

Abrams tank being loaded on C-5A.

U.S. Army (Jesse Seigal)

LOGISTICS: THE WAY AHEAD

By GARY H. MEARS and TED KIM

Summary

Shrinking forces, increasing requirements, and dwindling overseas bases are sounding alarm bells across the logistics community that future crises may not provide the lead time and massive support which made the Gulf War a so-called *logistics miracle*. Ignoring the realities of a changing security environment on strategic mobility—airlift, sealift, and war materiel prepositioning—could recreate a hollow force that proves costly in lives and terrain lost. Specific attention should be devoted to enhancing strategic mobility, the mix of Reserve and active forces, and theater reception capability. Moreover, a total asset visibility tracking system must pinpoint the exact positions of items in the pipeline and CINCs' requirements for material and supplies must be accurately identified to ensure that stock levels closely approximate needs.

After Operation Desert Storm, terms like *logistics miracle* were invoked to characterize our victory. During the war itself various analogies were drawn to capture the enormity of the task at hand. Deploying to the Gulf was described as somewhat akin to moving the citizens of Richmond, Virginia, to Saudi Arabia with their personal belongings, cars, tools, and other possessions; some months into the process, we added in the entire population of Des Moines. While no one will deny the scale of the achievement, I'm not sure that it was a *miracle* given all the resources at our disposal. The best logisticians from around the world worked with U.S. Central Command (CENTCOM) to make things happen. We had military capabilities designed to counter a global Soviet threat and underwritten by a decade of impressive defense budgets. In addition, we had six months to deploy a force which had trained and worked together in an environment with a high operational tempo; the military was at its peak which provided a substantial margin for error. That margin, however, is quickly evaporating before our eyes, and it will continue to do so.

We are in a period when the Armed Forces are being significantly reduced in size, and yet are increasingly called on to meet new operational commitments overseas. Compounding this situation is a decline in overseas basing. These realities place higher stakes on logistic capabilities. A reduced logistic force must now support increased power projection requirements. Protecting U.S. interests means fighting and winning two major regional conflicts if necessary. Added to this are new roles and functions associated with peace operations and humanitarian assistance. We are more likely to be involved in operations short of all-out war. If this Nation is to succeed with a strategy of active engagement and peaceful partnership, we must have an unencumbered overseas military power projection and sustainment capability.

If we are going to be successful in avoiding frontal attacks, then we must also have an agile logistics capability to keep up with combat forces and effectively support operational plans like the "left hook" of the Gulf War. Finally, we want to avoid becoming a hollow force like that of the 1970s when F-15s sat around for want of engines. Our most important obligation as we enter this new security era is to maintain a properly sized, combat effective, strategically agile force capable of meeting any challenge to national security. Our focus of the future must address these issues if we are to successfully deploy the Armed Forces beyond our shores.

Strategic and Operational Logistics

With the significant force structure reductions of the past few years, we sought to maintain a streamlined logistic capability to support two nearly simultaneous but sequential major regional conflicts. To meet new demands during this era of budget and force structure cuts, we must make fundamental changes in our logistic support forces and how they do business—specifically in areas of strategic mobility, war reserves, the mix between active and Reserve forces, identifying future requirements, theater reception capability, and total asset visibility. These strategic and operational issues are key to deploying and supporting forces to meet mission requirements across the entire operational spectrum well into the next century.

Logistics responsibilities are already changing at the national level. In the past nations have been responsible for providing logistics support to their own forces. We have, however, made a recent significant change in NATO so that national support need not always be direct. Support can now be provided directly or by agreement with other nations. This will help establish and sustain future multinational forces. If nations are willing to take part in peace operations but are incapable of sustaining themselves, they can at least go out and make arrangements for another country to do it for them. The Armed Forces must also move in the same direction. When we assemble a joint or combined force, each service is individually responsible for manning, training, equipping, and sustaining its component—directly, by cross-service agreements, or

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through other arrangements. In the future, we will have to think and rely more on those other arrangements.

