this effectively, Army logisticians must remain mentally agile and ready to respond at a moment's notice in case the Army decides to

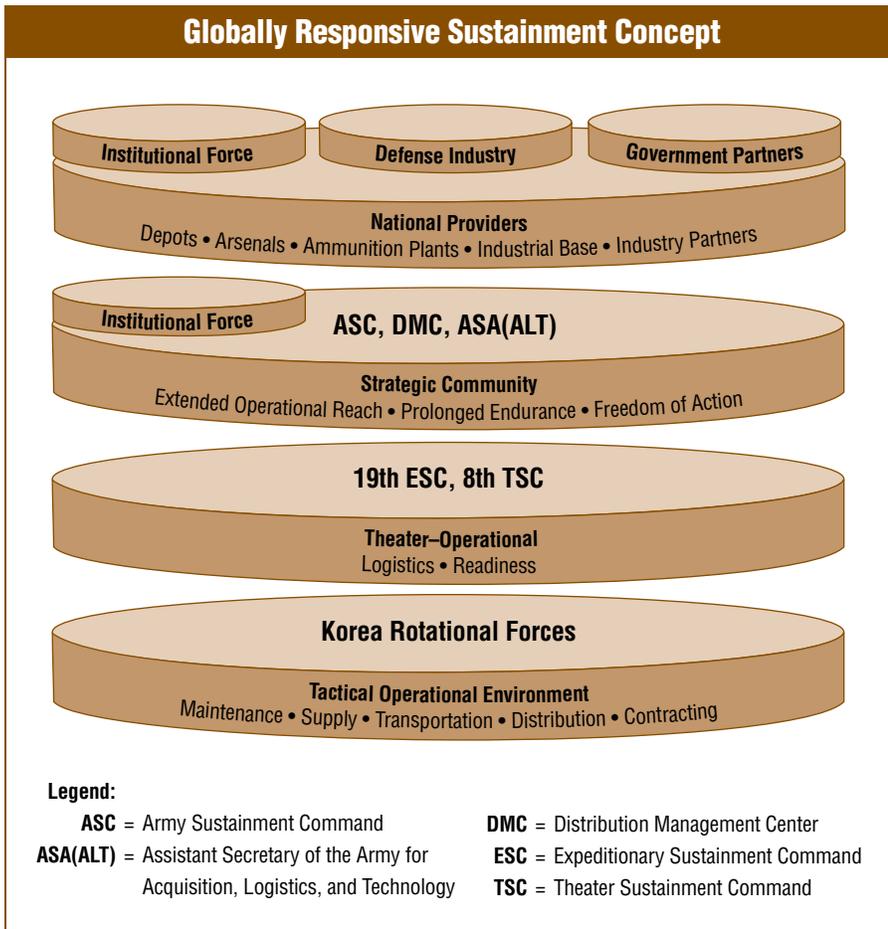


Figure 1. This chart, courtesy of the Combined Arms Support Command, shows the complexity within the factory-to-foxhole pipeline.

dispatch additional rotational forces to Korea to strengthen combat readiness.

The successful restructuring of KEES is a blueprint for the next era of Army logisticians. Using the out-of-cycle E-MTOE process, leveraging DST as the system of record to identify sourcing solutions, and partnering with each echelon in the enterprise team aided the effort to fully employ physical distribution networks and increase materiel velocity.

Mission, enemy, terrain and weather, troops and support available, time available, and civil considerations will dictate how senior logisticians at all levels provide resources to the tactical level. Army logisticians can look to general principles that have been proven to contribute immensely to the success of factory-to-foxhole efforts.

The following are recommended principles to use as guidelines when encountering a need for a theater equipment strategy:

- Bridge the tactical, operational, and strategic Army.
- Provide a voice and establish a forum for commanders and key stakeholders.
- Influence policies and establish an official change process.
- Build consensus.
- Identify and implement solutions.
- Assess and evaluate.
- Integrate efforts in pursuit of a unified logistics effort.

Globally responsive sustainment was evident in establishing the KEES in the ROK. Figure 1 shows the complexity within the factory-to-foxhole pipeline.

Critical ERC-P shortages within KEES included the Husky and Buffalo route-clearance vehicles. Using the concept diagram (from bottom to top), in order for the Forces Command rotational unit (the tactical user) to have the Huskies and Buffaloes on hand, the 19th ESC and Eighth Army leaders (the theater-operational level) identified the shortages and provided the voice for key stakeholders.

The request was sent through US-ARPAC, AMC, and the Office of the Assistant Secretary of the Army for Acquisition, Logistics, and Technology (the strategic community) in order for the industrial base (the national providers) to accelerate the manufacturing, production, and fielding of the Huskies and Buffaloes.

By July 2015, the KEES received the Huskies and Buffaloes, and an expedited major end item supply transaction from the national level to the tactical user was complete.

The benefits of codifying equipment sets for rotational units include saving millions of dollars in second destination transportation costs. Going through this process has provided a course of action for new theaters since doctrine does not describe in detail how to begin or proceed.

These phases and principles have proven highly effective for integrating new capabilities. Most importantly, they set the conditions to provide the best equipment for our Army to fight and win our nation's wars. Through thoughtful deliberation, future theater planners can add to these phases as their own unique situations emerge.

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