Logistical Support for the FA Brigade

by Lieutenant Colonel Peter W. Gibbons

"Hey Pete, we're going to go catch the 1st Armored Div Arty [division artillery]."

As the 75th Field Artillery (FA) Brigade's Executive Officer (XO), I had just finished "wiring" our logistics to support the 1st Infantry Division's breach of the Saudi berm. The brigade S3's excitement at going after the Republican Guards some 150 miles away bitterly reminded me of how I'd most likely have to start all over again to arrange combat service support (CSS) for our battalions, stepchildren for other units. Even with pre-CSS coordination made a week ahead for the contingency mission, it would all fall through the cracks. Logistics preparations would have to happen "on the fly" into Iraq.

The doctrinally mandated corps CSS slice would not be in place at the beginning, end or along the route of our "Mother of All Road Marches." Getting coherent logistical support for my separate FA brigade was turning out to be the "Mother of All Nightmares."

Operational Overview

The 75th FA Brigade deployed to Saudi Arabia in September 1990. The Army Central Command (ARCENT) attached the brigade to the XVIII Airborne Corps Artillery, and logistical support came from the XVIII Airborne Corps. Initially, the brigade supported a potential defensive operation.

The brigade spent October to December 1990 getting people and equipment acclimated to the desert and undergoing an intensive training program. But in January 1991, the XVIII Airborne Corps "chopped" the 75th FA Brigade to VII Corps to support offensive operations, and we participated in both VII Corps' main efforts during ground operations. First, we reinforced the 1st Infantry Div Arty during breaching operations and then laterally crossed two divisional zones to support the 1st Armored Div Arty against the Republican Guards. During re-deployment operations, the brigade was re-attached to the XVIII Airborne Corps.

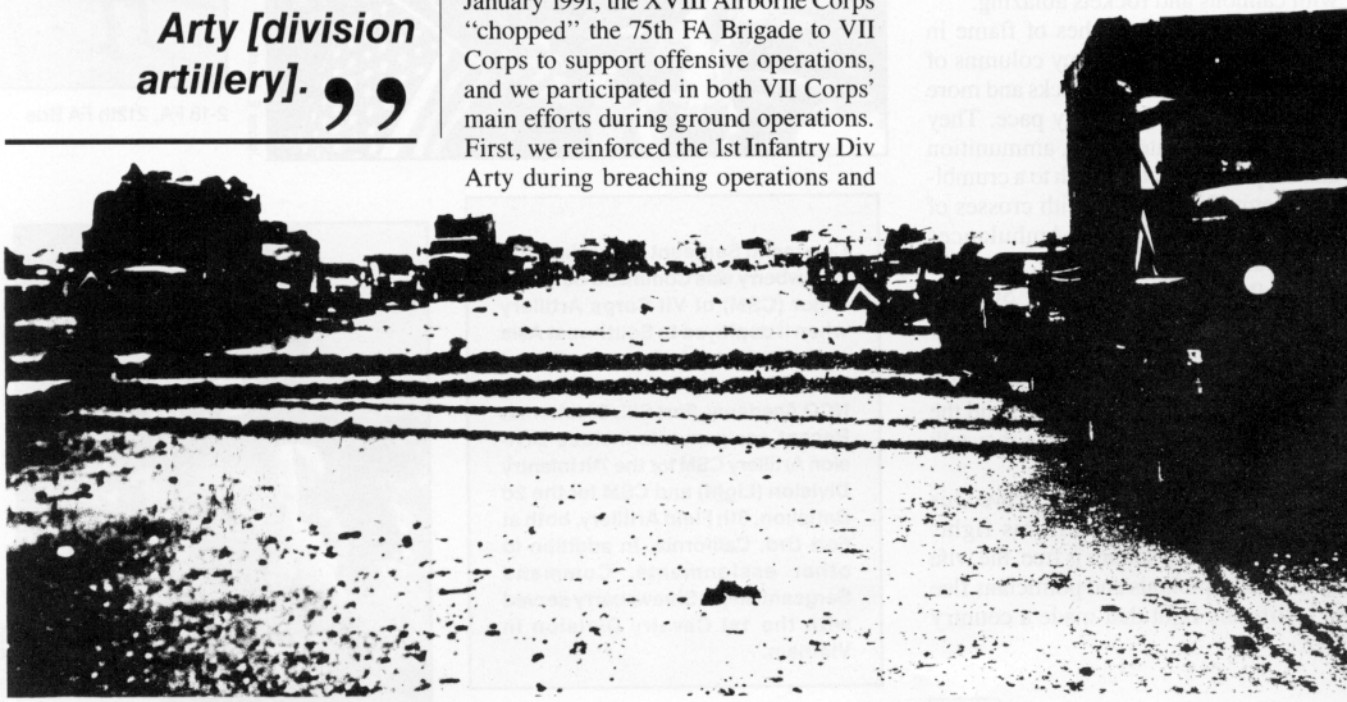
This operational overview shows how many different times the brigade had to plug-in and plug-out of different corps-level logistical support organizations. Complicating the situation somewhat was that the task organization in the brigade also was changing.