One of the most pressing operational dilemmas facing the military today is the increasingly constrained capability to rapidly project large numbers of personnel with their equipment to trouble spots worldwide. While this was done in the Gulf, similar conditions may not exist in the future. But

the need for projecting power is growing—in size, likelihood, and importance—as we rightsize, reduce overseas basing, and lose vast materiel reserves positioned around the world for a global war. Overseas projection capability is a critical element of our post-Cold War military strategy. The best trained and equipped, most powerful and capable forces will become absolutely irrelevant if we need four to six months to move them to a trouble spot. The Nation's credibility is directly linked to credible power projection.

Strategic Mobility

Projecting force to meet major regional contingency time-line criteria depends on a strategic mobility triad comprised of airlift, sealift, and prepositioned war materiel. The United Nations also relies on our mobility capabilities; today the United States supports virtually every U.N. military deployment. But once again, the requirements are increasing while our capabilities are decreasing.

Airlift. Many elements make up our strategic airlift capability. The most troubled relates to the core airlift capability, the C-141. Simply put, we depend on C-141s as the airlifter of choice to deliver large payloads of equipment and troops as well as to perform airdrop missions in wartime. Although we have 214 C-141s, they are too old to do the job. They have been flown extensively over the last few years meeting urgent requirements from the Gulf War to humanitarian operations such as Somalia, and closer to home for disaster relief in the wake of Hurricane Andrew. Twenty C-141s were retired in the past year. But we are recovering from the extreme fleet operational and payload restrictions of 1993 with a projected, unrestricted get-well date of December 1994.

Even with an average of 8–10,000 hours of projected service life remaining on each aircraft, we should not assume that the C-141 will remain the prime airlifter much longer.

C-5 aircraft are also aging. System reliability, critical spare part shortages, and prolonged maintenance periods barely allow for a 66 percent operational effectiveness. Our future core airlift capability is enormously dependent on fielding the new C-17. We have worked to attain an initial operational capability of 12 aircraft by 1995 with full operational capability of 120 aircraft by 2003. The C-17 program is under scrutiny and subject to termination at 40 aircraft unless production and test milestones are met. If the program is scaled back we must go forward with a general transport to immediately supplement the current fleet and to perform the core airlift function in the future.

Toward that end Congress set aside funds for possible acquisition of a non-developmental airlift aircraft to complement the C-17. Depending on the number of C-17s ultimately procured and ongoing requirements analysis, there is the option of supplementing or increasing the present capacity by acquiring new C-5s or currently produced wide-bodied commercial aircraft, such as the 747-400 or the MD-11. Upgraded C-5s would fill the outsize cargo lift void while the commercial designs would optimize bulk and oversize cargo delivery to developed airfields. With state-of-the-art technology for efficient operation as well as for meeting environmental standards, such aircraft would free the military-design fleet for more demanding mission scenarios.

Purchasing used commercial aircraft also could provide a relatively low-cost increase in our airlift capacity. Leasing commercial aircraft is an option that would exploit the industry's current excess capacity and offer crew and maintenance support to reduce military personnel, training, and overhead costs while strengthening our bond with the commercial air transport sector.

Lastly, the Civil Reserve Air Fleet (CRAF) provides up to 50 percent of our wartime airlift capacity. We must re-energize this partnership. In war CRAF will be called upon to move over 30 percent of air cargo and 90 percent of all troops. We could not have fought the Gulf War the way we did without CRAF although the Gulf War experience was

overseas projection capability is a critical element of our post-Cold War military strategy



Allied forces assisting displaced Iraqis.



Engineers directing truck on board American Falcon.

