



Spc. Dan Bora, a 716th Quartermaster Company petroleum supply specialist, fuels a five-gallon gas can on June 4, 2016, at a fuel farm during Exercise Anakonda 16. (Photo by Timothy L. Hale)

The Effects of the Army 2020 Bulk Fuel Design on Decisive Action

The proposed Army 2020 force structure removes bulk fuel assets from the brigade support battalion. How does that affect support to brigade combat teams?

■ By Maj. Paul W. Smith

As a logistician, I know how critical sustainment is to operations, and any proposed changes to the Army's concept of support pique my interest. That is why I chose sustainment in the Army 2020 force structure as the topic for my thesis for my 2015 master of military art and science degree from the Command and General Staff College.

My experiences as a support op-

erations officer and a battalion executive officer have made me wary of reductions in the capability of a brigade support battalion (BSB) to support its brigade combat team (BCT) during operations. With those personal biases firmly in place, I dove into an exhaustive look at sustainment in the Army 2020 design, using the Force Management System website, FMSWeb, to identify quantitative differences in BSB force

structures (before and after Army 2020 conversions).

Background

A reduced operating tempo and fiscal constraints emplaced by the Budget Control Act of 2011 led the Army to transform from the modular Army to the Army 2020 force structure. This change increased the lethality of the armored brigade combat team (ABCT) by reintroducing a

third maneuver battalion.

However, according to the Sustainment Concept of Support: CASCOM Tactical-Level Sustainment for Army 2020, the chief of staff of the Army mandated that all proposed redesigns must keep the BCT deployable while retaining no more than 4,500 Soldiers. So, in order to add the third maneuver battalion and remain under the imposed force cap, several capabilities were consolidated at echelons above brigade (EAB).

In the May–June 2014 *Army Sustainment* article “Sustainment for the Army of 2020,” Col. Robert Hatcher, Jeffrey A. Martin, and Lt. Col. Karl F. Davie Burgdorf explain that the proposed Army 2020 force structure removes sustainment capabilities like water purification, bulk fuel distribution and storage, and troop movement from the brigades. These capabilities are consolidated at EAB within combat sustainment support battalions (CSSBs), moved to the Army Reserve or National Guard, or eliminated.

While Army 2020 proposes significant changes to CSSBs, the primary focus of my research was sustainment operations at the brigade level. I conducted an in-depth analysis of the changes to the BSB’s force structure regarding bulk fuel operations.

I focused on bulk fuel not only because of my background with fueling operations but also because bulk fuel is one of the most critical commodities required to sustain the BCT’s operating tempo.

Analysis

I completed my analysis using the following sustainment principles from Army Doctrine Reference Publication 4-0, Sustainment, as evaluation criteria: integration, anticipation, responsiveness, simplicity, economy, survivability, continuity, and improvisation. Using the sustainment principles as a guide illustrates the impact of the upcoming force structure changes.

It also broadens the scope of my research to cover more than just capacity. The results of my analysis show

that the Army 2020 force structure creates a positive effect across most of the sustainment principles.

The overall effect of removing the bulk fuel assets from ABCTs in the Army 2020 force structure is positive because it enables BSBs to provide simple, innovative, and economical support to warfighting units.

The largest positive changes occur across the principles of simplicity,

tribution assets at EAB units.

Since many of the changes created by the Army 2020 force structure are designed to consolidate logistics assets, it is not surprising that the effect on the principle of economy is largely positive. Consolidating assets at the CSSB is more economical than having these systems available at each BSB.

Survivability. Consolidating more static systems like the FSSP and wa-

The positive effects brought about by changes made in equipment and capability outmatch any negatives caused by reducing the BSB’s bulk fuel capacity.

economy, survivability, and improvisation. The negative effects of the changes, found in the principles of integration, anticipation, and continuity, seem largely temporary in nature.

Simplicity. Refueling operations within BSBs become simpler with Army 2020 because the ABCT has fewer refuel systems and types. In previous force structures, a BSB had four fuel systems: a fuel system supply point (FSSP), a 5,000-gallon fuel tanker, a heavy expanded-mobility tactical truck (HEMTT) fuel tanker, and a tank and pump unit.

In the Army 2020 structure, the only fuel distribution asset is the HEMTT fuel tanker. This change not only simplifies distribution operations but also eases maintenance demands by reducing the types of equipment that must be maintained in a BSB.

Economy. The redesign of the ABCT BSB is clearly intended to create an economy of scale across the force. It accomplishes this by removing bulk fuel and water purification capabilities from BSBs and consolidating them at the CSSB. This reduces the number of FSSPs the Army requires in its inventory, thereby consolidating fuel storage and dis-

tribution assets at EAB units. Unlike in the modular Army, where these limited assets were maintained in the BSBs, the CSSB and its companies are further from the forward line of troops and therefore less likely to be threatened by direct or indirect fire.

Additionally, by going to a purely HEMTT distribution fleet, it is harder for the enemy to identify the brigade support area (BSA), whereas in the modular Army, the BSA was easily identifiable because of the 5,000-gallon tankers.

Improvisation. The Army 2020 force structure increases maneuverability by transitioning from using the 5,000-gallon fuel tankers included in the modular Army force structure to using an all-HEMTT force. This enables sustainment planners to use routes for resupply that were previously untenable because of the 5,000-gallon tanker’s inability to operate on rough terrain.

