

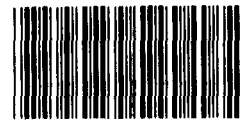
GAO

Report to the Chairman, Subcommittee on
Readiness, Committee on Armed Services,
House of Representatives

November 1992

OPERATION DESERT SHIELD

Problems in Deploying by Rail Need Attention



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November 13, 1992

The Honorable Earl Hutto
Chairman, Subcommittee on Readiness
Committee on the Armed Services
House of Representatives

Dear Mr. Chairman:

This report responds to your request that we assess the effectiveness of Army deployment from locations within the continental United States to ports of embarkation in support of Operation Desert Shield. In particular, you asked that we determine whether problems with transportation plans and resources identified in a 1987 GAO report have been addressed. The report contains recommendations to the Secretaries of Defense and the Army aimed at improving the Army's ability to move equipment to ports of embarkation in support of future conflicts.

Unless you announce its contents earlier, we plan no further distribution of this report for 10 days from its issue date. At that time, we will send copies to the Secretaries of Defense, Transportation, and the Army, and other interested parties. We will also provide copies to others upon request.

This report was prepared under the direction of Richard Davis, Director, Army Issues, who may be reached at (202) 275-4141 if you or your staff have any questions. Other major contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in cursive script that reads "Frank C. Conahan".

Frank C. Conahan
Assistant Comptroller General

Executive Summary

Purpose

To quickly deploy its forces in wartime, the Army depends heavily on the rail system to transport its equipment from installations to ports of embarkation. The rail facilities and loading operations at Army mobilization stations are therefore focal points for deployment, and they are expected to become increasingly critical to the Army's ability to rapidly deploy its forces as units in Germany, Korea, and other locations return to the United States.

At the request of the Chairman of the Subcommittee on Readiness, House Committee on Armed Services, GAO evaluated the effectiveness of rail operations at selected Army mobilization stations that deployed major combat units during Operation Desert Shield. GAO also determined whether the Army and the Department of Defense (DOD) had corrected previously identified problems concerning (1) the availability of commercial rail cars to support deployment and (2) the supply of rail-loading materials and equipment at mobilization stations.

Background

The Army Forces Command has designated 47 Army installations in the continental United States as mobilization stations from which deploying active and reserve units will leave for ports of embarkation. Forces Command is responsible for ensuring that these stations can meet expected mobilization and deployment transportation requirements.

Deteriorating rail facilities at mobilization stations have been a long-standing problem. In 1986, the Army designated Forces Command as its executive agent for managing rail facility repair and rehabilitation projects at mobilization stations, and planned to spend about \$140 million on these projects during fiscal years 1986 through 1992.

DOD's Military Traffic Management Command is responsible for determining whether the military's transportation systems, including its use of commercial rail cars, can meet mobilization needs. Under Army deployment plans, movement of unit equipment from mobilization stations is expected to involve substantial use of commercial rail cars.

In a 1987 report, Army Deployment: Better Transportation Planning Is Needed (GAO/NSIAD-87-138, June 18, 1987), GAO found that rail facilities at Army mobilization stations were in such poor condition that their ability to accomplish mobilization movements as planned was questionable. The Military Traffic Management Command had not determined whether sufficient commercial transportation resources, including militarily usable

rail flatcars, were available. GAO also found that some mobilization stations had excessive amounts of the materials needed for loading some types of rail cars, while other mobilization stations had none. DOD generally concurred with the findings and recommendations of the 1987 report and stated that corrective actions would be taken by 1988.

Results in Brief

At the six mobilization stations GAO visited, the Army transported unit equipment to ports as scheduled during the 6-month period covered by Operation Desert Shield, but deteriorated rail facilities at some mobilization stations constrained outloading operations. Future conflicts could easily require the deployment of the same or greater levels of U.S. forces over shorter periods of time than occurred during Desert Shield.

To repair rail facilities, Forces Command initiated a rail rehabilitation program in fiscal year 1986, but the effectiveness of the program has been severely limited because of program management problems. After initiating this program, Forces Command changed its guidance regarding the repairs to be made, and disagreements ensued with the contracted program manager over program responsibilities and engineering designs. Forces Command also redirected program funds to other projects and did not establish adequate program management and oversight.

DOD and the Army also have not corrected many of the deployment problems GAO identified in 1987. The Military Traffic Management Command has not accurately determined the number or types of commercial flatcars available to support deployment. In addition, Forces Command has not determined the amounts of material and equipment needed for loading rail cars during deployment nor taken sufficient action to appropriately distribute these items among mobilization stations.

Principal Findings

Equipment Reached Ports on Time During Operation Desert Shield

During Operation Desert Shield, all six mobilization stations GAO visited moved unit equipment to embarkation ports within the time frames allotted. The success of the mobilization and deployment during Desert Shield was aided by the relatively small scale and extended time frames of this deployment. The equivalent of only about half of the 11 active Army divisions based in the continental United States deployed during the operation, and the period of deployment was stretched out over almost

6 months. Thus, the military and commercial rail network was not as stressed as it might have been for a larger or more time-critical deployment.

**Deteriorated Rail Facilities
Constrained Loading
Operations**

Deteriorated rail facilities are likely to seriously impact future deployments if they are not improved. Poor track conditions led to the closure of DOD-owned rail lines at two critical mobilization stations as the result of heavy use either during or shortly after Operation Desert Shield, and caused slowed rail operations at other mobilization stations.

At Fort Stewart, Georgia, for example, DOD-owned tracks were in such poor condition due to years of deferred maintenance and neglect that trains carrying equipment for the early deploying 24th Mechanized Infantry Division were restricted to a maximum of 10 miles per hour. Moving this equipment worsened track conditions to the point that this rail line had to be closed for emergency repairs between October 1990 and February 1991.

**Management Problems Have
Limited Rail Rehabilitation
Program Effectiveness**

As of fiscal year 1991, Forces Command had received \$47 million for the Army's rail rehabilitation program. By then, the total estimated program costs had increased from \$140 million to about \$184 million, and the program had been extended 5 years through fiscal year 1997. Forces Command management problems limited the effectiveness of the program, and resulted in delays and additional costs. As of June 1991—6 years after the program began—track repair projects (other than emergency repairs) had been started at only 4 of 31 mobilization stations then targeted and had been completed at only 1 of these 4.

Disagreements with the primary contractor over management responsibilities and engineering designs led to many delays and increased costs. Forces Command also redirected at least \$16.1 million of program funds to other projects, and its inadequate management and oversight of program funds further hampered program effectiveness.

Forces Command is planning to spend \$16 million at Fort Campbell, Kentucky—the most expensive project in the program—but did not adequately consider less expensive options for improving the installation's rail facilities. Moreover, it appears that completion of this project as planned will not result in a rail outloading capability sufficient to meet Fort Campbell's peacetime or mobilization needs.

DOD Has Not Adequately Inventoried Commercial Flatcars

The Military Traffic Management Command has not adequately identified the number and types of commercial flatcars available to support deployment. GAO reported on this problem in its 1987 report. Without this information, the Army cannot be assured that the types of rail cars it needs will be available to support future deployments. Determining the flatcar inventory is particularly important because the number of the type most often used for transporting military equipment is rapidly declining. Although alternative types of flatcars are available, most Army installations are not adequately prepared to use them.

Appropriate Amounts and Distribution of Loading Supplies Have Not Been Determined

Forces Command still has not assessed its needs for the materials and equipment used to load military equipment on flatcars during deployment, nor has it completed correcting imbalances in the distribution of existing equipment. As they did in 1987, mobilization stations continue to disregard pertinent regulations for (1) determining their requirements for the materials used to secure military vehicles to flatcars and (2) stocking these materials. Some mobilization stations therefore continue to retain excessive stocks of these materials while others stock none. In its response to GAO's 1987 report, DOD acknowledged these problems and stated that they would be corrected by fiscal year 1988.

Recommendations

Because deteriorated rail facilities at Army mobilization stations could impair future deployments of U.S. forces, GAO recommends that the Secretary of the Army take actions to improve the management of the rail rehabilitation program. In particular, program direction, funding redirections, cost effectiveness, and general accountability issues need to be reviewed and improved. The Secretary should either (1) direct Forces Command to improve its management of this program or (2) consider designating another organization as its executive agent for managing the Army's rail rehabilitation projects.

GAO makes other recommendations to the Secretaries of Defense and the Army in chapters 3, 4, and 5.

Agency Comments

The Departments of Defense and Transportation generally concurred with GAO's findings. DOD stated that the Army will be taking various actions through fiscal year 1994 to improve its rail maintenance program and to address other problems identified by GAO in this report.

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Abbreviations

BBPCT	blocking, bracing, packing, crating, and tie-down materials
DOD	Department of Defense
FORMAP	FORSCOM Rail Maintenance Program
FORSCOM	Army Forces Command
GAO	General Accounting Office
MTMC	Military Traffic Management Command
TSC	Transportation Systems Center

Introduction

U.S. military strategy requires that U.S. forces be able to mobilize and deploy rapidly in a conflict. For the Army, this capability relies heavily on the ability of its active and reserve forces to move from their mobilization stations to assigned aerial and sea ports of embarkation. The rapid mobilization and deployment of Army forces will likely become increasingly important as forward-deployed units stationed in Germany, Korea, and other locations are returned to the continental United States and as the size of the Army is reduced in response to changing world political conditions and reductions in the U.S. defense budget.

Transportation Is an Integral Part of Deployment Planning

The Army Forces Command (FORSCOM) has designated 47 Army installations as mobilization stations. These mobilization stations are also the home stations for most of the major active Army units located in the continental United States. Both active and reserve component forces are to assemble and conduct final preparations at mobilization stations before moving to their ports of embarkation.

The Army must plan in peacetime how it will meet its deployment objectives when mobilized. An integral part of this planning process is ensuring that the necessary transportation, both military and commercial, is available to move units to their ports of embarkation. The Department of Defense's (DOD) Military Traffic Management Command (MTMC) is responsible for determining whether the military's transportation systems, including its use of commercial assets, can meet mobilization needs.

Commercial Rail Considered Well Suited for Moving Army Forces

Army policy states that commercial transportation is to be used to the maximum extent for mobilization and deployment. This policy is intended to reduce wear and tear on public highways and military vehicles and to minimize the need for support en route (such as food and rest facilities for drivers, fuel, security, repairs, and traffic control) and maintenance support at the ports of embarkation.

Army policy generally requires that vehicles suitable for highway movement (such as trucks and other wheeled vehicles) located more than 1 day's traveling distance from their port of embarkation be moved using commercial transportation. Vehicles not well suited for highway movement (such as tanks and other tracked vehicles) are not to be driven more than 75 miles on highways. Since many mobilization stations are more than 75 miles from their ports of embarkation, the Army is heavily dependent on commercial transportation to accomplish its moves. The Army has relied to

a great extent on rail transport to support the deployment of its equipment because rail is considered well suited to moving high volumes of large, heavy equipment.

The successful and efficient use of rail by the Army to move its equipment from mobilization stations to embarkation ports requires that Army-owned rail facilities at these installations be kept in good repair to prevent derailments and damage to the equipment being moved. Successful use of rail also requires an adequate supply of rail cars. The Army generally relies on the commercial rail industry to supply the majority of rail cars suitable for moving military equipment. However, DOD has acquired some specialized rail cars, such as heavy duty flatcars for transporting tanks, that the rail industry lacks in adequate numbers to meet DOD needs.

Objectives, Scope, and Methodology

At the request of the Chairman of the Subcommittee on Readiness, House Committee on Armed Services, we evaluated the effectiveness of rail operations at Army mobilization stations deploying combat forces during Operation Desert Shield. We also reviewed FORSCOM's management of the Army's rail repair and rehabilitation program, and determined whether the Army and DOD had corrected deployment problems we identified in our 1987 report.¹ Specifically, these problems concerned (1) the deterioration of rail facilities at Army mobilization stations, (2) the availability of commercial rail cars to support deployment, and (3) the supply of rail-loading materials and equipment at mobilization stations.

To perform our work, we reviewed the Army's movement of units' equipment by rail from mobilization stations to ports of embarkation during Desert Shield and evaluated the effectiveness of Army efforts to repair and rehabilitate rail facilities. We selected six Army mobilization stations that mobilized major combat forces during Desert Shield: Fort Stewart, Georgia; Fort Benning, Georgia; Fort Hood, Texas; Fort Bliss, Texas; Fort Sill, Oklahoma; and Fort Campbell, Kentucky. At these installations, we reviewed deployment documents and plans and interviewed officials responsible for determining deployment requirements, procuring and storing the rail-loading materials and equipment needed, and executing plans for rail outloading.

At FORSCOM headquarters, we reviewed documents and interviewed officials concerned with managing the Army's rail repair and rehabilitation

¹Army Deployment: Better Transportation Planning Is Needed (GAO/NSIAD-87-138, June 18, 1987).

program and providing policy and guidance for the procurement, distribution, and storage of selected materials and equipment needed to support rail outloading operations. We also interviewed officials and obtained documents at other organizations involved in the repair and rehabilitation program, including the Department of Transportation's Volpe National Transportation Systems Center (TSC) in Cambridge, Massachusetts, and the Army Corps of Engineers' Waterways Experiment Station in Vicksburg, Mississippi.

We also reviewed DOD and Army efforts to identify the types and numbers of rail cars available to support mobilization and deployment. As part of this effort, we interviewed officials and obtained documents at Headquarters, Department of the Army, and at MTMC. We also interviewed officials and obtained rail inventory data from TTX, a rail car leasing firm owned by the commercial railroads, and eight major U.S. commercial railroads. According to a TTX study, these nine companies own approximately 90 percent of the national inventory of rail flatcars normally used for transporting military vehicles.

We conducted our review from December 1990 to September 1992 in accordance with generally accepted government auditing standards. We obtained comments on a draft of this report from the Departments of Defense and Transportation and incorporated them in the report where appropriate. Their comments are reprinted in their entirety in appendixes I and II.

Equipment Reached Ports on Time Despite Serious Rail Deficiencies

During Operation Desert Shield, the six mobilization stations we visited loaded and moved unit equipment to designated ports of embarkation within the time frames allotted. Their success was aided by the generally smaller scale and longer time frames associated with Operation Desert Shield than those previously expected for a full mobilization and deployment, or those that could easily occur in future regional conflict deployments. Nevertheless, deteriorated track and other associated rail facilities at mobilization stations constrained rail outloading operations during Operation Desert Shield and resulted in the suspension of rail operations at two mobilization stations.

Desert Shield Did Not Stress the U.S. Rail Network

The rail outloading activities required for mobilization and deployment during Desert Shield were generally less extensive than those that would have been required for either a full mobilization and deployment or those that might be required in response to future regional conflicts. Only the equivalent of about 6 of the 11 active Army divisions based in the continental United States deployed during Desert Shield, and no National Guard divisions were deployed. Substantial U.S. forces were deployed from Germany instead of the United States, but reductions to U.S. forces stationed in Europe are likely to reduce the number of these that will be available in the future. In addition, the deployment for Operation Desert Shield was stretched out over a period of almost 6 months.