To keep from making this article too complicated, I'll hold the brigade task organization, logistical requirements and densities constant. (See Figures 1 and 2.)

Brigade Task Organization
- HHB 75th FA Bde
- 1-17 FA (155-mm) (3x6)
- 5-18 FA (203) (3x8)
- 6-27 FA (MLRS) (3x9)
- C-25 Btry (Target Acquisition) (Q36 and Q37 Radars)

Brigade Density
- More Than 2,000 Soldiers
- 154 Tracked Vehicles
- 480 Wheeled Vehicles
- 195 Trailers

Figure 1: The 75th FA Brigade Task Organization and Density. Although battery- and battalion-sized units changed, the brigade always had three battalions (plus) and four weapons systems, including Army TACMS.



Class of Supply	Item	Remarks
I	MRE Bulk Water Bottled Water	500 Cases Daily 10,000 Gallons Per Day (Haul Cap = 9,000) 500 Cases Daily
III	Bulk Fuel DF2 Only	30,000 Gallons Daily if Moving 5,000 Gallons Daily if Not Moving 27,300 DF2 Haul Capability
V	Ammo	Situation Dependent 8''/155-mm/MLRS/Army TACMS/Small Arms
IX	Repair Part	High priorities ASL and PLL

Figure 2: The 75th Brigade's Logistical Requirements During Operation Desert Storm.

Essential Tasks	Grade	Remarks
Manning	"C"	Health, Clothing, Rations, Individual Equipment, Chaplain, Finance, Legal, Water and Life Support
Arming	"D+"	Weapon Systems and Small Arms
Fueling	"D-"	Bulk Fuel
Fixing	"F"	Class IX and Major Assemblies (Cannibalization Point)
Moving	"D-"	People, Equipment and Life Support (MTOE and Other)

Figure 3: CSS Report Card. The grades given by the author for the support received by the 75th FA Brigade under the area support concept.

Although battery- and battalion-sized units changed with the changing task organization, two facts remained constent. The 75th Brigade stayed a three-battalion-plus unit and had four fire support weapon systems: 155-mm, self-propelled, and 8-inch howitzers, the multiple launch rocket system (MLRS) and the Army tactical missile system (Army TACMS).

The Problem

Corps area support groups and battalions, by doctrine, provide CSS to FA brigades under the "area support concept." The brigade's FA battalions deploy three to five kilometers from the forward line of own troops (FLOT) and, theoretically, receive support under this concept; corps logistical units are to support all non-divisional units in a given area.

During Desert Storm, this concept worked better on paper than in the field. If asked to fill out a report card on the five essential CSS tasks, the grades depicted in Figure 3 would characterize the adequacy of CSS for the 75th FA Brigade. In short, we continually struggled with a lack of CSS equipment and resources and poorly developed logistical plans to support non-divisional units.

VII Corps Rear
- Corps Support Command (COSCOM)
  - 800th MMC
    - 7th CSG (4 LTFs: 1st and 3d Armored Divisions)
    - 16th CSG (2 Logistics Bases)
    - 159th CSG (2 LTFs: 1st Infantry and 1st Cavalry Divisions)

Figure 4: VII Corps Logistical Support Structure During Desert Storm.

