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BY THE U.S. GENERAL ACCOUNTING OFFICE

## Report To The Secretaries Of Defense And Transportation

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### Federal Actions Needed To Retain Essential Defense Rail Service

Many defense mobilization movements in the United States will depend on low volume branch rail lines that are potential candidates for abandonment. During mobilization, these lines are expected to handle large volumes of traffic. Defense essentiality, however, does not assure retention of these lines.

The Departments of Defense and Transportation need to resolve the apparent conflict between the national economic policy and the needs of national defense to assure essential defense rail service is retained. Also, the Secretary of Defense needs to better determine what defense rail capabilities should be improved.



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GAO/PLRD-83-73

MAY 20, 1983

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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

PROCUREMENT, LOGISTICS,  
AND READINESS DIVISION

B-211401

The Honorable Caspar W. Weinberger  
The Secretary of Defense

The Honorable Elizabeth H. Dole  
The Secretary of Transportation

This report discusses the need to assure minimum essential rail service is retained to defense installations and the need for the Department of Defense to better determine what defense rail capabilities should be improved.

The report contains recommendations on pages 10 and 17. As you know, 31 U.S.C. § 720 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, House Committees on Government Operations and on Public Works and Transportation, Senate Committees on Governmental Affairs and on Environment and Public Works, and House and Senate Committees on Appropriations and on Armed Services; the Secretaries of the Army, Navy, and Air Force; and the Director, Defense Logistics Agency.

A handwritten signature in cursive script that reads "Donald J. Horan".

Donald J. Horan  
Director



D I G E S T

The Department of Defense's (DOD's) ability to carry out its mobilization missions depends, in part, on its ability to move equipment and material by rail from its installations to airports and seaports for transport overseas.

Many defense mobilization movements will depend upon branch railroad lines connecting defense installations to commercial railroad main lines. Over 70 of 216 U.S. defense installations requiring rail service are served by branch lines that in peacetime generate low volumes of traffic, but during mobilization are expected to handle large volumes of traffic.

DOD has been attempting to assure its installations receive adequate rail service; whereas, the Department of Transportation (DOT), in its concern for the overall financial viability of the Nation's railroad system, has generally supported rail abandonments.

The number of rail abandonment cases involving the loss of rail service to key installations has been growing. The Chairman of the Interstate Commerce Commission testified before the Congress in February 1982 that the Commission would be deciding over 300 potential rail abandonment cases. Some of these involve major military installations. The loss of rail service to essential installations, however, could increase mobilization costs and delay mobilization. (See p. 4.)

GAO's objectives were to examine DOD's and DOT's efforts to (1) maintain minimal levels of rail service at defense installations and (2) identify and correct rail deficiencies. (See p. 2.)

GAO/PLRD-83-73

MAY 20, 1983

## CONGRESSIONALLY MANDATED STUDY

Because of its concern about the condition of the rail system, the Congress, under Public Law 96-418, required the Secretary of Defense to study, in conjunction with the Secretary of Transportation, the condition of the railroad lines identified in the Strategic Rail Corridor Network and to recommend corrective actions. In its June 1981 study, DOD concluded the condition of the network and the branch rail lines was satisfactory for national defense and therefore did not recommend any action by the Congress. (See p. 4.) However, GAO found that the number of installations confronted with the potential loss of rail service is growing and that there may be a need for congressional action to assure minimum essential rail service is retained for mobilization needs.

## GOVERNMENT EFFORTS TO MAINTAIN DEFENSE ESSENTIAL RAIL SERVICE

Although DOD is spending millions of dollars to improve rail capabilities at its installations, DOD cannot be assured that the rail network will be able to move required defense materiel and equipment during mobilization.

DOD has attempted to reach a solution as to how to maintain service over branch lines on a case-by-case basis. While the current case-by-case or piecemeal approach to abandonment may be an acceptable short-term solution, GAO believes it could prove costly and ineffective in the long run.

The Army's Military Traffic Management Command has developed a list of some options to retain rail services--such as offering financial assistance, increasing traffic, and loading at another suitable rail loading site--and is addressing rail abandonments. However, GAO believes DOD must determine the minimal amount of rail capability needed to move defense mobilization requirements and identify the problems in retaining essential rail service to critical installations. Then DOD would be in a position to explore routinely the alternatives and their costs with DOT to assure essential transportation to key installations is retained. (See p. 4.)