Although outloading conditions varied at the installations we visited, most were operating at levels generally less demanding than those planned for a full mobilization. For example, at Fort Benning, the full mobilization plan calls for deploying all 26 active duty units stationed there, mobilizing 107 reserve units, and deploying 49 of these reserve units, all within 30 days of mobilization notification. During Desert Shield, 24 active duty units were deployed, 41 reserve units were mobilized, and 20 reserve units were deployed over a 140-day period.

Operation Desert Shield may also have been less demanding than potential future regional conflicts might be due to factors such as (1) the overwhelming international and United Nations support for the war, including the contribution of substantial non-U.S. forces; (2) the U.S. ability to wage this war from an allied country with a well developed logistical base; (3) the Iraqi decision not to continue its initial advance beyond the Kuwaiti-Saudi Arabian border; and (4) the absence of resistance during the nearly 6-month buildup and deployment of coalition forces.

The need for commercial transportation assets in the continental United States was therefore less during Operation Desert Shield than that which might occur in a similar future deployment. DOD officials told us that the operation's transportation requirements did not disrupt commercial activities in the United States, and officials at all but one of the mobilization stations we visited told us that the demand for commercial rail cars to transport Army equipment to ports did not exceed the available supply at the time they were needed.

Deteriorated Rail Facilities Constrained Outloading Operations

Desert Shield outloading operations were constrained by deteriorated rail facilities at four of the six mobilization stations we visited. At two mobilization stations—Fort Campbell and Fort Stewart—the installation rail lines were temporarily closed as the result of derailments and poor track conditions, and rail outloading operations were slowed at others. For example, drainage problems at Fort Bliss forced trains carrying equipment for Operation Desert Shield to use tracks that were under water in places, and trains at this installation were restricted to slow speeds so as to avoid derailments.

Rail Problems at Fort Campbell Restricted Deployment

Fort Campbell, Kentucky, is the home station for the 101st Airborne Division (Airmobile). The 101st was an early deploying unit during Desert Shield and is likely to have a similar role in future conflicts. Mobilization plans for Fort Campbell, which is located more than 750 miles from its designated embarkation port of Jacksonville, Florida, call for heavy reliance on the use of commercial rail and truck transport. Fort Campbell is connected to a commercial rail mainline at Hopkinsville, Kentucky, by approximately 22 miles of DOD-owned and -operated track.

When we visited Fort Campbell in March 1991, the track on this 22-mile branch line had deteriorated to the point that it was virtually unusable. Some of the rail was manufactured around 1900 or earlier and was too light to either meet current Army standards or support the loads expected during mobilization. Several bridges were in varying states of disrepair, many cross ties were rotten, and railroad spikes and tie plates securing the rails to cross ties were often either loose or missing. Train speeds over this track were restricted to 10 miles per hour or less. Installation officials told us that they were reluctant to use a recently received 120-ton locomotive for fear of track breakage. They also said that the local commercial railroad prohibits its engines from operating on Fort Campbell track because of the

poor track conditions. Figures 2.1, 2.2, and 2.3 illustrate the track conditions we found at Fort Campbell.

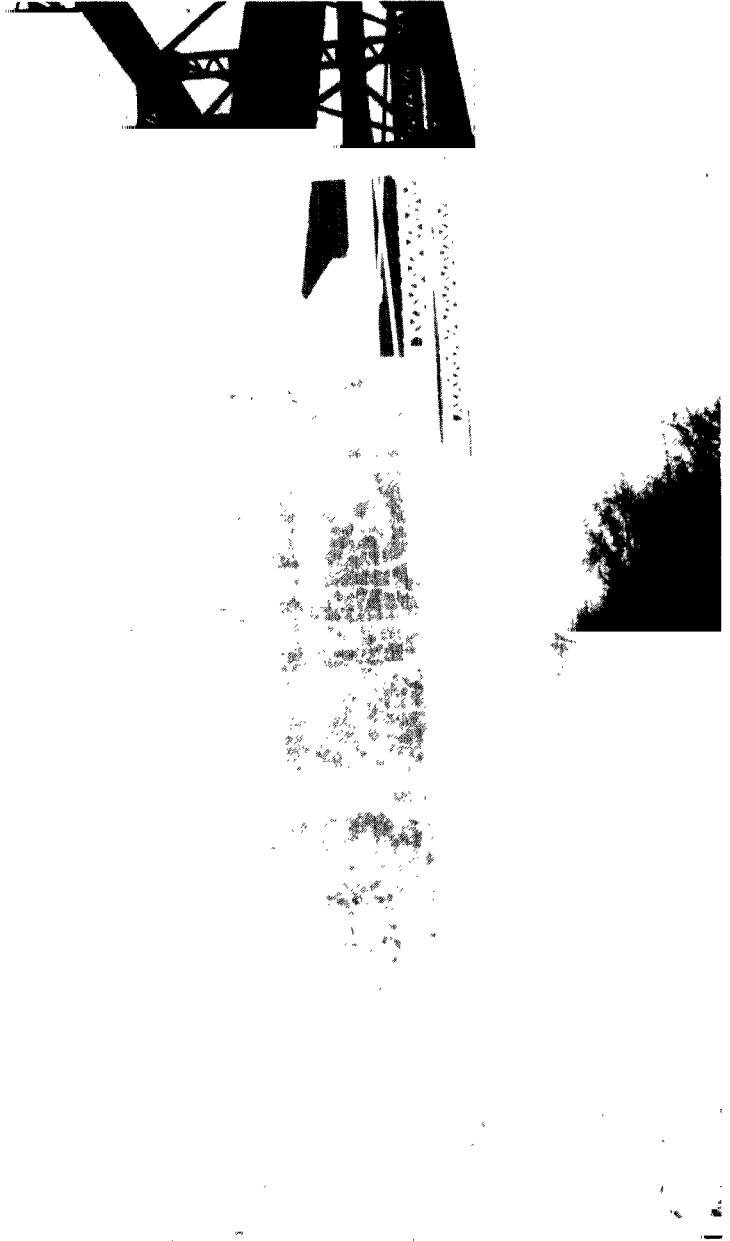
Figure 2.1: Rotten Cross Ties and Unsupported Rails at Fort Campbell



Figure 2.2: Rotten Cross Ties and
Unattached Tie Plate at Fort Campbell



Figure 2.3: Deteriorated Bridge (Built in 1905) on the Fort Campbell Rail Line



When the 101st was notified to prepare for Desert Shield deployment, Fort Campbell's transportation officer informed the division commander that the rail system was likely to fail and recommended against using it to deploy the division. Fort Campbell officials told us that the division commander decided to move the 101st to Jacksonville primarily by driving

its equipment on public highways and by using commercial trucks. The division thus drove much of its equipment about twice as far on public highways as is permitted under Army policy. Of the 1,071 rail cars subsequently used to deploy much of the division's support equipment, 794 were loaded approximately 22 miles away near Hopkinsville so as to avoid using the Fort Campbell tracks.

When the division began returning its equipment by rail after Operation Desert Storm, poor track conditions at Fort Campbell caused a series of eight derailments and resulted in the closure of this line pending major repairs. Considering the problems encountered in returning this equipment, we believe the rail line would have failed during outloading operations had the Army used it as planned to deploy for Operation Desert Shield.

In addition, the poor condition of the Fort Campbell rail line might have had more far-reaching consequences had several favorable conditions not been present during the 101st Airborne Division's road march to Jacksonville.

- Fort Gillem, Georgia, provided a convenient halfway stop for the division to rest overnight and eat, and a reserve component maintenance battalion was on active duty there to service any vehicles needing repairs.
- The division had been issued many new wheeled vehicles shortly before Desert Shield, resulting in a minimum of breakdowns.
- As a light airmobile division, the 101st had few heavy, tracked, or other vehicles that could not be driven on public highways.¹
- Fort Campbell was able to obtain more than 500 commercial tractor trailer trucks to help move the division's equipment. Fort Campbell transportation officials told us it was highly unlikely that these would have been available had Desert Shield deployments not been limited in scope and spread over several months so that other installations were not competing for the use of these trucks.

Rail Line Collapse at Fort Stewart

Like the 101st Airborne, the 24th Mechanized Infantry Division, based at Fort Stewart, Georgia, was also an early deploying unit during Desert Shield. It was also one of the first to outload large numbers of heavy tracked vehicles by rail. This division's designated port of embarkation was nearby Savannah, Georgia.

¹Heavy equipment stored at Fort Campbell for Army National Guard units was not deployed.

Army officials acknowledged that the railroad tracks at Fort Stewart were in very poor condition due to years of deferred maintenance and neglect. A Fort Stewart transportation official told us that Fort Stewart had no ongoing rail maintenance and inspection program prior to Desert Shield. To move the 24th Mechanized Division's equipment, train speeds were restricted to 10 miles per hour or less.

The condition of Fort Stewart's already badly deteriorated tracks worsened during Operation Desert Shield outloading until this line had to be closed for emergency repairs between October 1990 and February 1991. National Guard units deploying heavy equipment from Fort Stewart to the National Training Center as part of Operation Desert Shield were consequently forced to move by highway to off-post commercial rail facilities in order to load their equipment onto rail cars.

Conclusions

We believe that the generally poor condition of rail facilities at Army mobilization stations threatens the Army's ability to rapidly move equipment to ports, and is likely to adversely affect any future deployment unless the Army soon repairs and rehabilitates these facilities, or finds suitable alternatives.

Agency Comments

In commenting on this report, DOD agreed that rail conditions at Army installations have deteriorated over the past 40 years and that poor track conditions at the mobilization stations we visited constrained Operation Desert Shield outloading.

Rail Rehabilitation Program Has Made Limited Progress

Deteriorating rail facilities at Army mobilization stations have been a long-standing problem, and the Army has acknowledged that these facilities need repair and rehabilitation. However, the Army's program to rehabilitate these facilities has had only limited success since its inception in fiscal year 1986: only one mobilization station repair project had been completed by mid-1991. Our review disclosed numerous problems with FORSCOM's management of the program. We also found that the merits of the program's highest priority and most expensive rail rehabilitation project, at Fort Campbell, are questionable.

Army Rail Deterioration Is a Long-Standing Problem

Badly deteriorated rail conditions at mobilization stations are the result of over 40 years of systemic neglect. In 1983 and again in 1987, we reported on problems with track conditions, the abandonment of feeder lines to military installations by commercial railroads, and the potential impact on installation outloading capability.¹ At least 5 of the 16 mobilization stations we visited as part of our 1987 review had deficiencies likely to prevent planned mobilization and deployment outloading operations. As described in chapter 2 of this report, these conditions were little improved in September 1991 when we completed our visits to mobilization stations for this review.

Army Initiated Rail Rehabilitation Program in 1986

In 1986, the Army designated FORSCOM to act as its executive agent to manage rail facility repair and rehabilitation projects at mobilization stations. The FORSCOM Rail Maintenance Program (FORMAP) was initially to spend about \$140 million during fiscal years 1986 through 1992. By fiscal year 1991, more than \$47 million had been appropriated, and the Army planned to spend \$137 million more through fiscal year 1997 at 31 mobilization stations. Since Operation Desert Shield, a DOD study has proposed additional expenditures for improvements to rail facilities.

In 1986, FORSCOM entered into an arrangement with the Department of Transportation's Volpe National Transportation Systems Center to provide technical, administrative, and program management of FORMAP. TSC, in turn, contracted for design support with an architectural and engineering firm well known for its technical expertise on railroad projects, and planned to make repairs using additional contractors.

¹Federal Actions Needed to Retain Essential Rail Service (GAO/PLRD-83-73, May 20, 1983) and Army Deployment: Better Transportation Planning Is Needed (GAO/NSIAD-87-138, June 18, 1987).

FORSCOM's arrangement with TSC was intended to provide a solution to problems the Command had previously experienced in spending funds for repair projects during the same year the funds were appropriated. Operations and maintenance funds not obligated for expenditure by the end of the fiscal year in which they are appropriated generally must be returned to the U.S. Treasury. Since TSC operated on a revolving fund basis,² FORSCOM could obligate FORMAP appropriations by advancing them to TSC, and TSC could then draw on them as needed to fund repair projects without concern for when they were appropriated. In effect, this allowed FORSCOM to bank its FORMAP funding and spend it on repair projects as needed rather than by the end of the year in which it was appropriated.

Few Repairs Have Been Made Under FORMAP

Although FORSCOM had received over \$47 million in funding for FORMAP and forwarded more than \$25 million to TSC, by mid-1991 very little progress had been made toward achieving the program's objectives. As of June 1991, track repair projects (other than emergency repairs) had been completed only at Fort Carson, Colorado, and only 3 of the 30 other installations on the FORMAP list at that time had started any repair work. Since Fort Carson did not deploy large active Army units during Operation Desert Shield, FORMAP had virtually no impact in readying rail facilities for this deployment.

The limited progress of the rail rehabilitation program appears largely attributable to a combination of FORSCOM management shortcomings and technical disputes with TSC. More specifically, we identified (1) problems with FORMAP's direction and responsibilities, (2) disagreements over rail repair designs, (3) program funding redirections, and (4) inadequate management and oversight of the process for disbursing FORMAP funds. These problems resulted in program delays, additional costs, and generally limited program effectiveness.

Unclear Direction and Responsibilities

FORSCOM and TSC representatives signed an interagency agreement in March 1986 that established TSC as program manager for fiscal years 1986 through 1993. Under the terms of this agreement, TSC was to provide FORSCOM with a program implementation plan in response to a statement of work to be developed by FORSCOM. FORSCOM sent TSC a statement of

²Although part of the Department of Transportation, TSC is funded primarily through funds it receives for services provided. As allowed by 49 U.S.C. 328, funds advanced to TSC by customers are deposited into a working capital fund and then drawn down as needed to fund TSC activities. This statute provides that amounts deposited in this fund are available without fiscal year limitation.

work defining specific program requirements and responsibilities in May 1986, and TSC began planning, managing, and implementing FORMAP's projects.

The direction of the program then changed. According to TSC and FORSCOM officials, the FORSCOM Directorate of Logistics, with support from the Engineering Directorate, originally tasked TSC to design and implement rail repairs to meet the minimum requirements for supporting mobilization. In 1987, however, FORSCOM gave its Engineering Directorate increased oversight responsibility for the program. Advocating a more extensive rehabilitation program that would meet future Army requirements and reduce track maintenance requirements, the Engineering Directorate sent TSC a revised statement of work. In addition, FORSCOM's prioritized list of mobilization stations needing rail rehabilitation changed at least five times from 1986 to 1991.