159th CSG
- 87th LTF
  - 147th Maintenance Company
  - 493d Supply and Service (S&S) Company
  - 557th Maintenance Company
  - 1229th Medium Truck Company (60 Tractors and 91 Trailers)
- 286th LTF
  - 504th Maintenance Company
  - 1052d Medium Truck Company (No Trucks until about 22 February)
  - 1158th Heavy Truck Company (Assets to 4th Transportation)
  - 1174th Petroleum, Oil and Lubricant (POL) Company
- 16th CSG: 2 Logistics Bases

Figure 5: 75th FA Brigade Support in the 1st Infantry Division Sector.

Getting Plugged In

Figure 4 depicts the VII Corps logistical support structure. The 159th Corps Support Group (CSG) had two logistics task forces (LTFs) supporting non-divisional and divisional units in the 1st Infantry and 1st Cavalry Divisions sectors. While in the tactical assembly area (TAA), initial fighting positions and through the breaching operations, the 159th CSG's 87th LTF and 286th LTF supported the 75th FA Brigade (Figure 5).

Transportation Support. Trucking assets were at a premium. The 1052d Medium Truck Company didn't receive its trucks until a few days before the ground war started. Hauling ammunition from port tied up most corps-level transportation assets. Divisional unit's needs and unsatisfied corps transport requirements dried up any possibility of the brigade's getting divisional trucking support. There were no trucking assets available to the brigade to move more than 100 miles from our TAA into initial fighting positions.

One might assume that an FA brigade wouldn't need help moving. Not so. When you factor in the requirement to move desert life support items, extra bulk water, refrigerator (Reefer) vans without tractors, a full unit basic load (UBL) of ammunition, four extra gun crew sections in each cannon battalion (about 44 soldiers per battalion) and the complete modification table of organization and equipment (MTOE), it's impossible for an FA brigade to move without external hauling support.

The "work-around" options were bleak. We could make multiple trips or leave some "non-essential" items back. We ended up doing both. As we approached G-Day (ground war), we stored and dropped enough equipment to carry our equipment in one move. That meant we went into the ground war with no life desert support items, Reefer vans or extra bulk water.

Point: FA brigades need dedicated hauling equipment over and above their current TOE or additional MTOE assets, for example, heavy expanded-mobility tactical trucks (HEMTTs).

The area support concept proved marginally adequate while the brigade was in the 1st Infantry Division's sector, and it wasn't any better in the 1st Armored Division. Figure 6 shows how the

1st Infantry Division and VII Corps logistical units dispersed over great distances after moving from their TAAs into initial pre-G-Day positions.

VII Corps gave the 75th FA Brigade movement orders from our TAA two days before the 159th CSGs moved out. Therefore, we had to "strike a deal" with the 16th CSG to support us until the 159th CSG positioned itself to provide support. Accordingly, the 16th CSG's TF Bennet at Log Base Echo provided the first three days of support to our battalions. That meant all supply, mess and motor sergeants and XOs made daily trips 60 to 70 kilometers back to the log base. Although TF Bennet could have "pushed" supplies forward to a logistical resupply point (LRP), it didn't have the transportation assets to do so. Its primary mission was supporting Log Base Echo.

Point: Planning needs to ensure logistics and supply points are established before customers move into the sector.

Supply Support. The 159th CSG (with both its LTFs) set up in the 1st Infantry Divison support area (DSA). That put the CSG 20 kilometers north of Log Base Echo but still some 45 kilometers from 75th Brigade units—still too far to make supply runs. Coordination with the 87th LTF commander produced a logistics resupply point (LRP) about 18 kilometers from the 75th tactical operations center (TOC). A closer LRP would have been preferable, but at the time locating it at the end of the main supply route (MSR) and next to a known ammunition supply point (ASP) seemed to be in our mutual interest.

The LRP provided limited CSS. It operated from 1000 to 1400 hours and only issued meals ready to (MREs), bulk water, bulk fuel and, sometimes, bottled water. The CSS was limited because the LTF had too few assets, navigational concerns and long round-trip supply runs to Log Base Echo, some 15 to 20 kilometers away.