Under Army 2020, planners have only one platform to consider for resupply. Plus, HEMTTs are more mobile than either tankers or tank and pump units. This mobility increases the ability of sustainment planners to improvise fuel delivery

methods to forward units.

Additionally, the FSSP limited the ability of a brigade to rapidly exploit gains in an offensive operation because the collapsible fuel tanks were difficult to drain and move. In the Army 2020 design, consolidating these assets at the CSSB and increasing the modular fuel racks across the BSB together allow the BSB to rapidly reposition itself to adapt to any unforeseen circumstances.

Integration. The removal of bulk fuel storage assets from the BSB makes it more mobile and better suited to sustain maneuver forces during the offense than it was with the modular Army force structure. However, that mobility comes with increased reliance on EAB assets to ensure the continuity of operations.

When originally published, the Army 2020 concept lacked clearly defined command and support relationships, which limited the integration of assets within the division and jeopardized the uninterrupted provision of sustainment to the BCT. The Army took steps in 2015 to resolve

this lack of clarity when the chief of staff of the Army directed that sustainment brigades be aligned with each division headquarters no later than July 2015.

The change in command relationships increases unit cohesion and simplifies the chain of command for sustainment units. This solution is preferable to the vaguely discussed habitual orientation originally proposed, but it will take time to fully implement across the force.

Anticipation. Although negatively affected by Army 2020, anticipation will improve as units adapt their support planning based on after action reviews from exercises conducted with the new force structure.

Continuity. As the BSB loses its bulk storage capability and relies more heavily on the division-aligned CSSB, continuity is reduced. However, the FSSP that has moved to the CSSB was traditionally used during stability operations, in which mobility is not as large of a concern. Therefore, the overall impact of the FSSP's loss is reduced because the capability

was not planned for use during offensive operations.

Effects on Stability Operations

An unexpected finding of the research was that the Army 2020 structure decreases the ABCT's ability to independently support stability operations. The removal of bulk fuel storage and water purification assets from BSBs prevents them from being self-sustaining in stability operations. Since the BSB loses all bulk fuel storage assets, it requires augmentation from the CSSB's composite supply company or a petroleum support company in order to establish bulk fuel storage.

The ability of an ABCT to independently establish a fuel farm reduces resupply requirements and the number of vehicles on supply routes. The same is true for water purification; as long as a unit with water purification equipment is located near a water source, the ability to generate potable water reduces the demand for resupply from a CSSB.

Removing water purification and



Spc. Tatiana Watler and Sgt. Melissa Vega, petroleum supply specialists from the 716th Quartermaster Company, monitor fuel distribution on June 4, 2016, at the fuel farm at the Drawsko Pomorskie Training Area, Poland, during Exercise Anakonda 16. (Photo by Timothy L. Hale)



Pfc. Aung Kyaw, a petroleum supply specialist with the 716th Quartermaster Company, fuels a humvee at the fuel farm in Poland during Exercise Anakonda 16 on June 4, 2016. (Photo by Timothy L. Hale)

bulk fuel storage systems from the brigades essentially eliminates the ability of BSBs to support their maneuver units beyond 72 hours. This still meets the brigade's demands for self-sufficiency for offensive operations, but it increases the overall need for continued CSSB support or augmentation during defensive and stability operations.

Current Army doctrine still expects brigade commanders to execute continuous and simultaneous combinations of offensive, defensive, and stability operations outside of the United States. However, the sustainment changes in the Army 2020 design reduce the capability of BSBs to independently support anything other than offensive operations.

Further analysis is needed to determine whether or not Army Doctrine Reference Publication 3-0, Unified Land Operations, (and any other doctrine concerning the role of the brigade in tasks that are conducted

outside of the United States) needs revision to match requirements to the actual capabilities within the brigade.

The Army 2020 force structure, found in United States Army 2020 Operational and Organizational Concept: Evolution 3, represents a positive change from the modular Army force structure in five of the eight sustainment principles. What I found during the arduous process of researching and writing on the topic of sustainment in Army 2020 increased my belief that the Army 2020 force structure is capable of supporting a brigade during offensive operations. The positive effects brought about by changes made in equipment and capability outmatch any negatives caused by reducing the BSB's bulk fuel capacity.

My research also indicates the need for follow-on studies to determine the impact of these changes on current doctrinal expectations

for how brigade commanders simultaneously execute offensive, defensive, and stability operations.

Access to my entire thesis, "Sustainment in the Army 2020 Force Structure," is available online at the Combined Arms Research Library at <http://cgsc.contentdm.oclc.org/utis/getdownloaditem/collection/p4013coll2/id/3316/file-name/3367.pdf/mapsto/pdf/type/singleitem>.

Maj. Paul W. Smith is the deputy division chief for the J92 Strategic Partnerships, U.S. Pacific Command. He holds an MBA from the University of Mary and a master of military art and science degree from the Command and General Staff College. He is a graduate of the Quartermaster Officer Basic Course, Petroleum Officer Course, Combined Logistics Officer Advanced Course, Support Operations Course Phase II, and Command and General Staff Officer Course.