U.S. Air Force (James Mossman)

not a good one for U.S. flag airlines. Those airlines which supported military requirements felt that they were placed in unfair business positions vis-à-vis their competitors. DOD must provide for adequate business incentives to offset revenues lost when wartime contingencies activate CRAF assets. Also, the existing governmental insurance and indemnification ceilings must be raised

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to cover replacement costs should aircraft be damaged or lost on CRAF missions. The commercial airline industry is understandably reluctant to risk planes when DOD may not be able to reimburse their losses fully and immediately.

Today, our Civil Reserve Air Fleet is smaller than in 1990. This trend must be reversed.

Sealift. During the Gulf War build-up, General Schwarzkopf remarked: "When this war is over, the record must show that maintenance and care of our scarce national sealift assets is crucial if we are going to maintain a credible contingency force for the future." There were many reasons why it took so long to deploy ground forces from the United States to Saudi Arabia, chief among them the inadequacy of strategic

sealift. During the massive military build-up of the Reagan years relatively few dollars went toward improving sealift. Consequently, it took six months to deploy a counterattack force when it should have taken a third of that time.

Based on the lessons of the Gulf War, defense dollars have been programmed for sealift construction. The centerpiece of the Navy's strategic sealift program is the Large, Medium Speed, Roll-on/Roll-off (LMSR) ship. Construction and conversion programs are underway to provide 19 such ships by 2001. They will furnish two million square feet for strategically positioned afloat war reserves as well as three million square feet of wartime sealift surge capacity. Afloat war reserves are key to maintaining global strategic agility.

It has taken decades to get adequate funding for a fast sealift capability. While the Bottom-Up Review validated the need for these ships, we must nevertheless protect the funding throughout this decade to obtain them. This is the minimum required to support our strategy, and losing the funds for any of the 19 vessels will increase the risk to our capability from medium to high (or possible

mission failure). In other words, deployment of two heavy divisions for a major regional contingency would be severely degraded. The ships are even more critical to fighting and winning a second nearly simultaneous major regional contingency. Without them it is questionable whether we can meet the enormous strategic lift requirements within established planning time lines.

War Reserve Prepositioning. The third part of our strategic mobility triad is prepositioned land and afloat materiel. There have been major changes in both areas in the last few years. Land prepositioning has been substantially reduced because of changes in war reserve strategy with the end of the Cold War. Previously we maintained war reserve materiel sets for many divisions in Europe; now we are steadily drawing down to brigade-sized sets. Moreover, we no longer acquire and position war reserve stocks in preparation for a global war contingency. Our new war reserve strategy calls for acquiring and positioning stocks for only the two most demanding major regional contingency scenarios. The basis of this strategy is that if we can sustain those scenarios, we can support all less demanding contingencies. Obviously, our afloat prepositioned materiel is a key force enhancement to making this strategy work.

Since we no longer procure at Cold War levels—to position large quantities of equipment and supplies to meet each and every possible contingency—what is positioned afloat has grown in importance. Referred to as swing stocks, they can be moved quickly from one region to another providing theater commanders with immediate war reserve stocks to meet regional contingencies.

Eight of the new LMSR ships will be dedicated to afloat prepositioning. They will contain equipment and supplies to sustain the initial combat brigade elements deployed to an objective area. The goal for the Army is to eventually have 27 ships for afloat prepositioning; the Marine Corps is to have another 13 (known as Maritime Prepositioning Force ships) dedicated to its wartime needs. Since the first new LMSRs will not be available until FY96, parallel programs will provide interim

afloat prepositioned capabilities as early as this current fiscal year. Since near- and long-term ship programs are intended for future contingencies, it is sometimes tough to defend them in the budget process when competing against other requirements. We can no longer allow programming delays or cuts. Strategic mobility funding requirements cannot be continuously used to pay bills for other programs in the budget. These new cargo vessels are absolutely essential if the United States is to remain engaged worldwide with a credible power projection capability. They will provide strategic agility to respond to any global trouble spot.