It is unclear whether FORSCOM and TSC ever reached agreement on their respective FORMAP responsibilities listed in the revised statement of work. TSC officials told us they found the revised statement of work unacceptable because of the restrictions it placed on TSC's role as program manager. FORSCOM and TSC records show continued disagreement over management of the program until April 1988. A FORSCOM official told us that FORSCOM assumed TSC was in agreement with FORSCOM's revised statement of work after that date because no additional objections were received. TSC officials told us they verbally notified FORSCOM of their continued objections, but received no response and did not pursue the matter further through official correspondence. A statement of work signed by both parties was never sought or obtained. FORSCOM and TSC officials still disagree whether they reached agreement on the statement of work.

Design Disputes

FORSCOM's Engineering Directorate simultaneously began to question TSC's engineering judgment, and disputes over repair designs ensued. FORSCOM then contracted with the Army Corps of Engineers to reassess the repairs needed at mobilization stations and to evaluate the adequacy of TSC engineering designs.

Subsequent FORSCOM revisions to TSC designs often occurred relatively late in the design process, causing increased costs due to significant reworking of engineering and architectural drawings and plans. The more substantial and expensive track repairs desired by FORSCOM engineers also increased project costs. For example, TSC originally planned to rehabilitate the rail

facilities at Fort Campbell by 1988 at a total cost of about \$7.6 million. Management and design disputes, however, delayed this project's start date until late 1991. Late in the design review process, FORSCOM's decision to upgrade the size of rail used increased costs by \$4.2 million, and additional repairs to bridges added another \$1.6 million. These and other changes increased the total estimated cost of this project to over \$16 million. As of March 1992, actual repair work at Fort Campbell was still primarily limited to rail and siding repairs on the installation itself.

TSC labor, overhead, and other costs also increased as a result of the engineering disagreements. The percentage of these costs to total program costs increased as TSC continued to charge overhead for personnel assigned to the program while awaiting FORSCOM's review of designs and resolution of engineering disputes. Although by 1990 FORSCOM had decided to terminate its relationship with TSC and instead contract rail repairs through the Army Corps of Engineers, no formal notification of termination was given to TSC. TSC thus continued to charge FORSCOM for these expenses while FORSCOM approved little actual repair work, and the program gradually ground to a halt.

TSC labor, overhead, and other charges for some years were a high percentage of program costs. For example, during fiscal year 1990, these costs accounted for \$721,212, or more than 90 percent of the \$798,429 FORMAP total cost for that fiscal year. For fiscal years 1986 through 1991, these costs averaged more than 23 percent of the total program cost.

Redirection of Funds

Redirection of FORMAP funds by both FORSCOM and individual mobilization stations further weakened the program's effectiveness. Because FORMAP is funded through operations and maintenance budget accounts, the Army can redirect these funds to other purposes. FORSCOM frequently redirected FORMAP funds for such things as environmental cleanup, utility costs, and unit training. Individual mobilization station commanders also frequently redirected FORMAP funds to cover costs associated with, among other things, daily base operations, building maintenance, and repairs to installation utilities.

By mid-1990, FORSCOM had redirected at least \$16.1 million of the \$34.5 million it had received for FORMAP since fiscal year 1986. For example, during fiscal year 1989 FORSCOM redirected \$4.7 million of the \$11.4 million it received in program funds. During fiscal year 1990, the entire \$9.8 million in FORMAP funding received was redirected to

environmental cleanup work and for activities associated with Operation Desert Shield. During late 1991, FORSCOM began replacing redirected FORMAP funds with unused Operation Desert Storm funds, returning all but \$1.6 million by October 1991.

Weak Oversight and Management of Program Funds

Inadequate FORSCOM oversight and management of the process for disbursing FORMAP funds also hampered the program's effectiveness. TSC submitted monthly financial reports to FORSCOM that reported available funding and expenditures. However, when we began our fieldwork at FORSCOM in early 1991, FORSCOM officials could not explain what was included in many of the funding expenditure categories listed in these reports, or the specific purpose for which certain funds were being expended. As of March 1992, FORSCOM still could not reconcile about \$1.3 million in FORMAP expenditures with TSC records.

Although FORSCOM had major engineering disagreements with TSC by early fiscal year 1988, the Command continued to advance nearly all program funds to TSC until at least fiscal year 1991, by then accumulating nearly \$11 million in unexpended funds. On at least one occasion, the Command forwarded funds to TSC over the objection of the FORSCOM official responsible for certifying the appropriateness of their expenditure. The objection occurred because no specific purpose for expending these funds had been identified.

While this process in effect converted annual FORMAP appropriations into multiyear funds, it also required their continued expenditure through TSC. According to FORSCOM officials, FORSCOM was unable to retrieve these funds because unspent funding originating in prior single-year appropriations must be returned to the Treasury. FORSCOM therefore had to either return the \$11 million to the Treasury or continue using TSC despite management and engineering disagreements. FORSCOM decided to retain TSC to complete the Fort Campbell rail repair project, but to use the Army Corps of Engineers for most other projects.

Problems With the Fort Campbell Project

Repair and rehabilitation of the Fort Campbell rail line has been FORMAP's highest priority and most expensive repair project since the program's inception in 1986. Fort Campbell repairs continue to be affected by problems associated with FORSCOM's management of the program and engineering disputes with TSC. FORSCOM also did not adequately consider several potentially less expensive rail-loading alternatives before deciding

to make these repairs. Furthermore, it appears that the project, as presently designed, will not result in a rail-loading capability adequate to meet either peacetime or mobilization needs.

Fort Campbell's rail facilities are composed primarily of 10 rail-loading ramps, 17 miles of on-post track and sidings, and a 22-mile branch line connecting the installation with a main commercial rail line at Hopkinsville. The abandonment of branch lines since the 1960s closed all other access to main commercial rail lines and forced DOD to purchase this branch line during the 1980s for a total of about \$523,000.

Emergency repairs to this branch line in 1986 and 1989 cost FORMAP more than \$2 million, and, as previously discussed, the project's total cost is now estimated to exceed \$16 million. As of March 1992, only about \$4 million for repairs to the track on Fort Campbell itself had been spent, and plans for bridge repairs on the line to Hopkinsville had yet to be resolved. According to a Fort Campbell official, the State of Kentucky is also now planning to construct a new four-lane highway that will intersect this rail line, creating a greater potential for accidental collisions between trains and highway traffic.

Less Expensive Rail-Loading Alternatives Were Not Adequately Reviewed

FORSCOM planned to repair Fort Campbell's tracks without adequately evaluating other less expensive rail outloading alternatives. For example, FORSCOM did not first study alternatives such as loading military equipment on rail cars at nearby sites in Hopkinsville (about 22 miles); Nashville, Tennessee (65 miles); or other sites located along the commercial mainline. These options might have eliminated the need to operate and maintain an expensive rail line to Fort Campbell itself.

Because of the poor condition of the Fort Campbell track, a privately owned loading site on the mainline near Hopkinsville was used to load 794 of the 1,071 rail cars used during Operation Desert Shield. Nearly all of the 101st Airborne Division's vehicles, except a small amount of engineer equipment, could move themselves by road to this or similar loading sites. The remainder (tracked or heavy vehicles) could be moved by commercial truck to either loading sites or the port of embarkation. Only a small amount of Army National Guard heavy or tracked equipment is currently located at Fort Campbell.

Such alternatives may be much less expensive than repairing or building DOD-owned facilities. For example, in 1988 the Army rented the loading

site near Hopkinsville for use by Fort Campbell at a cost of 50 cents per rail car per day used, with a maximum cost of \$5,000 per year, renewable until July 1993. This site contains two loading ramps and more than a mile of track.

**Project Completion May Not
Result in Adequate
Rail-Loading Capability at
Fort Campbell**

Even if completed, FORSCOM's planned \$16 million project at Fort Campbell may not result in a rail-loading capability sufficient to meet either peacetime or mobilization needs.

The Fort Campbell line is connected to the mainline by 1 mile of interchange track in Hopkinsville. This track limits movement between the Fort Campbell track and the mainline to five 89-foot cars at a time. Its use blocks traffic on main Hopkinsville streets, requires at least one Army and one commercial switching locomotive, is very time-consuming, and involves other limiting factors such as reversing train direction twice over two separate track switches. A 1984 Transportation Engineering Agency study concluded that this interchange is inadequate to meet either peacetime exercise or mobilization rail needs at Fort Campbell.

FORSCOM's plans for rehabilitating Fort Campbell track do not address the Hopkinsville interchange problem. We found, however, that the commercial railroad had submitted a preliminary proposal to the Army in 1990 with two alternatives for bypassing the Hopkinsville interchange at an estimated additional cost of between \$2 million and almost \$7 million, depending on the alternative selected. A 1984 proposal by the Fort Campbell Directorate of Logistics suggested not repairing 6 miles of the 22-mile branch line to Hopkinsville, but instead building a 5-mile connection directly cross country to the commercial mainline at an estimated cost of about \$6 million. Army and TSC officials involved in the Fort Campbell repair project acknowledged that this was by far the most desirable, and probably the most cost-effective, method for reaching the mainline.

However, such proposals were not adequately considered by the Army because as new construction, they would have required funding out of the military construction account rather than the operations and maintenance account. A FORSCOM official told us that mobilization-related projects competing for military construction funding are almost never funded when they must compete against military construction projects designed to meet immediate peacetime needs at installations. For example, Fort Campbell never formally submitted the Logistics Directorate's rail project to

FORSCOM for funding because other projects were given a higher priority. Because FORMAP was funded entirely out of the operations and maintenance account, FORSCOM approached all FORMAP projects with a view only toward repairing existing facilities. Little consideration was therefore given toward new construction, even at Fort Campbell where it was clearly considered the most desirable solution. This project's design therefore appears to have been determined more by funding availability than by cost-effective design or mobilization and deployment needs.

Choosing an alternative that either involves deployment loading directly on the mainline or bypasses the Hopkinsville interchange is likely to result in significant long-term savings to the Army. For example, such solutions might allow direct access to Fort Campbell by commercial locomotives, thus avoiding substantial Army costs associated with purchasing, operating, and maintaining locomotives and other equipment, as well as personnel-related costs. Because of the branch line's poor condition, the commercial railroad currently prohibits its engines from operating on it. We noted that the Army has recently purchased two large rebuilt locomotives for Fort Campbell at a cost of \$449,000 and is refurbishing facilities in which to house and maintain them. At most other Army mobilization stations, commercial railroad locomotives come directly onto installation sidings to form trains and move them to ports.

Conclusions

Although the Army has provided more than \$47 million in funding for FORMAP since fiscal year 1986, few rail improvement projects have been completed. The projects have been delayed and subjected to increased costs largely as the result of problems with FORSCOM's management of this program. Changes in program direction, disagreements with TSC, funding redirections, ineffective oversight and management of program funds, and other problems have limited the program's effectiveness.

Many questions remain regarding the long-term suitability and cost-effectiveness of FORMAP plans to rehabilitate rail facilities at Fort Campbell. FORSCOM has directed its engineering efforts toward rehabilitation of the existing rail line without sufficiently considering less expensive alternatives. Moreover, the Fort Campbell project will not remove a major impediment to rail outloading operations unless it addresses the Hopkinsville interchange problem.

Recommendations

We recommend that the Secretary of the Army take actions to improve the rail rehabilitation program. Because of the serious program management issues we identified, the Secretary should either (1) direct Forces Command to improve its management of this program or (2) consider designating another organization as its executive agent for managing Army rail rehabilitation projects. In particular, the program's direction, funding, cost-effectiveness, and general accountability need to be addressed.

We also recommend that the Secretary of the Army suspend the Fort Campbell project pending a review of the available alternatives for achieving the rail-loading capability needed by this installation. Special attention should be directed at resolving the interchange problem that currently restricts Fort Campbell's access to a main commercial rail line.

Agency Comments

In commenting on this report, DOD concurred with the findings discussed in this chapter and with our recommendation that the Secretary of Army take actions to improve the rail rehabilitation program. DOD indicated, however, that the Army believes the rail maintenance program can be revitalized best through improvements in FORSCOM's management of the program rather than through designating another organization as its executive agent.

DOD noted that FORSCOM has now nearly reimbursed the rail maintenance program for redirected funds and that FORSCOM has improved its management of this program as a result of Operation Desert Shield and our review. DOD noted that FORSCOM has realigned program execution from TSC to the Army Corps of Engineers and that the Army expects these changes will result in better management of the program and facilitate its completion, which is now scheduled for fiscal year 1994.

DOD concurred with our recommendation regarding the Fort Campbell rail situation, stating that resolution of this problem is increasingly important since the Army Strategic Mobility Program has established more aggressive deployment timelines for units deploying from Fort Campbell. Consequently, beginning in the first quarter of fiscal year 1993, MTMC is scheduled to review the entire rail situation at Fort Campbell to determine the most efficient and effective alternatives to meet deployment requirements, including the alternatives discussed in this report. Pending the completion of this review, which is expected during the third quarter of fiscal year 1993, the Army will not award any new contracts for repairs to

Chapter 3
Rail Rehabilitation Program Has Made
Limited Progress

the Fort Campbell branch line. Major repairs to this line begun in fiscal year 1991 will continue.

The Department of Transportation commented that this report accurately described TSC's interactions with FORSCOM.

DOD Has Not Determined the Number and Type of Rail Flatcars Available for Deployment

DOD has not accurately determined the size of the commercial rail flatcar fleet suitable for supporting deployment. Without this information, the Army cannot develop mobilization and deployment plans that both meet requirements and are within the capabilities of the U.S. transportation network. Our 1987 report also identified this problem. Accurate analysis of the flatcar inventory is likely to become increasingly important because the number of flatcars of the type normally used for carrying military equipment is rapidly declining, and the Army is unprepared to use alternative types.

MTMC Efforts to Inventory Flatcars Remain Incomplete

Our 1987 report pointed out that MTMC had not performed an adequate analysis to determine if the national rail car inventory was sufficient to meet DOD's needs for mobilization and deployment. In response to this report, DOD agreed that such an inventory was important and directed MTMC to make a detailed assessment of the commercial transportation sector's capability to support U.S. mobilization requirements.

MTMC subsequently performed two studies that together evaluated the rail transportation assets available to support deployment. One study addressed heavy lift flatcars (used for transporting heavy equipment such as tanks),¹ and the second study addressed all other commercial transportation assets, including other types of flatcars.² MTMC officials told us that changing flatcar requirements have invalidated the first study's conclusions, and we found that the latter study contained methodology problems that led MTMC to overcount the number of flatcars available to support deployment. The latter study also had not been officially finalized or approved by MTMC at the time of our review.

Changing Requirements Affect MTMC Study Conclusions

In its heavy lift flatcar study, MTMC concluded that the national inventory of these rail cars was sufficient to support full mobilization and deployment for a major conflict with the former Soviet Union in Europe. Our review confirmed that MTMC had adequately determined the national inventory of heavy lift flatcars available to support such a deployment.

However, MTMC officials told us this study's conclusions were not applicable to the changed requirements under new DOD plans for deployment in response to regional conflicts. They told us that the Army

¹Defense Freight Railway Interchange Fleet Flatcar Study (Apr. 1989).