Point: Supply points need to be established closer to customer units and issue the variety of supplies the customers need.

CSS Navigational Dependence. Navigating in the desert to the supply points severely constrained CSS operations from both the "provider" and customer perspectives. Operations personnel seized available global positioning system (GPS) devices. Commanders had justified concern over soldiers and convoys getting lost in the desert. They proscribed nighttime movement before G-Day and relented only if the lead vehicle had a navigational device. MSRs, well established in the VII Corps rear around Log Base Echo and through the division rear into the brigade sectors, proved to be tremendous navigational aids. Once off an MSR, however, navigation was very difficult both day and night.

Two points: Well-established and properly marked MSRs not only control traffic, but also serve as navigational aids. We need to add navigational devices to units MTOEs in enough quantities to satisfy navigationally dependent CSS functions.

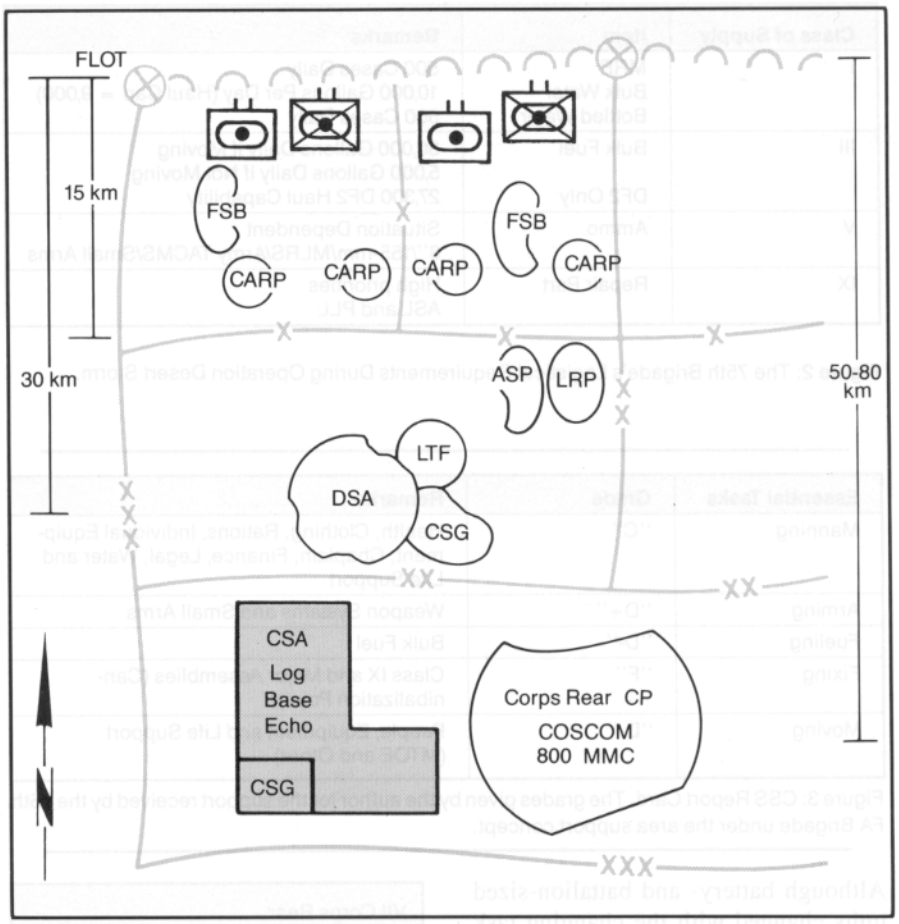


Figure 6: The 1st Infantry Division Sector. This figure shows how the 1st Infantry Division and VII Corps logistical units dispersed over great distances after moving from their TAAs into initial pre-G-Day positions. The corps ammunition resupply points (CARPs) were located forward in the maneuver brigade sector.