Active and Reserve Forces

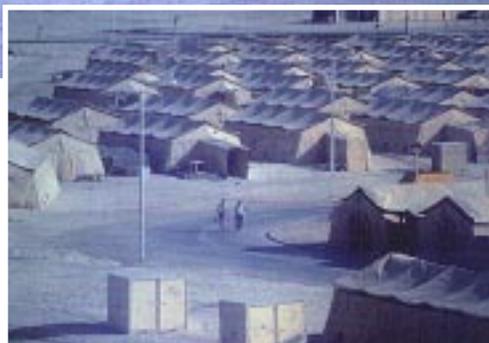
More and more the Armed Forces are being committed to what were once described as nontraditional military roles, namely, overseas humanitarian operations. This trend is likely to increase. Humanitarian operations generally require support force capabilities instead of combat capabilities. Humanitarian assistance requires assets basic to logistic support, a prime example being the forces involved in airdropping supplies in Bosnia. Another example is Somalia. Though there has been a significant reintroduction of combat troops to Somalia the mission remains primarily humanitarian. Close to 70 percent of all active non-divisional supply units assigned to Army Forces Command (FORSCOM) have deployed to Somalia to meet this requirement. Some 30 percent of FORSCOM petroleum and field services force structure also is committed. This indicates how little—only 40 percent—of the Army's total logistic force structure resides in the active component. Our strategy and missions no longer allow us to do business this way. That the active force must be augmented by individual Reservists and civilian contractors indicates that the active and Reserve component mix must be restructured.

The bulk of combat service support has always been in the Reserve. This means retaining in the active force only what is needed for initial phases of contingencies and, when requirements near or surpass capabilities, mobilizing elements of the Reserve. Rarely in the past has that need arisen. Over 190,000 personnel were mobilized for

humanitarian operations generally require support force capabilities instead of combat capabilities



Shrink wrapping helicopters for shipment.



Temporary base in Saudi Arabia.

U.S. Air Force (James Mossman)

Joint Combat Camera Center

strategy cannot be ignored. By all indications the Clinton administration is intent on supporting humanitarian needs worldwide. Absent a proper mix of active and Reserve forces or support to combat force ratio in the active component, our abilities to meet contingencies in the future will be severely constrained.

One last note with regard to the Reserve: we must change the Presidential selected Reserve call-up authority to provide flexibility in dealing with U.N. and other humanitarian requirements. Currently, the President can mobilize up to 200,000 Reservists. We need to permit their activation for up to 360 days instead of the presently authorized 180 days and also authorize the Secretary of Defense to call up 25,000 Reservists for those situations short of a major regional contingency. With changes specialty units needed to effect rapid deployments could be called up, for example, air crews to support round-the-clock cargo flights.

Total Asset Visibility

Winning the battlefield information war remains a major modernization objective for all the services. We cannot fight and win conflicts without keeping up with ever-increasing requirements for information. For both tank commanders and theater CINCs, decisions cannot be made without real time information. Total asset visibility is intended to give decisionmakers timely information on materiel items. Logisticians should know the exact location and status of virtually any item, be it a damaged aircraft repair part en route to depot or a smart munition in the pipeline for a CINC. The application of decisive force by a CINC totally depends upon knowing the location of critical weapon systems, munitions, or repair parts. Today's limited inventories magnify this need over what was once standard and plentiful. Work has been underway to create this capability for twenty years, but we are far from achieving the desired result. Many of us have seen the Federal Express television commercial in which an office worker, under intense pressure to tell the boss the status of a delivery, retrieves the required data in seconds. That is the ability that CINCs expect today. Clearly, total asset visibility is an enhancement that is essential to offsetting the significant reduction of inventory assets.