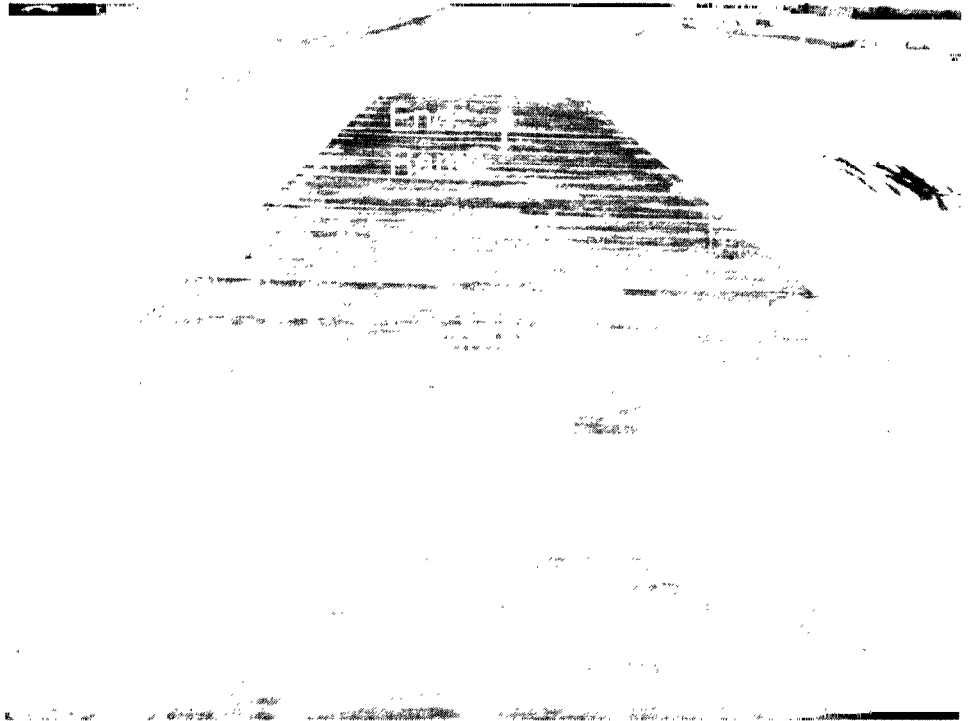
²CONUS [continental United States] Commercial Transportation Requirements (July 1989).

believed the pace of deployment for such conflicts would require the purchase of additional heavy lift flatcars by DOD. We did not review the suitability of the existing inventory to meet the new requirements because Army plans and requirements were still under development.

**MTMC Flatcar Study
Contains Methodology
Problems**

MTMC concluded in its commercial transportation requirements study that the overall inventory of militarily usable flatcars is sufficient to support deployment. The study identified a commercial inventory of 32,900 militarily usable single-level flatcars available to meet a peak day deployment requirement of approximately 15,400 cars. The Army prefers and plans to use single-level flatcars for deployment because this type of car can be loaded “circus-style”— a method of rapidly loading a series of flatcars from a single end ramp (see fig. 4.1).

Figure 4.1: Circus-Style Loading



MTMC’s 32,900 flatcar total included 19,200 normally used for transporting highway trailers and 13,700 general purpose flatcars. We found, however, that the 19,200 trailer-carrying flatcars were not readily suitable for deployment. Virtually all of these cars are owned by TTX, a rail car-leasing

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DOD Has Not Determined the Number and
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firm owned by the major U.S. railroad carriers. TTX officials told us that while these cars were suitable for circus-style loading, they were not equipped with tie-down points or chains for securing military vehicles to their decks. Because these flatcars would require modifications such as welded tie-down points, it is not appropriate to include them in the inventory of flatcars readily available to meet DOD's needs.

MTMC also overcounted the number of militarily usable general purpose flatcars owned by the commercial railroad carriers and TTX. MTMC attempted to count these cars primarily by extracting inventory data from the Association of American Railroad's Uniform Machine Language Equipment Register file.

In an attempt to verify MTMC's data, we requested flatcar inventory data from eight commercial railroad carriers and TTX. Together, these companies own and operate almost 90 percent of the U.S. commercial single-level flatcar fleet that is militarily usable. The data they provided us indicates that the commercial inventory of these flatcars in early 1991 was about 10,245 cars, compared with 13,700 shown in MTMC's 1990 study. Some of the difference may be the result of flatcar retirements during the period between MTMC's count and our count.

As a consequence of these adjustments, the actual inventory of militarily usable single-level flatcars, including those owned by DOD, is about 11,400 cars. MTMC officials believe as much as 10 percent of the inventory may be out of service at any one time due to maintenance and repair needs, or engaged in essential civilian activities. The number of flatcars actually available therefore could be about 10,300 cars, or 5,100 fewer than the peak day requirement of 15,400 used in the MTMC study.

MTMC officials told us that the peak day requirements were in the process of being changed in response to changes in the former Soviet Union and subsequent changes in U.S. deployment plans. The current inventory may or may not be adequate depending on how deployment requirements are changed. Mobilization station transportation officials told us, however, that the flatcar inventory was sufficient to meet the movement requirements associated with Operation Desert Shield.

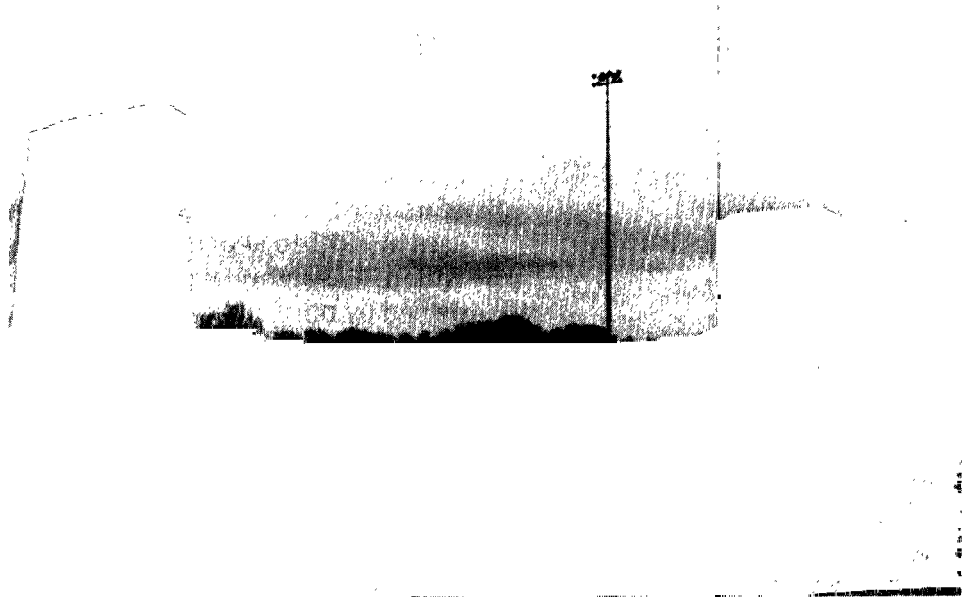
Army Has Not Responded to the Decline in Single-Level Flatcars

Our analysis of the U.S. flatcar inventory indicates that the national inventory of militarily usable single-level flatcars suitable for supporting deployment has continually declined since the 1970s. If this trend continues, the inventory of these cars may become inadequate to meet deployment needs. Although Army officials are aware of this trend, they have made few preparations to use alternative types of flatcars.

Retired Commercial Flatcars Are Not Being Replaced

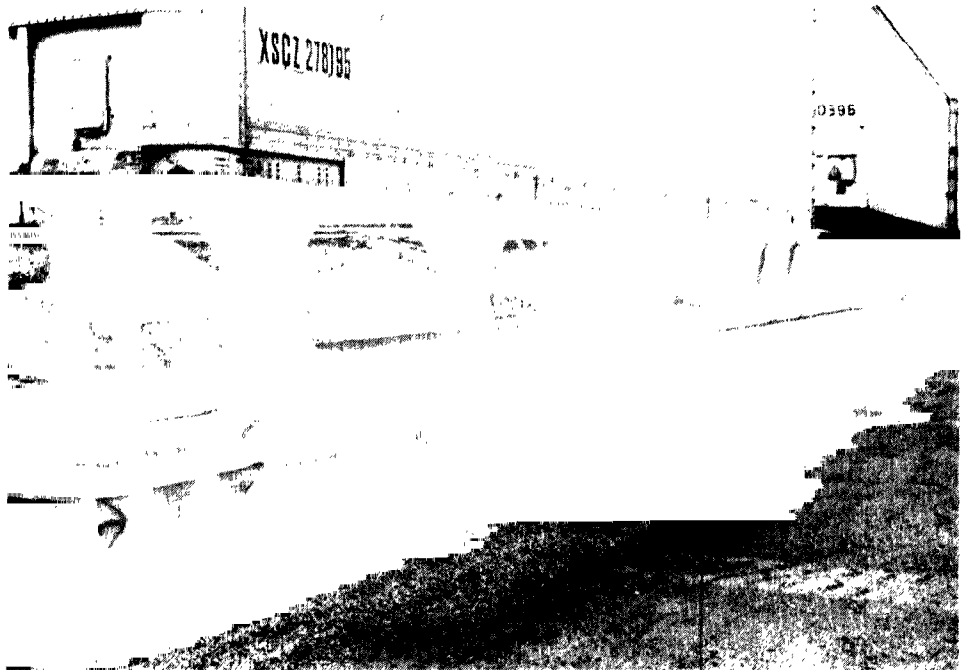
As commercial flatcars suitable for military use reach the end of their useful lives and are retired, they are often not being replaced. Instead, the railroads are increasing their use of specialized flatcars that often are not suitable for transporting military vehicles. Two of these specialized flatcars are shown in figures 4.2 and 4.3.

**Figure 4.2: Bulkhead Flatcar Used for
Transporting Wood Products**



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Deployment**

**Figure 4.3: Specialized Flatcar Used for
Transporting Trailers**



According to data provided by the Association of American Railroads, the commercial railroad inventory of general service flatcars, a common type of militarily usable single-level flatcar, dropped from more than 32,000 cars in 1971 to about 6,300 cars by 1991. Our analysis shows that the national inventory of single-level, militarily usable flatcars, including those owned by DOD, had decreased from about 19,100 in 1987 to about 11,400 in 1991. TTX and commercial railroad officials expect the militarily usable single-level flatcar inventory to continue to decline, but at a reduced rate. DOD officials told us that 628 of the 1,194 flatcars owned by DOD would come to the end of their useful life by 1993 and would be retired.

**Multilevel Flatcars Could
Alleviate Potential Flatcar
Shortages**

Greater use of multilevel flatcars could help alleviate potential shortages of single-level flatcars. These cars are used commercially for transporting automobiles and are available in large quantities. Multilevel flatcars are illustrated in figures 4.4 and 4.5.

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Figure 4.4: End View of BI-level Flatcar

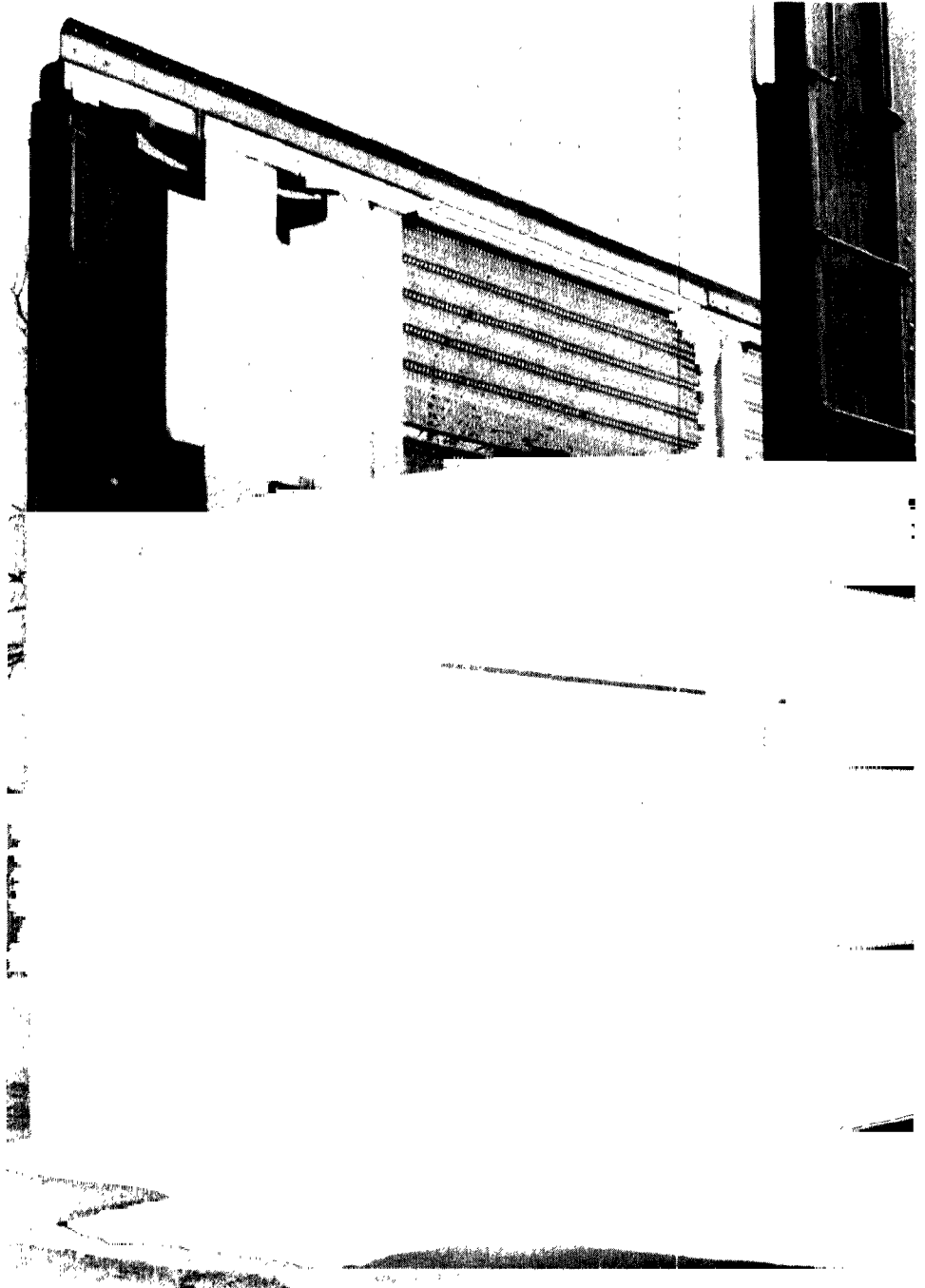


Figure 4.5: Interior View of Bi-level Flatcar Lower Deck



Our 1987 report showed that the need for single-level flatcars could be reduced by as much as 36 percent, depending on unit type, if DOD used multilevel cars for transporting military vehicles to the maximum extent possible. However, few mobilization stations in 1987 had the multilevel ramps needed to load these cars, and existing ramps were not distributed among mobilization stations in accordance with outloading needs. In commenting on that report, DOD stated that FORSCOM was assessing the requirements for and distribution of loading ramps and that, if needed, a

corrective plan would be completed for execution in fiscal year 1988. As of February 1992, however, FORSCOM had not completed these assessments, redistributed any ramps, or procured additional ramps.