Pushed Supplies. Even after the logistical units were set up, an LRP was established and MSRs were well known, the supply system wasn't adequate. Supply vehicles had to travel back to the LTF area in the DSA—40 to 45 kilometers—for food other than MREs, all Class IX, major assemblies and other classes of supplies not issued at the LRPs. When the LTF or the CSG in the DSA couldn't help, those same supply vehicles went all the way back to Log Base Echo.

Two days before G-Day, the 87th LTF split some of its assets and moved closer to the 1st Infantry Division's brigade sectors and on the flanks of the division. This cut down some travel time but only provided the same limited service the LRPs provided.

Point: Supplies need to be pushed forward in enough types and quantities for non-divisional units.

Pulling the Plug Out—Trying to Plug Back In

One week before G-Day, the 75th FA Brigade prepared to execute numerous on-order missions after the 1st Infantry Division's breaching operation. The brigade commander told me to coordinate for all on-order missions but to focus on the option of supporting the 1st Armored Division. Most importantly, we had to ensure we had fuel and ammunition when we got where we were going.

I coordinated with the 1st Armored Division's 7th CSG as well as 71st LTF (see Figure 7). They didn't know the 75th FA Bde might be supporting the 1st Armored Division. I gave them our requirements, densities and best guess as to what we'd need when we were in their area, emphasizing fuel and ammunition. I had the 75th FA Brigade S3 remind the 1st Armored Div Arty of our 30,000-gallon fuel requirement going into the division sector. The fuel never showed up.

7th CSG
- 71st LTF: 1st Armored Division Sector
  - 156th Maintenance Company
  - 317th Maintenance Company (Direct Support to 2d Armored Cavalry Regiments and 1st Armored Division)
  - 240th S&S Company
  - 1742d Medium Truck Company
  - 1157th (Platoon of 5-Ton Trucks)
- 1st LTF: 3d Armored Division Sector
- 6th LTF: S&S Battalion Headquarters
- 213th LTF: Transportation Headquarters
- 16th CSG: Log Base Echo

Figure 7: The 75th FA Brigade Support in the 1st Armored Division Sector.

As for the ammunition, there was no plan to have any 203-mm projectiles and extra 155-mm and MLRS ammunition in the 1st Armored Division area. The 7th CSG sent me back to the 800th Materiel Management Center (MMC) to coordinate for ammunition. The MMC's response was, "We're already positioning your brigade's ammunition in the 1st Infantry Division sector, and we can't do both. We just don't have the transportation assets." That was not what I wanted to hear. The MMC did say it might have the ammunition in the 1st Armored Division sector by G+3 days.

I informed the commander and let the problem run through command channels. It did, and we were told the ammunition would be there. But it never was. The closest the ammunition ever got was to an ammunition transfer point (ATP) more than 55 miles from our cease-fire position in the 1st Armored Division sector (see Figure 8). I don't think any 203-mm projectiles made it to the ATP. If the ground war had continued, the 75th FA Brigade guns would have run out of ammunition, and the supply chain would have taken days to fix the problem.

Point: We need to develop a detailed fuel and ammunition supply plan with enough assets to keep up with offensive operations. FA brigades need the assurance that what they need will materialize, and the CSS community needs the assets to provide that assurance.

Weather. During the ground war and just after the cease-fire, there was another problem that completely stopped logistical operations: the weather. We had tremendous rains that stopped all 18 wheelers for about 30 hours. MSRs weren't well-established, and most wheeled vehicles had trouble.

Point: Logistical assets in the year 2000 need to be able to keep up and go where the fight goes.

As you can see in Figure 8, we had a difficult time keeping the brigade supplied with the bare necessities of Classes I and III (Fuel). Class IX and major assemblies were even more difficult to acquire.

More on Class III. We were two hours from being bone dry when the 1st Armored Division stopped forward movement; the division had the same fuel problems we had. I took most of the brigade's tankers 55 miles back to the DSA and loaded them with fuel. The 71st LTF commander was only going to give us 5,000 gallons—all he had. But after a few hours of waiting, we got about 20,000 gallons.