Desert Storm; previously, no large numbers of Reservists had been mobilized since the Vietnam conflict in 1965. Mobilization of the Reserve is easier said than done. It involves difficult, complex decisions with a range of political, military, and economic implications. Experience indicates that prospects for a Presidential selected Reserve call-up to support humanitarian missions is unlikely in today's environment. The last mobilization for humanitarian reasons was during the Berlin Airlift in the 1950s. Given these realities, we must study the mix of active and Reserve component

logistic units within the framework of humanitarian mission requirements. The present mix worked for global war and

major regional contingencies, but it is not efficient to support large-scale humanitarian missions where the logistic support forces primarily help foreign nationals—or Americans for that matter—during disaster relief operations. When the limited active logistic units are committed to humanitarian missions, they are unavailable to carry out the principle mission of supporting and training with their assigned organizations.

The services must consider humanitarian mission needs in force planning. While preparing to win major regional contingencies remains our chief consideration, the realities of the security environment and defense

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Determining Requirements

With reduced defense budgets we cannot afford to procure and stock materiel in the same way as during the Gulf War. Stocks must precisely equal what the CINCs need to fight the next battle. Quantifying logistic requirements is an area which still needs much work. We are starting to implement a new capability-based requirements determination process. When in place it will be a major force enhancement.

As the result of a munitions requirements analysis initiated last year under the direction of the Joint Staff, wartime needs are being identified using a methodology agreed to by the CINCs, services, Defense Intelligence Agency, and Joint Staff. This requirements determination process meets the needs of all the CINCs, builds and incorporates an estimate of out-year threat capabilities into the process, and establishes for the first time a methodology for allocating threat destruction to the CINC's service components. The end result will be a much more accurate determination of our needs based on battle plans. This is a credible determination process from all vantage points which provides a high confidence level that CINCs will have the necessary means to decisively destroy an enemy. In addition, there will be substantial reductions in what is procured, stocked, and shipped to a theater to fight the next battle.

During the Gulf War build-up, over 400,000 anti-tank rounds were requested to ensure the destruction of 5,000 enemy tanks. In many cases, requirements for anti-tank and other preferred rounds exceeded worldwide stock levels or requirements identified for a global scenario. In other words, our procurement requirements and theater CINC requirements were out of synchronization. We did not have a rationalized system which linked procurement calculations and projected CINC requirements. Only some 43,000 rounds were fired. A number of conditions contributed to the low expenditure rate, from the CINC's superb tactical planning and execution to the decision to terminate hostilities before destroying the total enemy force. Without drawing an overly simplistic conclusion, it is safe to say that had a requirements determination process been in place, we would not have had to commit as many ships to moving ammunition to the Persian Gulf.

Theater Reception

Once a robust strategic mobility triad is in place, our major force projection weakness will be a constrained theater reception and distribution ability. This limitation could seriously impede a CINC's ability to prosecute a war. In-theater movement, in most notional contingencies, provides the most demanding logistic challenge. We are likely to operate in developing nations where there are poor highway and rail networks as well as a limited airfield and seaport throughput capacity. With mobility improvements in place, for example, CENTCOM could expect to receive as much as a half-million short tons of materiel and supplies daily by C+54. To deal with the magnitude of this requirement, a Theater Logistic Support General Officer Steering Committee has been formed to enhance theater logistics; the committee is evaluating the theater logistic process, total asset visibility, and materiel distribution. Its work is vitally important to determining the next series of logistic force enhancements.

In August 1990, General Schwarzkopf knew what he needed in theater to accomplish his mission. On learning that it would take months to get heavy combat forces in place, he remarked: "Once again . . . the fighting dog is wagged by the logistics tail." We can't afford to keep another CINC waiting. Delays in providing men and materiel may result in unnecessary loss of lives and terrain. Readiness to fight and win the next major regional contingency, while sustaining daily forward presence, requires fundamental change. Enhancing the strategic mobility triad, the mix of active and Reserve forces, total asset visibility, the ammunition requirements determination process, and theater reception logistics must be pursued. Force structure reductions could lead to a logistically hollow force if downsizing impedes these logistic force enhancements. **JFQ**