Conclusions

MTMC still has not adequately evaluated the number and types of flatcars that are available to support deployment. Whether the national inventory of flatcars is sufficient to meet deployment needs therefore remains unclear. The current inventory does not appear adequate to support peak day requirements for full mobilization and deployment, and may not be adequate to provide timely support for rapid deployment to regional conflicts. It was adequate to support the less demanding requirements associated with Operation Desert Shield, but the inventory of single-level militarily usable flatcars is declining. DOD is aware of this decline but has not responded with actions designed to mitigate the effects of this trend.

Recommendations

We recommend that the Secretary of Defense direct the Military Traffic Management Command to periodically inventory the number and types of commercial flatcars available to support deployment. MTMC's methodology for inventorying these cars should be revised to exclude those types of flatcars not readily suitable for deployment and to more accurately determine the size of the usable inventory.

We recommend that the Secretary of the Army direct Forces Command to require that mobilization stations (1) develop plans for using multilevel flatcars for deployment and (2) test these plans during exercises.

Agency Comments

DOD commented that subsequent to our review MTMC completed its commercial railcar fleet study and forwarded it to the Transportation Command and FORSCOM. DOD agreed that the inventory of militarily useful railcars is declining and that multilevel cars could be used to move more equipment.

DOD concurred with our recommendations, stating that by September 1992, the Army would direct MTMC to (1) inventory triennially the availability of the commercial flatcar fleet and assess its utility for military use and (2) review its inventory procedures to determine the best methodology for conducting an accurate assessment. DOD noted that this methodology is scheduled to be determined by the third quarter of fiscal

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year 1993 and will include parameters to exclude some flatcar types not suitable for supporting deployment.

DOD also stated that by September 1992, the Army would direct FORSCOM to develop plans for using multilevel flatcars for deployment and to test their use during exercises.

Rail Car Loading Materials and Equipment Continue to Be Inefficiently Managed

The ready availability of materials and equipment needed to load rail cars—such as blocking, bracing, packing, crating, and tie-down (BBPCT) materials; rail car spanners; rail hand tool kits; and portable end ramps—is critical to the Army's ability to mobilize its forces.¹ But the Army has not accurately determined the types and amounts of materials and equipment needed to deploy by rail or properly distributed these items among mobilization stations. Although the Army appears to have more than adequate amounts of these materials and equipment overall, some mobilization stations have excessive amounts while others do not have enough. We identified these same problems in our 1987 report. Although FORSCOM took some corrective actions in response to the results of our 1987 review, the Command's policy guidance for some BBPCT materials is out-of-date. In addition, mobilization stations have not followed FORSCOM guidance for determining their BBPCT requirements and stocking materials. Lastly, FORSCOM has not completed its efforts to distribute rail-loading equipment in accordance with the needs of mobilization stations.

Determining BBPCT Requirements

The FORSCOM policy guidance for the peacetime acquisition and storage of BBPCT materials needed for mobilization and deployment is intended to ensure that (1) required materials are available in time for units to comply with mobilization and deployment orders and (2) BBPCT materials readily obtainable from local sources are not stocked. Mobilization station commanders and reserve component commanders are responsible for determining BBPCT requirements. Once the mobilization stations have determined and reported their requirements, they are required to survey the local commercial market to determine the availability of BBPCT and to stock only those items not available within the time frames needed for deployment.

Our 1987 Report Identified Excessive Stocks of BBPCT Materials

In 1987, we found that the Army had procured excessive amounts of BBPCT materials at the mobilization stations we visited and that almost \$10 million in additional BBPCT materials FORSCOM planned to acquire during fiscal years 1986 through 1991 might not be needed. We reported three factors that led to these excessive stocks: (1) FORSCOM's methodology for determining BBPCT requirements did not consider that many flatcars come

¹BBPCT materials such as steel cable, cable clamps, and cable guides are used to secure military vehicles to some types of rail cars and to protect them during shipment. Rail car spanners are small bridging ramps that allow military vehicles to drive from one flatcar to another during loading. Rail hand tool sets contain the tools needed to apply BBPCT and secure military vehicles and other equipment to some types of flatcars. Portable end ramps are movable metal ramps that enable vehicles to drive onto the end of a flatcar from ground level.

with their own tie-down devices and do not need blocking, bracing, and tie-down materials;² (2) some mobilization stations having little need for BBPCT materials nevertheless procured large quantities; and (3) some mobilization stations acquired and stored BBPCT materials that were readily available from local commercial sources.

These problems occurred largely as the result of inadequacies in FORSCOM's policy guidance for determining the amount of materials needed, as well as poor program execution at mobilization stations. In commenting on the 1987 report, DOD agreed with our findings and stated that FORSCOM would correct the problems we identified. The Army also placed a hold on purchases of BBPCT materials pending reevaluation of the need for these items and their distribution. DOD stated that these corrective actions and reevaluations would be completed by fiscal year 1988.

FORSCOM Has Been Slow to Update Its Guidance for Determining BBPCT Requirements

FORSCOM revised its policy guidance in response to our 1987 report, instructing mobilization stations to determine their BBPCT requirements based on the assumption that only half of the flatcars used would need these materials. This was roughly consistent with the portion of the militarily usable flatcar fleet—about 42 percent³—that we found needed these materials in 1987.

When we visited FORSCOM in early 1991, FORSCOM officials told us they had not revised this formula since 1987, even though they suspected that the national inventory of flatcars needing blocking, bracing, and tie-down materials might be rapidly declining. FORSCOM officials said one of the reasons they had not updated the guidance was that MTMC had not officially determined the extent of any changes in the national flatcar inventory nor determined what percentage of the inventory needed these materials.

Shortly thereafter, FORSCOM officials revised the policy guidance to state that mobilization stations should determine their requirements for blocking, bracing, and tie-down materials by assuming that 10 percent of the flatcars used would need them. A FORSCOM official told us they chose this percentage because 93 percent of the flatcars used during Operation

²These materials, which include wire rope, clamps, cable guides, and various types of nails and wood products, are used almost exclusively for securing military vehicles and other equipment to rail flatcars, whereas packing and crating materials are used for all types of outloading.

³These percentages are calculated on the basis of flatcar deck feet rather than numbers of flatcars because flatcar lengths vary.

Desert Shield were equipped with chain tie-down devices and therefore needed little blocking, bracing, and tie-down materials.

Our analysis shows that as of 1991, about 30 percent of the militarily usable flatcar fleet needed blocking, bracing, and tie-down materials. Installation officials told us that few flatcars needing these materials were used during Operation Desert Shield because flatcars with chain tie-down devices were the preferred type and the inventory of these was sufficient to meet Operation Desert Shield's needs. The FORSCOM policy therefore instructs mobilization stations to calculate requirements for blocking, bracing, and tie-down materials at a rate that would be inadequate to meet needs if the total inventory of flatcars is used in a future deployment.

Mobilization Stations Are Not Following FORSCOM Regulations

None of the six mobilization stations we visited were properly following FORSCOM regulations for determining BBPCT requirements and stocking appropriate amounts of these materials. Since our 1987 report, none of the six had annually determined BBPCT requirements for deployment as required by FORSCOM regulations. Two had not determined BBPCT requirements at all and were not stocking any BBPCT materials. Of the four that were stocking BBPCT materials, none had changed their stock levels since at least 1986, despite the decline in the number of flatcars needing these materials.

Mobilization stations continue to perform inadequate surveys of the local market to determine the availability of BBPCT materials. In 1987, 6 of the 17 mobilization stations we visited that were stocking BBPCT materials had performed these surveys. Our current review showed that of the six mobilization stations we visited, the two that were not stocking BBPCT materials also had not performed a market survey to ensure the materials would be available when needed. Of the remaining four, one was not conducting these surveys, and the surveys performed at the other three were either sporadic or incomplete.

Some mobilization stations we visited were buying BBPCT to replace stocks used, even though we reported in 1987 that overall these installations had excessive stocks of these materials. For example, in 1987, Fort Campbell's BBPCT inventory was far in excess of deployment needs. When we revisited Fort Campbell in 1991, we found that BBPCT requirements had last been determined in 1986 and that new BBPCT had been purchased to replace that used during Operation Desert Shield. These practices not only continue to result in excessive BBPCT stocks, but also consume warehouse space and

Chapter 5
Rail Car Loading Materials and Equipment
Continue to Be Inefficiently Managed

could result in the deterioration of overflow stock that must be stored outside. Figures 5.1 and 5.2 illustrate the BBPCT storage conditions we found at Fort Bliss, Texas.

Figure 5.1: Overflow of BBPCT Materials at Fort Bliss Warehouse

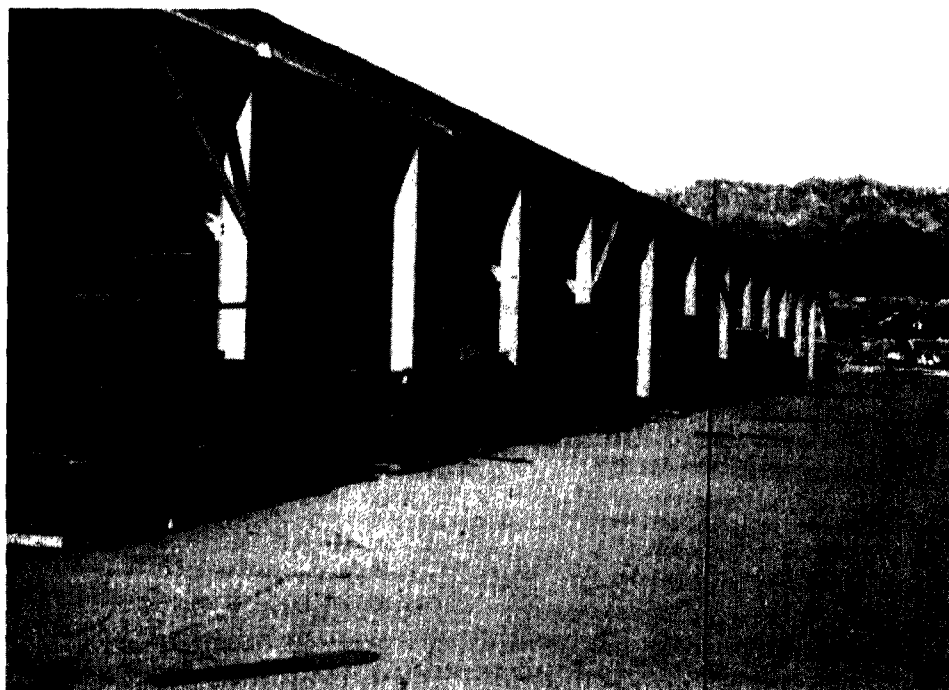


Figure 5.2: Inside Storage of Excess
BBPCT Materials at Fort Bliss



Distribution of Rail-Loading Equipment Remains Imbalanced

Our 1987 report described how FORSCOM spent over \$2 million for rail car spanners, rail hand tool sets, and portable end ramps to enhance loading operations at mobilization stations, and how FORSCOM planned to spend almost \$7 million more during fiscal years 1986 through 1991. We reported that FORSCOM requirements for this equipment were overstated and that the equipment already purchased had not been distributed to mobilization stations in accordance with their needs.

In commenting on the report, DOD agreed that a reassessment of the requirements for this equipment and its distribution among mobilization stations was needed. FORSCOM was to complete a reassessment of BBPCT and other rail-loading equipment needs during fiscal year 1987 and implement any changes or redistributions needed during fiscal year 1988.

FORSCOM had not completed any of these reassessments or taken any action to correct imbalances in the distribution of rail-loading equipment when we first visited FORSCOM during this audit in February 1991. Since then, FORSCOM has taken some actions to reassess the need for these items and has redistributed rail car spanners among some mobilization stations. However, these efforts remain far from being complete.

The Federal Manager's Financial Integrity Act of 1982 requires departments and agencies to report material weaknesses in their operations and describe their plans for corrective action. Army officials, however, have not reported problems with BBPCT materials and rail-loading equipment.

Conclusions

FORSCOM has not adequately corrected the rail-loading material and equipment problems identified in our 1987 report. FORSCOM's efforts to revise BBPCT regulations have been slow and were impeded by MTMC's failure to provide information on the flatcar inventory. Many mobilization stations are not following FORSCOM regulations for determining their BBPCT requirements. Some consequently continue to acquire and store excessive amounts of these materials, while others may not have enough to meet deployment needs. It is likely that problems with excessive inventories of these materials at some mobilization stations have worsened since 1987 because of the continued decline in the inventory of flatcars that use these materials.

Although DOD's comments on our 1987 report indicated that FORSCOM would reassess mobilization stations' needs for BBPCT materials and rail-loading equipment and correct any imbalances in the distribution of these items, FORSCOM had not done this when we began our audit and was far from completing these actions when we completed our work in September 1992.

Recommendations

We recommend that the Secretary of Defense direct the Military Traffic Management Command to (1) determine the percentage of the flatcar fleet needing special materials for securing vehicles during deployment as part of this command's periodic inventory of rail cars suitable for supporting deployment and (2) provide this information to Forces Command.

We recommend that the Secretary of the Army direct Forces Command to

- (1) modify its regulations so that guidance on calculating the materials and equipment needed for loading rail cars during deployments accurately reflects the percentage of the flatcar fleet needing these materials and (2) ensure that mobilization stations comply with regulations for determining the need for these materials and for stocking them;

- complete its reassessment of needs for rail-loading materials and equipment and distribute these items among mobilization stations as needed to meet requirements; and
- report the process for determining rail-loading equipment supply needs, their distribution, and practices regarding their storage as a material weakness in the Army's next assessment of internal controls, as required by the Federal Manager's Financial Integrity Act.

The last recommendation is the result of recurring problems with FORSCOM inaction in this area. We did not include the rest of FORMAP in this recommendation due to corrective actions initiated by the Army as the result of this report and Operation Desert Shield.

Agency Comments

In commenting on a draft of this report, DOD acknowledged that the problems associated with rail-loading materials and equipment we identified in 1987 remain unresolved and that the Army has not completed corrective actions for these problems that it previously said would be completed by fiscal year 1988.

DOD concurred with all our recommendations and stated that by September 1992, the Army would direct MTMC to determine, as part of its survey on the availability of militarily usable rail cars, the ratio of rail cars requiring blocking and bracing materials. This data will be forwarded to FORSCOM to be used to (1) adjust stockage levels of these materials at mobilization stations and (2) adjust rail car factors in movement plans, regulations, and guidance. According to DOD, the next survey will be completed by September 1994.