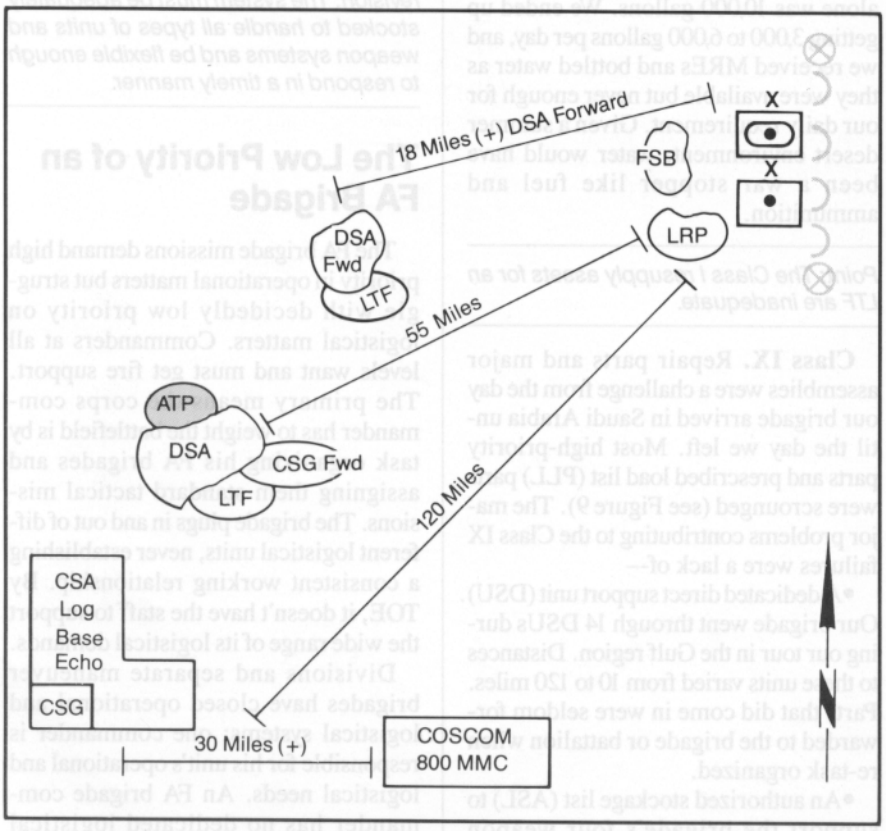
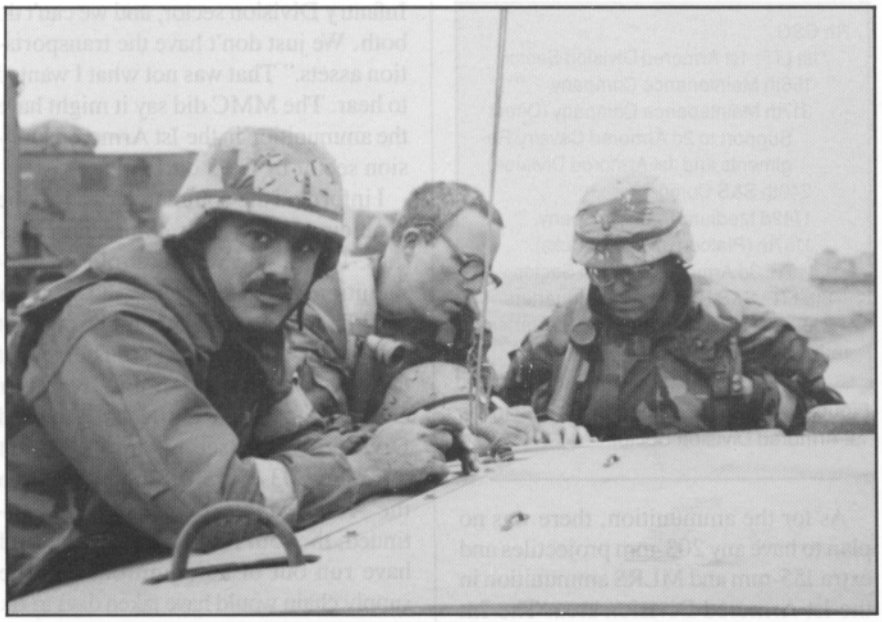


Figure 8: The ammunition resupply promised the 75th FA Brigade for G+3 never arrived. The brigade would have had to travel 55 miles from its cease-fire position to the nearest ATP. If the ground war had continued, the brigade would have run out of ammunition, and the supply chain would have taken days to fix it.