DOD stated that FORSCOM is resurveying the need for rail car loading equipment and will take appropriate redistribution actions by March 1993. The Army will also direct FORSCOM to conduct a survey of major Army commands and the other services for the purpose of cross-leveling blocking and bracing material. According to DOD, this effort will be completed by July 1993.

DOD also stated that by September 1992, the Army would direct FORSCOM to establish a process for determining rail-loading equipment supply needs, their distribution, and practices regarding their storage. DOD added that this issue will be reported as a material weakness in the next assessment of internal controls, as required by the Federal Manager's Financial Integrity Act.

Comments From the Department of Defense



PRODUCTION AND LOGISTICS

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, DC 20301-8000

September 1, 1992

(L/TP)

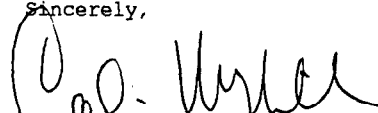
Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, " OPERATION DESERT SHIELD: Problems in Deploying by Rail Need Attention," dated June 25, 1992, (GAO Code 393433), OSD Case 9115.

The Department generally agrees with the findings and recommendations contained in the report. The detailed DoD comments are provided in the enclosure. The Department appreciates the opportunity to comment on the report.

Sincerely,



Colin McMillan

Enclosure

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GAO DRAFT REPORT--DATED JUNE 25, 1992
(GAO CODE 393433) OSD CASE 9115

"OPERATION DESERT SHIELD: PROBLEMS IN DEPLOYING BY
RAIL NEED ATTENTION"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

FINDING A: Rail Facilities at Mobilization Stations. The GAO reported that Forces Command has designated 47 Army installations in the continental United States as mobilization stations from which deploying active and reserve units will leave for ports of embarkation. The GAO noted that Forces Command is responsible for maintaining the capabilities of these stations to meet expected mobilization and deployment requirements.

The GAO observed that deteriorating rail facilities at mobilization stations have been a long-standing problem. The GAO reported that, during FY 1986, the Army: (1) designated Forces Command as its executive agent for managing rail facility repair and rehabilitation projects at mobilization stations, and (2) planned to spend about \$140 million on these repairs at 42 mobilization stations during the period fiscal years FY 1984 through FY 1992.

The GAO further reported that the Military Traffic Management Command is responsible for determining whether the military transportation systems, including its use of commercial railcars, can meet mobilization needs. The GAO noted that movement to and from mobilization stations is expected to involve substantial use of commercial railcars under Army deployment plans. The GAO cited a 1987 report: "Army Deployment: Better Transportation Planning is Needed" (GAO/NSIAD-87-138, June 18, 1987) (OSD Case 7220), in which it found: (1) rail facilities at Army mobilization stations to be in such poor condition that their ability to accomplish mobilization movements as planned was questionable, (2) the Military Traffic Management Command had not determined whether sufficient commercial transportation resources, including military flatcars, were available, and (3) excessive amount of materials needed for loading some types of railcars at some mobilization stations. (pp. 2-3/GAO Draft Report)

DoD Response: Concur.

Enclosure

FINDING B: Transportation Is An Integral Part Of Deployment Planning. The GAO reported that Forces Command has designated a total of 47 Army installations as mobilization stations. The GAO noted that both active and reserve component forces are to assemble and conduct final preparations at mobilization stations before moving to ports of embarkation.

The GAO stated the Army must plan in peacetime how it will meet its deployment objectives when mobilized. The GAO further stated that an integral part of this planning process is ensuring that the necessary military and commercial transportation is available to move these units to their ports of embarkation. (p. 9/GAO Draft Report)

DoD Response: Concur.

FINDING C: Commercial Rail Considered Well Suited for Moving Army Forces. The GAO reported Army policy states that commercial transportation is to be used to the maximum extent for mobilization and deployment. The GAO indicated that the policy is intended to reduce wear and tear on public highways and military vehicles, and to minimize the need for en route support and maintenance support at the ports of embarkation.

The GAO further reported Army policy generally requires that vehicles suitable for highway movement (such as trucks and other wheeled vehicles) located more than one-day traveling distance from their port of embarkation be moved by commercial transportation. The GAO also reported that vehicles not well suited for highway movement (such as tanks and other vehicles) are not to be driven more than 75 miles on highways. The GAO concluded that, since many of the mobilization stations are more than 75 miles from the ports of embarkation, the Army is heavily dependent on commercial transportation to accomplish its moves--especially rail transportation.

The GAO asserted the successful and efficient use of rail by the Army to move its equipment from mobilization stations to embarkation ports requires that Army-owned rail facilities be kept in good repair to prevent derailments and damage to the equipment being moved. The GAO noted that the Army generally relies on the commercial rail industry to supply the majority of the cars. (p. 10/GAO Draft Report)

DoD Response: Concur.

FINDING D: Desert Shield Did Not Stress the U.S. Rail Network. The GAO found that the rail outloading activities required for mobilization and deployment during Desert Shield were generally less

Now on p. 10.

Now on pp. 10-11.

Now on pp. 3-4, 13-14.

extensive than those that would have been required for a full mobilization and deployment. For example, the GAO noted that only the equivalent of 6 of the 11 active Army divisions based in the continental United States deployed during Desert Shield, and that their deployment was stretched out over a period of almost 6 months. The GAO concluded that the need for commercial transportation assets was, therefore, substantially less during Operation Desert Shield than that expected for full mobilization and deployment. The GAO was advised by DoD officials that the Desert Shield transportation requirements did not disrupt commercial activities in the United States. (p. 4, pp. 13-14/GAO Draft Report)

DoD Response: Concur.

FINDING E: Deteriorated Rail Facilities Constrained Outloading Operations During Operation Desert Shield. The GAO reported that all the mobilization stations it visited effectively moved unit equipment to ports of embarkation within the time frames allotted after receiving their movement orders. The GAO found, however, that Operation Desert Shield outloading operations were adversely affected by deteriorated rail facilities at most of the mobilization stations visited. The GAO noted, for example, that at two mobilization stations, Fort Campbell and Fort Stewart, the installation rail lines were temporarily closed as a result of derailments and poor track conditions.

The GAO found that the Fort Campbell track deteriorated to the point that it was virtually unusable. The GAO further found, that as a result of the deteriorated conditions, that the 101st Division drove much of its equipment about twice as far on public highways as is permitted under Forces Command policy. The GAO reported that, when the division began returning its equipment by rail after Operation Desert Storm, a series of eight derailments on the branch line to Fort Campbell resulted in the closure of the line for major repairs. The GAO concluded that the derailments could have occurred during the outloading operations had the Army used it as planned to deploy for Operation Desert Shield. The GAO asserted that the poor condition of the Fort Campbell rail line might have had more far-reaching consequences had several favorable conditions not been present during the 101st Division road march to Jacksonville.

The GAO further found that the railroad tracks at Fort Stewart were in very poor condition due to years of deferred maintenance and neglect. The GAO reported that, according to a Fort Stewart transportation official, Fort Stewart had no ongoing rail maintenance and inspection program prior to Operation Desert Shield. The GAO indicated that the condition of the already badly deteriorated tracks worsened during Operation Desert Shield outloading until the line had

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to be closed for emergency repairs between October 1990 to February 1991.

The GAO reported that track conditions at the other four mobilization stations visited varied, but rail facilities at two of these appeared unable to support the level of rail outloading expected for a full mobilization and deployment. The GAO further reported that at Fort Bliss officials commented that drainage problems forced trains carrying equipment for Operation Desert Shield to use tracks that were under water in places. The GAO concluded that the generally poor condition of rail facilities at Army mobilization stations threatens the ability of the Army to move equipment to ports rapidly, and is likely to affect any future deployment adversely unless the Army soon repairs and rehabilitates these facilities. (p. 5, pp. 14-20/GAO Draft Report)

Now on pp. 4, 14-19.

DoD Response: Concur. The DoD agrees that poor track conditions on the mobilization stations visited by the GAO constrained Operation Desert Shield outloading. The problems were especially evident at Forts Campbell, Kentucky, and Fort Stewart, Georgia, for the reasons cited in the report. In 1987, the DoD acquired the 22-mile commercial rail track leading to Fort Campbell to maintain rail connectivity for mobilization purposes. The track was in poor condition and scheduled to be abandoned. The DoD allocated \$1.2 million in 1988 for emergency track repair along the corridor, which made it marginally useful for deployment. However, the corridor deteriorated thereafter. In 1991, as a result of command interest generated by Operation Desert Storm and the GAO review, Forces Command, acting on behalf of the Army, allocated an estimated \$9.0 million to repair the Fort Campbell rail bed and track. The repairs will be completed in December 1992, and will exceed Federal Railway Administration standards. Additionally, the Army has directed that no further contracts involving the Fort Campbell rail corridor be awarded pending completion of an Army-directed review and analysis of all rail outloading options at Fort Campbell, especially those suggested by the GAO. The Army review will be completed in the 3rd Quarter FY 1993. At Fort Stewart, Georgia, the condition of the rail and roadbed did affect Operation Desert Shield outload requirements. While derailments did occur, none resulted in personal injury or significant property damage. In September 1991, Forces Command allocated \$3.5 million to fund rail improvements at Fort Stewart, which are scheduled for completion in September 1992. There now is a certified track inspector employed at Fort Stewart, as well as all other Forces Command installations. The DoD has funded an additional \$57 million through FY 1994 to perform major repairs of rail lines at other mobilization installations, including \$2.9 million to improve track, right-of-way, and drainage at Fort

Bliss, Texas. The Fort Bliss improvements are scheduled to be finished in December 1992.

FINDING F: Army Rail Deterioration Is A Long-Standing Problem. The GAO reported that badly deteriorated rail conditions at mobilization stations are the result of over 40 years of systemic neglect. The GAO noted that in 1983, and again in 1987, it had reported problems with: (1) track conditions, (2) the abandonment of feeder lines to military installations by commercial railroads, and (3) the potential impact on installation outloading capability (OSD Cases 6211 and 7220, respectively). The GAO had indicated that conditions were little improved by the time they completed the visits to mobilization stations in September 1991, for the current review. (p. 21/GAO Draft Report)

DoD Response: Concur. The DoD agrees that the rail conditions on Army installations have deteriorated over the last 40 years. In analyzing the problem, Forces Command surveyed the rail conditions at every deployment installation. The results of the survey generated the Forces Command Rail Maintenance Program to correct the problems by FY 1994, given current funding levels. In addition, Forces Command instituted a track inspection certification program so that each installation would have a track inspector available to identify potential problems and appropriate corrective action. In addition to completed projects at Fort Carson and Fort Lewis, contracts on seven other installations are being executed-- i.e., Fort Campbell, Fort Stewart, Fort Bragg, Fort Hood, Fort Bliss, Fort Pickett, and Camp Roberts, California.

FINDING G: Army Initiated Rail Rehabilitation Program in Fiscal Year 1986. The GAO observed that, in 1986, the Army designated Forces Command as the executive agent to manage rail facility repair and rehabilitation projects at mobilization stations. The GAO reported that Forces Command Rail Maintenance Program initially was to spend about \$140 million during the period FY 1986 through FY 1992. The GAO noted that by early 1991, more than \$47 million had been appropriated, and the Army planned to spend \$137 million more through FY 1997 at 31 mobilization stations. The GAO noted that since, Operation Desert Shield, a DoD study has proposed additional expenditures for improvements to rail facilities.

The GAO reported that, in FY 1986, Forces Command entered into an arrangement with the Transportation Systems Center, a contractor for the Department of Transportation, to provide a solution to problems the Command previously had experienced in spending funds for repair projects during the same year the funds were appropriated. (The GAO explained that operations and maintenance funds not obligated for expenditure by the end of the fiscal year in which they are

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Now on pp. 4, 20-21.

appropriated must be returned to the U.S. Treasury.) The GAO reported that, since the Transportation System Center operated on a revolving fund basis, Forces Command could obligate its rail maintenance program appropriations by advancing them to the Center. The Center could then draw on them as needed to fund repair projects without concern for when they were appropriated. (p. 6, pp. 22-23/GAO Draft Report)

DoD Response: Concur. On behalf of the DoD, Forces Command contracted with the Transportation Systems Center to execute the rail maintenance program. The intent was to use the Center expertise for quickly completing the intended rail programs without delays or rapid end-of-year funding execution requirements. A large project, such as that at Fort Campbell, could then be completed under one contract using several years' appropriations that, in and of themselves, would be insufficient to make substantial progress on rail repairs and upgrades. Pending completion of the existing contract for rail repairs at Fort Campbell, Forces Command will let expire its contractual relationship with the Transportation Systems Center for further execution of its Rail Maintenance Program. Six of the seven contracts noted in Finding F are now being executed by the Army Corps of Engineers.

FINDING H: Few Repairs Have Been Made Under the Forces Command Rail Maintenance Program. The GAO reported that Forces Command had received \$47 million in funding for the rail maintenance program and forwarded more than \$20 million to the Transportation Systems Center; however, by mid-1991, very little progress had been made toward achieving the program objectives. The GAO found that, as of June 1991, track repair projects (other than emergency repairs) had been completed only at Fort Carson, Colorado, and only three of the 43 other installations on the list at that time had started any repair work.

The GAO concluded that the limited progress of the rail rehabilitation program appears largely attributable to a combination of Forces Command management shortcomings and technical disputes with the Transportation Systems Center. The GAO identified: (1) problems with the Forces Command Rail Maintenance Program direction and responsibilities, (2) disagreements over rail repair designs, (3) program funding redirections, and (4) inadequate internal controls. The GAO asserted that those problems resulted in program delays, additional costs, and generally limited program effectiveness.

The GAO indicated that it is unclear whether Forces Command and the Transportation Systems Center ever reached agreement on their respective rail maintenance program responsibilities listed in the

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revised statement of work. The GAO found no record of agreement as of April 1988. The GAO reported that, according to a Forces Command official, it had been assumed the Center was in agreement after that date because no additional objections were received. The GAO further reported, however, that according to Transportation Systems Center officials, Forces Command was verbally advised of their continued objections--but received no response, and did not pursue the matter further through official correspondence. The GAO concluded that officials at Forces Command and the Center still disagree whether they reached agreement on the statement of work.

The GAO found that the Forces Command Engineering Directorate simultaneously began to question the engineering judgement of the Transportation Systems Center and disputes over repair designs ensued. The GAO noted that command revisions to the Center designs often occurred relatively late in the design process, causing increased costs due to significant reworking of engineering and architectural drawings and plans. In addition, the GAO found that overhead costs increased as a result of the engineering disagreements. The GAO reported that, in 1990, Forces Command decided to terminate its relationship with the Center. However, since no formal notification was given, the Center continued to charge for overhead expenses even though little repair work was approved. The GAO found that, for the period FY 1986 through FY 1991, overhead averaged more than 23 percent of the total program cost, even though everyone agreed it should not normally exceed 10 percent of the total program cost.