Log planning "on the fly" in Desert Storm—the author is flanked on the left by CW2 Gary Hilliard, Brigade Maintenance Technician, and on the right by Major Tom Eccleston, Brigade S4.

At the same time, the division had pushed about 30 fuel tankers forward, close to the forward support battalion (FSB). On our return trip from the DSA, we ran into this load of fuel. We still had one empty tanker and three that hadn't made the trip. The plan was to fill them with these divisional assets. After talking with the division G4, he said we were authorized 5,000 gallons. (He didn't know we had the fuel from the LTFs). As it was, he gave us 7,500 gallons. If we hadn't taken our fuel tankers on the 110-mile round-trip, the brigade would have run out of gas. The division's 7,500 gallons wouldn't have been enough to keep us rolling.

After a couple of days, the DSA and LTF moved some elements to a forward location and cut the distance down to about 18 miles; it took three days to get our vehicles and tankers topped off. If the division hadn't stopped, we all would have run out of fuel.

Point Again: We need a detailed fuel plan and assets to support it.

Class I. From this same location, we ran out of bulk and bottled water and were very low on MREs because of reoccurring problems: 18 wheelers getting stuck in the desert and inadequate trucking assets.

The bulk water situation was never resolved. The LTF had three 3,000-gallon water blivits. It had to supply a mobile Army surgical hospital (MASH) unit, non-divisional engineers and our brigade with its 9,000-gallon capacity. The daily requirement of the brigade alone was 10,000 gallons. We ended up getting 3,000 to 6,000 gallons per day, and we received MREs and bottled water as they were available but never enough for our daily requirement. Given a summer desert environment, water would have been a war stopper like fuel and ammunition.

Point: The Class I resupply assets for an LTF are inadequate.

Class IX. Repair parts and major assemblies were a challenge from the day our brigade arrived in Saudi Arabia until the day we left. Most high-priority parts and prescribed load list (PLL) parts were scrounged (see Figure 9). The major problems contributing to the Class IX failures were a lack of—

- A dedicated direct support unit (DSU). Our brigade went through 14 DSUs during our tour in the Gulf region. Distances to these units varied from 10 to 120 miles. Parts that did come in were seldom forwarded to the brigade or battalion when re-task organized.
- An authorized stockage list (ASL) to support the brigade's four weapon systems. Most of the DSUs supporting the brigade didn't have the required weapon system parts and major assemblies on hand to fill high-priority parts or PLL.
- An accurate stockage list. From the MMC down to the DSU levels, it appeared that there wasn't an accurate list of what parts were on hand or where they were located. Everyone knew there were parts available; they just didn't know where they were.
- Transportation assets to push major assemblies forward. This caused units to spend most of the day on the road scrounging parts to maintain operational readiness.

Source	% PLL	% High-Priority Parts
Technical Supply	40	20
Fill or Kill (Scrounge)	30	50
Local Purchase (Scrounge)	5	10
Good Ole Boy (Scrounge)	25	20

Figure 9: The 75th FA Brigade's procurement percentages of PLL and high-priority parts used during the ground war.

Point: The entire Class IX system needs revision. The system must be adequately stocked to handle all types of units and weapon systems and be flexible enough to respond in a timely manner.

The Low Priority of an FA Brigade

The FA brigade missions demand high priority in operational matters but struggle with decidedly low priority on logistical matters. Commanders at all levels want and must get fire support. The primary means the corps commander has to weight the battlefield is by task organizing his FA brigades and assigning them standard tactical missions. The brigade plugs in and out of different logistical units, never establishing a consistent working relationship. By TOE, it doesn't have the staff to support the wide range of its logistical demands.

Divisions and separate maneuver brigades have closed operational and logistical systems; one commander is responsible for his unit's operational and logistical needs. An FA brigade commander has no dedicated logistical assets. He must depend on corps logistical units to support him.