The GAO reported that the redirection of Rail Maintenance Program funds by both Forces Command and individual mobilization stations further weakened the effectiveness of the program. The GAO found that the Army frequently redirected those funds for such things as environmental clean-up, utility costs, and unit training. The GAO observed that, by mid-1991, Forces Command had redirected at least \$16.1 million of the \$47.2 million received for the Rail Maintenance Program since FY 1986.

The GAO concluded that inadequate Forces Command oversight and management of the process for disbursing Rail Maintenance Program funds further hampered the effectiveness of the program. The GAO reported that the Command could not explain what was included in many of the funding expenditure categories listed in the reports. The GAO further reported that, as of March 1992, the Command still could not reconcile about \$1.3 million in program expenditures with the Transportation Systems Center records. The GAO pointed out that, in effect, the process converted the annual Rail Maintenance Program appropriations into multiyear funds--it also required their continued expenditure through the Transportation Systems Center. The GAO also

Now on pp. 21-24.

pointed out that Forces Command was unable to retrieve these funds--\$11 million--because unspent funding originating in prior single-year appropriations must be returned to the Treasury or continue to use the Transportation Systems Center despite management and engineering disagreements. The GAO observed that the Command decided to retain the Transportation Systems Center to complete the Fort Campbell rail repair projects, however, in May 1992, the Command initiated five repair projects at mobilization stations through contracts with the Army Corps of Engineers. (pp. 23-27/GAO Draft Report)

DoD Response: Concur. The Army entered into a contract with the Transportation Systems Center to rehabilitate the rail capabilities at designated mobilization installations. The working relationship has not proved satisfactory for the reasons noted by the GAO. As a result, that relationship will expire at the completion of the current Fort Campbell contract. New rail maintenance contracts will be executed by the Army Corps of Engineers. The Forces Command Rail Maintenance Program, designed to upgrade and repair rail capabilities at mobilization installations, is scheduled to be completed in FY 1994.

The DoD agrees that, in the past, funds were reallocated from rail maintenance programs and applied to cover costs of other high-priority projects such as environmental cleanup and unit training. That situation has been rectified, and the rail program has been nearly reimbursed for the redirected funds. In FY 1991, Forces Command budgeted \$12.7 million for rail maintenance and expended \$25.2 million. After, FY 1991, installations did not have access to the Rail Maintenance Program funds; thus, could not divert them to other programs.

FINDING I: Fort Campbell Project Needs Reevaluation.

The GAO found that the repair and rehabilitation for the Fort Campbell rail line has been the Forces Command Rail Maintenance Program's highest priority, and most expensive repair project since the inception of the program in FY 1986. The GAO asserted, however, that Fort Campbell repairs continue to be affected by problems associated with: (1) Forces Command management of the program, and (2) engineering disputes with the Transportation Systems Center. The GAO further asserted that the Command did not adequately consider several potentially less expensive rail-loading alternatives--i.e., loading military equipment on railcars at privately-owned, nearby sites--before deciding to make these repairs. Furthermore, the GAO concluded that it appears that the project, as presently designed, still will not result in a rail-loading capability adequate to meet either peacetime or mobilization needs.

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The GAO reported that, since the 1960s, the abandonment of branch lines closed all other access to main commercial rail lines and forced the DoD to purchase the Fort Campbell to Hopkinsville, Kentucky, branch line during the 1980s for a total of about \$523,000. The GAO noted emergency repairs to the branch line in FY 1986 and FY 1989 cost the rail maintenance program more than \$2 million, with the total project now estimated to exceed \$16 million. The GAO concluded that, even if completed, the planned \$16 million project at Fort Campbell may not result in a rail-loading capability sufficient to meet either peacetime or mobilization needs. The GAO cited a 1984 Transportation Engineering Agency study that determined the interchange track in Hopkinsville is inadequate to meet either peacetime exercise or mobilization rail needs at Fort Campbell. The GAO found that Forces Command plans for rehabilitating Fort Campbell track do not address the Hopkinsville interchange problem. The GAO asserted that proposals to build new track have not been adequately considered by the Army--because, as new construction, they would have required funding out of the military construction account rather than the operations and maintenance account. The GAO concluded that the design of the project appears to have been determined more by funding availability than by cost-effective design or mobilization and deployment needs. The GAO further concluded choosing an alternative that either involves deployment loading directly on the mainline or bypasses the Hopkinsville interchange is likely to result in significant long-term savings to the Army. (p. 6, pp. 27-31/GAO Draft Report)

Now on pp. 4, 24-27.

DoD Response: Concur. Fort Campbell requires rail to perform its mobilization and deployment mission. The 1984 Transportation Engineering Study concluded that: (1) the Hopkinsville interchange cannot handle peacetime exercise traffic nor can it handle an all rail mobilization, (2) the interchange is capable of handling a rail mobilization of nonroadable vehicles, and (3) for any rail traffic to safely use the Hopkinsville interchange, the tracks between Fort Campbell and the interchange must be upgraded to meet at least Federal Railway Administration Class II standards. The latter is increasingly important as the Army Strategic Mobility Program has established more aggressive unit deployment timelines for units deploying from Fort Campbell. As mentioned in the DoD response to Finding E, beginning in 1st Quarter FY 1993, the Army will review the entire rail situation at Fort Campbell to determine the most efficient and effective alternatives to meet the installation deployment requirements, including the alternatives proposed by the GAO. Major repairs totalling \$9.0 million, begun in FY 1991, continue on the Fort Campbell line. On July 9, 1992, pending the outcome of the review of alternatives, the Army requested that Forces Command let no new contracts for repair to the Fort Campbell connector line. Regardless of the study outcome, the DoD is required

to maintain the Hopkinsville Beltline (which goes through the city), in order to protect the community and property.

FINDING J: Military Traffic Management Command Efforts to Inventory Flatcars Remain Incomplete. The GAO concluded that the DoD has not accurately determined the size of the commercial rail flatcar fleet suitable for supporting deployment. The GAO again cited its 1987 report (OSD Case 7220), which pointed out that the Military Traffic Management Command had not performed an adequate analysis to determine if the national rail car inventory was sufficient to meet the DoD need for mobilization and deployment. The GAO pointed out the DoD agreed that such an inventory was important and directed the Military Traffic Management Command to make a detailed assessment of the capability of the commercial transportation sector ability to support U.S. mobilization requirements. The GAO asserted, however, that a change to flatcar requirements invalidated the conclusions of the first study and the second study addressing all other commercial transportation assets contained methodology problems and, therefore, was never officially finalized or approved by the Military Traffic Management Command. The GAO reported that the pace of deployment in response to regional conflicts would require the purchase of additional heavy lift flatcars for ownership by the DoD. The GAO found that the actual inventory of militarily usable single-level flatcars, including those owned by the DoD, is about 11,439 cars and not the 32,900 flatcar total reported by the Army. The GAO reported that, according to Military Traffic Management Command officials, the peak-day requirements were in the process of being changed in response to changes in the former Soviet Union and subsequent changes in U.S. deployment plans. (p. 6-7, pp. 33-36/GAO Draft Report)

Now on pp. 5, 30-32.

DoD Response: Partially concur. At the time of the GAO review, the Military Traffic Management Command had not completed its study. However, on June 28, 1991, the report was completed and forwarded to the United States Transportation Command and to Forces Command. By September 1992, the Military Traffic Management Command will be directed to: (1) inventory triennially the commercial rail status and assess its utility for military use, and (2) review its inventory procedures to determine the most relevant methodology to achieve an accurate inventory. The methodology review will be completed in the 2nd Quarter, FY 1993.

FINDING K: The Army Has Not Responded to the Decline in Single-Level Flatcars. The GAO analysis of U.S. flatcar inventory revealed that the national inventory of militarily usable single-level flatcars, which are suitable for supporting deployment, has continually declined since the 1970s--from 19,100 in 1971 down to 11,400 flatcars in 1991. The GAO pointed out that, if the trend continues, the inventory of the single-level flatcars may become inadequate to meet

deployment needs. The GAO noted that 628 of the 1,194 flatcars owned by the DoD will come to the end of their useful life by 1993, and will be retired. The GAO observed that, although Army officials are aware of the cited trends, they have made few preparations to use alternative types of flatcars.

The GAO reported that the railroads are increasing their use of specialized flatcars, which often are not suitable for transporting military vehicles. The GAO noted that multilevel flatcars could be used during a deployment to alleviate potential shortages of single-level flatcars. The GAO stated that Military Traffic Management Command officials indicated that the Army could alleviate the impact of any single-level flatcar shortages during deployment by loading multilevel flatcars. The GAO concluded, however, that such specialized flatcars generally cannot transport military vehicles larger than a two and one-half ton truck.

The GAO pointed out that, in its 1987 report, it had concluded that the need for single-level flatcars could be reduced by as much as 36 percent, depending on unit type, if the DoD used multilevel cars for transporting military vehicles to the maximum extent possible. The GAO noted that, in 1987, only a few mobilization stations had the multilevel ramps needed to load such cars. The GAO further pointed out, however, that the DoD comments in response to the 1987 report, indicated that Forces Command was assessing the requirements for, and distribution of, loading ramps and any necessary corrective action would be implemented by 1988. The GAO found that, as of February 1992, Forces Command still had not: (1) completed the assessments, (2) redistributed any ramps, (3) procured additional ramps, and none of the mobilization stations visited were adequately prepared to load substantial numbers of multilevel cars in a deployment. (pp. 37-40/GAO Draft Report)

DoD Response: Concur. The DoD agrees that the inventory of military useful railcars is declining and that multilevel cars could be used to move more equipment. A Military Traffic Management Command Study, completed in July 1992, of 21 installation deployments during Operations Desert Shield and Storm revealed that 4 percent of the total number of railcars used by the installations were loaded with trailers (trailer-on-flatcar). At two installations, approximately 20 percent of the railcars used were multilevel flatcars. Overall, approximately 5 percent of all railcars used were multilevel. During peacetime, unit rotations to the Fort Irwin National Training Center, Fort Hood, Fort Carson, Fort Stewart, and Fort Riley currently use 89-foot, bi-level railcars on a regular basis. By September 1992, the Army will direct Forces Command to ensure that the use of multilevel railcars is built into exercise and deployment plans where applicable. Further, the Military Traffic Management Command study

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requested information on ramp facilities, usage, and the use of portable ramps. No significant problems were surfaced by the installations. Some servicing rail companies provide ramps and support equipment when multilevel railcars are provided. Forces Command is resurveying the need for ramps to load multilevel railcars and will cross-level or procure equipment, as appropriate, by July 1993.

FINDING L: Determining Blocking, Bracing, Packing, Crating, and Tie-Down Requirements. The GAO reported that Forces Command policy guidance for the peacetime acquisition and storage of blocking, bracing, packing, crating, and tie-down materials needed for mobilization and deployment is intended to ensure that: (1) required materials are available in time for units to comply with mobilization and deployment orders and (2) materials such as steel cable and cable clamps readily obtained from local sources are not stocked. The GAO pointed out that mobilization station commanders and reserve component commanders are responsible for determining the blocking, bracing, packing, crating, and tie-down requirements, as well as determining the availability of the materials in the local commercial market. (p. 7, pp. 42-43/GAO Draft Report)

DoD Response: Concur.

FINDING M: 1987 GAO Report Identified Excessive Stocks of Blocking, Bracing, Packing, Crating, and Tie-Down Materials. The GAO again citing its 1987 review, in which it had concluded the Army had procured excessive amounts of blocking, bracing, packing, crating, and tie-down materials, questioned the need for the Army plan to procure an additional \$10 million of materials FY 1986 through FY 1991. The GAO indicated that prior reviews had cited the following factors:

- the methodology for determining the requirements for the materials did not consider that many flatcars come with their own tie-down devices;
- some mobilization stations having little need for the materials, nevertheless, procured large quantities; and
- some mobilization stations acquired and stored the materials that were readily available from local commercial sources.

The GAO indicated that those problems had occurred largely as the result of inadequacies in the Forces Command policy guidance for determining the amount of materials needed, as well as poor program execution at mobilization stations. The GAO noted that the DoD agreed in its response to the 1987 report, and indicated that

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corrective actions and reevaluations would be completed by FY 1988.
(p. 7, pp. 43-44/GAO Draft Report)

DoD Response: Concur. As a result of the GAO review, Forces Command has reinforced its established written policy and procedures to improve the management of blocking, bracing, and tie-down materials. Installations are now required to survey the surrounding community for blocking, bracing, and tie-down stocks. Installations are now required to maintain only sufficient blocking, bracing, and tie-down materials for mobilization and deployment until adequate materials can be obtained commercially. The Army will survey all its commands and the other Services to determine their blocking, bracing, and tie-down equipment needs. The results will dictate where economical cross-leveling can and will occur. The survey will be complete by July 1993. In July 1992, the Military Traffic Management Command Transportation Engineering Agency completed a study indicating that 98 percent of the flatcars used during Operation Desert Shield deployment were the chain tie-down type.

FINDING N: Forces Command Has Been Slow to Update Its Guidance for Determining Blocking, Bracing, Packing, Crating, and Tie-Down Requirements. The GAO reported that, after issuance of the 1987 GAO report, Forces Command revised its policy guidance to instruct mobilization stations to determine their material requirements based on the assumption that only half of the flatcars used would need such materials. The GAO found, however, that in 1991, Forces Command officials had not further updated the guidance, even though they knew the national inventory of flatcars was rapidly declining. The GAO noted that one of the reasons provided was that the Military Traffic Management Command had not officially determined the extent of any changes in the national flatcar inventory, or determined what percentage of the inventory needed the materials. The GAO stated that, shortly thereafter, Forces Command officials revised the policy guidance to state that mobilization stations should determine their requirements assuming that 10 percent of the flatcars used will need the materials. The GAO found, however, that about 30 percent of the militarily usable flatcar fleet now needs blocking, bracing, packing, crating, and tie-down materials. The GAO concluded that Forces Command policy, therefore, now instructs mobilization stations to calculate requirements at a rate that would be inadequate to meet needs if the total inventory of flatcars were used. (pp. 44-45/GAO Draft Report)

Now on pp. 40-41.

DoD Response: Partially concur. In a Military Traffic Management Command Transportation Engineering Agency Report, "Deployment at CONUS Installations During Operation Desert Storm," the Command found that installations were able to use 98 percent chain tie-down cars for deployment. The current excess blocking, bracing, and tie-down

equipment cited in Finding M, the reduction of militarily useful railcars requiring blocking, bracing, and tie-down devices, and the potential to use multilevel railcars, are indicators that 10 percent is a realistic planning figure for railcars requiring blocking and bracing materials. The Army will request however, that every three years the Military Traffic Management Command review the makeup of the commercial rail fleet and assess its utility for meeting current DoD deployment requirements. That information will be used by Forces Command to update railcar ratios for blocking and bracing requirements.