The chain of command for enforcing logistical priorities penalizes the FA brigade commander. He must present his

issue to the corps artillery commander (a brigadier general), who then may present the problem to his peer, the corps support command (COSCOM) commander or the deputy corps commanding general (a major general). The problem must work its way through these filters before it gets to the corps commanding general (a lieutenant general). On the other hand, if a division commander has a logistical problem, he goes directly to the COSCOM commander, who he outranks, or tells the corps commanding general, who fixes it quickly.

The bottom line is that the FA brigade has less clout than divisional units. The following are a few examples of how the logistical priority system affected our brigade.

•**Class II Desert Camouflage Uniform (DCU) Issue.** Our brigade deployed in September, and up until the final week in April, operated with only two sets of DCUs per soldier. There was an attempt to issue us a third set per soldier one month before redeployment. They issued us 1,500 sets of DCUs, all of which were either extra small or extra large.

•**Water Tankers.** When the brigade was task organized under VII Corps and left the XVIII Airborne Corps area, we had to give back our water tankers. The XVIII Airborne Corps said it was VII Corps' responsibility to provide us water tankers. VII Corps didn't have any to give us.

•**HEMTT Fuel Tankers.** One of our battalions was short two heavy expanded-mobility tactical trucks (HEMTT) tankers on its MTOE. We reported this shortage daily. When the flock of HEMTT tankers arrived in country, VII Corps prioritized the issue to swap out divisional 5,000-gallon tankers on a two-to-one ratio first; then, if there were any left over, the brigade would get two. On G-1, we had to travel more than 250 miles to port and pick them up.

Conclusion

Logistical support for the FA has some serious flaws, providing potential for innovative improvements. When you look at what the brigade accomplished, you'd have to say the system isn't entirely broken. That's true. But we made the system work because dedicated soldiers and NCOs kept vehicles running, scrounged parts and pulled proper preventive maintenance checks and services (PMCS); because service battery and headquarters and headquarters battery (HHB) commanders lead supply convoys over large distances with their navigational devices; and because logistics personnel supporting our brigade bent over backwards and took short cuts trying to support us.

One major reason we "survived" in the VII Corps area of operations was the efforts of the VII Corps Artillery G1 and G4. Collocated with the VII Corps rear, COSCOM and 800th MMC, they were outstanding spokesmen for all the FA brigades.

But the supply system for the FA brigade is seriously flawed. Here are several options we need to study in detail.

•Give the FA brigade its own forward support battalion (FSB). The FSB would coordinate for and provide all classes of supplies. It would provide a logistical planning staff, a constant DSU for all weapon systems and additional haul capabilities. Problems would still arise when battalions were individually re-task organized, but they would be minor compared with current ones. The FSB would have to be highly mobile to support the FA brigade moving quickly across divisional and corps boundaries in the maneuver main effort.

•Give the division support command (DISCOM) the mission of supporting one additional FA brigade and the TOE to do it. The DISCOM would need enough permanently assigned assets to accomplish all the requirements to support an FA brigade like a dedicated FSB would. This would allow the FA brigade to move across the battlefield and plug into the DISCOM. There still would be chain-of-command problems with this option, but it would move support and responsibility for that support closer to the FA brigade.

•Design a hybrid support structure for the mobile FA brigade, using an existing corps support battalion's assets. For example, we could mix heavy equipment transporters (HETs) with HEMTTs in a "type" transportation company, have a maintenance company with an ASL for three to four weapon systems and associated mobile support systems (MSTs) and create one platoon for missile maintenance with the brigade's MST coming from the platoon. A supply and service (S&S) platoon could carry Classes I, II, IV, limited VIII and plug into a S&S company at a nearby combat support battalion. In addition, the FA brigade would need an ATP under brigade control that draws from corps ASPs.

Whatever the ultimate solutions are, we must systematically correct the logistical support problems of the FA brigade. The Army needs the FA brigade to go where the action is and add its firepower to weight the battle for victory.

The Headquarters and Headquarters Battery, 75th FA Brigade, in position during Desert Storm.

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