FINDING O: Mobilization Stations Are Not Following Forces Command Regulations. The GAO found that none of the six mobilization stations it visited were following the command regulations properly for determining blocking, bracing, packing, crating, and tie-down material requirements and stocking appropriate amounts of those materials. The GAO also found that mobilization stations continue to perform inadequate surveys of the local market to determine the availability of materials. The GAO further found that some mobilization stations, such as Fort Campbell, were replacing their stocks of materials, even though the 1987 GAO report cited excessive stocks of such materials. (pp. 45-46/GAO Draft Report)

Now on pp. 41-43.

DoD Response: Concur. As noted in the DoD response to Finding M, the Army will be conducting a survey of its major commands and other Services to establish a baseline for economical cross-leveling of excess DoD-owned blocking, bracing, and tie-down equipment. The process will be complete in July 1993. As part of the process, the Army will direct that the results of local blocking and bracing availability surveys be required from Forces Command installations with rail deployment missions as an attachment to the DD 1726, CONUS Military Installation Material Outloading and Receiving Capability Report, an annual report submitted in February of each year.

FINDING P: Distribution of Rail-Loading Equipment Remains Imbalanced. The GAO again referenced its 1987 report, in which it found that Forces Command requirements for railcar spanners, rail hand tool sets, and portable end ramps were overstated, and that the equipment already purchased had not been distributed to mobilization stations in accordance to their needs. The GAO pointed out the DoD agreed that a reassessment of the need for this equipment and its distribution among mobilization was needed. The GAO found, however, that as of February 1991, none of the reassessments have been completed or any action taken to correct the imbalances in the distribution of rail-loading equipment. The GAO indicated that, since then, Forces Command has taken some actions, but pointed out those efforts are far from being complete. (pp. 47-48/GAO Draft Report)

Now on pp. 43-44.

DoD Response: Concur. As noted previously, the Army is taking action to reassess and redistribute rail-loading equipment, but those actions are not complete. Forces Command is resurveying the need for rail-loading equipment and will conduct cross-leveling actions by March 1993. Currently, there are 15 installations with multilevel ramp capacity. Other installations indicate that the servicing rail company provides ramps and support equipment when multilevel railcars are used.

* * * * *

RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of the Army take actions to improve the rail rehabilitation program, in particular, addressing: (1) the direction of the program, (2) funding, (3) internal controls, (4) cost-effectiveness, and (5) general accountability. (p. 7, p. 32/GAO Draft Report)

Now on pp. 5, 28.

DoD Response: Concur. The Army is taking actions to improve the rail maintenance program. In October 1991, Forces Command realigned program execution from the Transportation Systems Center to the Army Corps of Engineers. The rail maintenance funding has been reimbursed to the original account; in FY 1991, Forces Command budgeted \$12.7 million for rail maintenance and expended \$25.2 million. By September 1992, the Army will direct that blocking, bracing, and tie-down equipment status be added as a material weakness under its Internal Controls Program.

RECOMMENDATION 2: The GAO recommended that the Secretary of the Army consider designating another organization as its executive agency for the Rail Maintenance Program. (p. 7, p. 32/GAO Draft Report)

Now on pp. 5, 28.

DoD Response: Partially concur. The Army designated Forces Command as its executive agent for rail maintenance at the Army mobilization and deployment installations. The designation is designed to align Forces Command deployment and mobilization mission with inherent logistical support responsibilities and requirements. The key to revitalizing the Rail Maintenance Program is not redesignating another organization as the Army executive agent for rail rehabilitation, but to manage the existing program better than it has been managed. Forces Command has made significant managerial improvements as a result of increased command emphasis brought on by rail system failures during Operation Desert Shield, as identified by the GAO. With the completion of the Fort Campbell repair contract, the Forces Command Rail Maintenance Program execution is now being accomplished by the Army Corps of Engineers. The cited changes will

result in better management of the program and facilitate its completion, now scheduled for FY 1994.

RECOMMENDATION 3: The GAO recommended that the Secretary of the Army suspend the Fort Campbell project, pending a review of the available alternatives for achieving the rail-loading capability needed at this installation--with special attention being directed at resolving the interchange problem that currently restricts Fort Campbell access to a main commercial rail line. (p. 32/GAO Draft Report)

Now on p. 28.

DoD Response: Concur. As noted in the DoD response to Finding I, beginning in the 1st Quarter, FY 1993, the Army will review the entire rail situation at Fort Campbell to determine the most efficient and effective alternatives to meet the installation deployment requirements, including those proposed by the GAO. It is anticipated that the review will be completed in the 3rd Quarter, FY 1993. The ongoing major repairs on the Fort Campbell line will continue. On July 9, 1992, pending the outcome of the aforementioned review, the Army stopped any new contracts on the Fort Campbell connector line. However, the Army owns the track that leads through the city of Hopkinsville and, therefore, must maintain it to ensure community safety.

RECOMMENDATION 4: The GAO recommended that the Secretary of Defense direct the Military Traffic Management Command: (1) to inventory, on a periodic basis, the number and types of commercial flatcars available to support deployment, and (2) to revise the methodology for inventorying those cars to exclude some types of flatcars not readily suitable for deployment and to determine more accurately the size of the usable inventory. (p. 41/GAO Draft Report)

Now on p. 37.

DoD Response: Concur. By September 1992, the Army will direct that the Military Traffic Management Command to conduct a triennial inventory of the availability of commercially useful railcars. That information will include an analysis of the availability of chain tie-down railcars. The data will be forwarded to Forces Command to affect appropriate changes to blocking and bracing inventory policy. The data will also be useful in determining the size and composition of the Defense Railway Interchange Fleet. Additionally, the Military Traffic Management Command will review its inventory procedures to determine the most suitable methodology to achieve an accurate inventory. The methodology will be completed by the 3rd Quarter, FY 1993, and include parameters to exclude some flatcar types not suitable for deployment.

RECOMMENDATION 5: The GAO recommended the Secretary of the Army direct Forces Command to require that mobilization stations:

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Comments From the Department of Defense

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(1) develop plans for using multilevel flatcars for deployment, and
(2) to test these plans during exercises. (p. 41/GAO Draft Report)

DoD Response: Concur. By September 1992, the Army will direct the Forces Command to: (1) develop plans for using multilevel flatcars for deployment, and (2) to test their use during exercises.

Now on p. 44.

RECOMMENDATION 6: The GAO recommended that the Secretary of the Army direct Forces Command to: (1) modify its regulations so that guidance on calculating the materials and equipment needed for loading railcars during deployments accurately reflects the percentage of the flatcar fleet needing these materials, and (2) ensure that mobilization stations comply with regulations for determining the need for these materials and for stocking them. (p. 49/GAO Draft Report)

DoD Response: Concur. By September 1992, the Army will direct the Military Traffic Management Command to include, as part of the survey on availability of militarily useful railcars, a determination on the ratio of railcars requiring blocking and bracing. The data will be forwarded to Forces Command to be used to: (1) adjust stockage levels for blocking, bracing, and tie-downs at mobilization stations, and (2) adjust railcar factors in movement plans, regulations, and guidance. The next survey will be required by September 1994. The Army will also direct Forces Command to conduct a survey of major Army commands and the other Services for the purposes of cross-leveling blocking and bracing material. The survey will be completed by July 1993. As part of this process, the Army will direct that the results of the local blocking and bracing surveys be attached and submitted as described in the DoD response to Finding O.

Now on p. 45.

RECOMMENDATION 7: The GAO recommended that the Secretary of the Army direct Forces Command to: (1) complete its reassessment of needs for rail-loading materials and equipment, and (2) distribute those items among mobilization stations as needed to meet requirements. (p. 49/GAO Draft Report)

DoD Response: Concur. The Army is taking action to reassess and redistribute rail-loading equipment, but the action is not complete. Forces Command is resurveying the need for railcar loading equipment and will make appropriate cross-leveling actions by March 1993. There are 15 installations that have multilevel ramp capability. Other installations indicate that the servicing rail companies provide ramps and support equipment when multilevel railcar use is required.

RECOMMENDATION 8: The GAO recommended that the Secretary of the Army direct Forces Command to report the process for determining

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Now on p. 45.

rail-loading equipment supply needs, their distribution, and the practices regarding their storage as a material weakness in the next Army assessment of internal controls, as required by the Federal Manager's Financial Integrity Act. (p. 49/GAO Draft Report)

DoD Response: Concur. By September 1992, the Army will direct Forces Command to establish a process for determining rail-loading equipment supply needs, their distribution, and the practices regarding their storage. The issue will be reported as a material weakness in the next assessment of internal controls.

Comments From the Department of Transportation

Note: GAO comments supplementing those in the report text appear at the end of this appendix.



U.S. Department of
Transportation

Assistant Secretary
for Administration

400 Seventh St. S.W.
Washington, D.C. 20590

August 20, 1992

Mr. Richard Davis
Director of Army Issues
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Davis:

Enclosed are two copies of the Department of Transportation's comments concerning the U.S. General Accounting Office draft report entitled, "Operation Desert Shield: Problems In Deploying By Rail Need Attention."

Thank you for the opportunity to review this report. If you have any questions concerning our reply, please call Martin Gertel on 366-5145.

Sincerely,

for Paul W. Win
Jon H. Seymour

Enclosures

DEPARTMENT OF TRANSPORTATION (DOT) REPLY
TO
GENERAL ACCOUNTING OFFICE (GAO) DRAFT REPORT
ON
OPERATION DESERT SHIELD: PROBLEMS IN
DEPLOYING BY RAIL NEED ATTENTION

I. SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS:

The GAO found that deteriorated rail facilities, owned and operated by the Department of Defense (DOD), had constrained outloading operations of Operation Desert Shield and could impair any future deployment. To repair the rail facilities, DOD had initiated a rail rehabilitation program in 1986, but the effectiveness of the program was limited due to program management problems. The report also describes the conduct of the interagency agreement between the Department of the Army and the Department of Transportation's (DOT) Volpe National Transportation Systems Center (referred to in the GAO report as TSC). The GAO report maintains that the limited progress of the rail rehabilitation program appears largely attributable to the Army's management shortcomings and disagreements with the Volpe Center over rail repair designs.

The draft report makes a number of recommendations to the DOD. There are no recommendations to the Secretary of Transportation.

II. DEPARTMENT OF TRANSPORTATION POSITION:

The Department has reviewed the draft report and found the report with few exceptions to provide an accurate depiction of the events that transpired during the Volpe Center's interactions with the Army Forces Command (FORSCOM). Those exceptions are noted below. In addition several specific recommended text changes are provided in Attachment 1.

The FORSCOM contracted with the Volpe Center in 1986 to provide technical, administrative, and program management support for FORSCOM's Rail Maintenance Program (FORMAP). Throughout the Department's involvement in FORMAP, the Volpe Center endeavored to the best of its ability to fulfill the terms of the statement of work (SOW). In 1987, FORSCOM's Engineering Directorate prepared a revised SOW, advocating a different approach to the rail rehabilitation program. Despite the Volpe Center's extensive efforts to reach agreement with FORSCOM on a revised SOW, no agreement was reached. As a result, the Volpe Center continued to provide its services to FORMAP according to the terms and conditions established by the original SOW.

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In 1990 FORSCOM, without officially notifying the Volpe Center, unilaterally discontinued use of the Center as its rail project manager, with the exception of the Fort Campbell rail project. At this time approximately 80 percent of the Fort Campbell project has been completed and the anticipated project completion date is November 1992. The Volpe Center's role in the Fort Campbell project will be completed without the bridge repair work it had designed since the Army Corps of Engineers directed the Center not to proceed with this portion of the construction.

Overhead Costs

The GAO draft report indicated that overhead charges for some years of the FORMAP project were a high percentage of program costs. The Department maintains that the \$721,212 "overhead cost" figure cited in the GAO draft report actually includes a far greater range of activities than those that would be appropriately considered overhead. Included in that figure, as shown below, are amounts for design, materials, and contractor oversight activities.

1990 VOLPE CENTER CHARGES FOR FORMAP

(1) Fort Campbell, KY	
Design costs associated with the \$11,581,996 repair project awarded the following fiscal year:	\$224,284
Shipping free surplus material from the Kennedy Space Center to Fort Campbell (resulting in a savings of \$250,000):	\$ 65,000
Subtotal:	\$289,284
(2) Fort Carson, CO	
Inspection and monitoring of repair work in progress:	\$141,618
(3) Camp Roberts, CA	
Completion of design package initiated in the previous fiscal year:	\$ 4,055
(4) Program management and administrative support including program supervision, reporting, and conducting program reviews:	\$286,255
Total:	\$721,212

See comment 1.

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Attachment 1

SPECIFIC RECOMMENDED CHANGES:

- o Page 22, second paragraph, second sentence - change the word "subcontracted" to "contracted"; and change the last word in this sentence, "subcontractors" to "contractors."
- o Page 22, Footnote 2, fourth line - change the words "capital working fund" to "working capital fund."
- o Page 23, first full sentence - we suggest deleting this sentence because the reader may incorrectly conclude that the arrangement between FORSCOM and the Volpe Center was improper. The FORSCOM properly obligated the funds it transferred to the Volpe Center. As noted in footnote 2 on page 22, the Volpe Center deposited the funds in its working capital fund which by statute, 49 USC 328, remains available until expended.
- o Page 31, "Conclusions", first paragraph, third sentence, change the words "primary contractor" to "Volpe Center."

See comment 2.

Now on p. 20.

Now on p. 21.

Now on p. 21.

Now on p. 27

The following are GAO's comments on the Department of Transportation's letter dated August 20, 1992.

GAO Comments

1. We acknowledge that the \$721,212 figure includes items not documented as overhead by TSC. For example, this figure included amounts listed separately in TSC monthly financial summary accounts as labor, overhead, equipment, documentation, travel, supplies, training, communications, and so forth. We originally listed all these items as overhead to distinguish them from costs paid by TSC to contractors to perform actual repairs to Army rail facilities.

Although we believe our use of the term overhead to describe these costs is generally appropriate, this is basically a question of terminology and does not affect the meaning of the paragraph involved. We therefore modified the report wording to refer to these costs as "labor, overhead, and other costs" so as to be consistent with TSC terminology.

2. We have incorporated most of these suggested changes in our report. However, we did not delete reference to FORSCOM's ability, in effect, to "bank" appropriations in TSC's working capital fund. The Department indicated concern that this sentence might cause the reader to conclude that this arrangement was improper. The report text confirms the legality of this arrangement and cites the pertinent statute of the U.S. Code. However, FORSCOM forwarded nearly all program funds to TSC for several years, accumulated large amounts without specifically planned and approved projects, forwarded funds to TSC in at least one instance over the objections of the certifying officer, could not always account well for how these funds were being spent, and continued forwarding funds despite major engineering disagreements and having decided to terminate its relationship with TSC. While we cannot say that any funds were illegally expended, we question the use of the TSC working capital fund as a means of retaining single-year appropriations for an extended period without specific plans for their expenditure.

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