OTHER ISSUES INFLUENCING  
DOD RAIL NEEDS

GAO found several other issues that make DOD's decisions regarding requirements for rail service more difficult. These issues concern installations' reported movement capabilities, DOD's justification for rail maintenance projects, and DOD's policy on the movement of military material and equipment by motor convoy (road march) over distances up to 800 miles. (See p. 12.)

GAO found that transportation movement capability data reported by installations contained conflicting information on the rail receiving and outloading capabilities and that the time frames to reach maximum daily capability varied greatly. This data is being used to develop defense movement plans. (See p. 12.)

The Army has an approved multiyear funding package of over \$31 million to improve rail mobilization outloading capabilities at installations with rapid deployment missions. GAO found, however, that some planned projects, if funded, would result in capabilities beyond what the services estimate would be needed during mobilization. (See p. 13.)

In determining transportation requirements, DOD guidance recommends motor convoy as a method to move equipment if the distance to the port of embarkation is less than 800 miles. Although this concept allows for greater flexibility, it has not been subjected to extensive analysis and testing. Consequently, its feasibility and practicality for such a long distance during mobilization are uncertain. The difference in rail support required to move equipment by railroad rather than by motor convoy is great. (See p. 15.)

RECOMMENDATIONS

GAO recommends that the Secretaries of Defense and Transportation explore the options for retaining minimum essential rail service to defense installations with mobilization missions and develop a comprehensive policy to assure such service is retained. This policy should address such issues as the

- alternatives and their costs to meet mobilization movement requirements,
- minimal essential rail service needs,
- level of funding required to assure this minimal level, and
- need for any legislative changes to assure essential rail service to defense installations.

The Secretaries should establish milestones for these actions and alert the appropriate congressional committees if existing statutes or policies would adversely affect completion of these actions. (See p. 10.)

In addition, GAO recommends that the Secretary of Defense

- modify DOD reporting requirements to assure that installations accurately report their capabilities to meet peacetime and mobilization movement needs and identify the key constraining factors,
- establish procedures to ensure rail maintenance projects are appropriately justified and cost effective, and
- reevaluate the feasibility and practicality of defense movement criteria to include road marching vehicles for distances up to 800 miles. (See p. 17.)

#### AGENCY COMMENTS AND GAO'S EVALUATION

In its written comments, DOD generally agreed with the recommendations in the report; however, it did not totally agree with some of the findings and conclusions used as a basis for the recommended actions. These written comments are included as appendix II and have been incorporated in the report where appropriate.

With respect to the first recommendation, DOD said it sees no need for congressional review at this time. DOD agreed to (1) coordinate the options for retaining defense



essential rail lines to military installations with DOT, (2) together with DOT, reevaluate existing agreements concerning rail policy and national defense to determine whether changes are needed, and (3) seek legislation or procedural changes if and when it becomes apparent that existing statutes and national policy are adversely affecting national defense. Finally, DOD said issues, including the minimum network, abandonment options, funding, and legislation, are expected to be discussed at an official DOD-DOT liaison meeting in 1983.

GAO initially proposed that DOD and DOT prepare a comprehensive national policy and submit it to the appropriate congressional committees for review. In view of DOD's comments, GAO modified its recommendations to give the agencies an opportunity to resolve the issues before congressional involvement. However, the need for congressional action will depend on the Secretaries' ability to resolve, in a timely manner, the apparent conflict between the national economic policy and the needs of national defense. GAO plans to monitor DOD's and DOT's actions and may recommend additional actions in the future.

DOD partially agreed that there is a need to establish procedures to assure rail maintenance projects are appropriately justified and cost effective. DOD said that by following existing policies and procedures it has eliminated the conditions addressed in the report, such as replacement of light weight rail that is not defective.

DOD agreed to revise the joint services regulation pertaining to installation outloading reports and to reevaluate the 800-mile planning criteria for road marching vehicles. DOD said it expects to complete both actions by December 31, 1983. (See p. 20.)

DOT provided written comments on this report that are included as appendix III. DOT agreed to keep DOD informed on any significant rail issues that may affect defense readiness and said it supports actions by DOD to work directly with rail carriers on arrangements to maintain rail access at specific locations. DOT also said that it believes this case-by-case approach to the rail service issues is

the most cost-effective course of action available to the Federal Government and sees no need to develop a comprehensive national policy. (See p. 47.)

GAO believes the current case-by-case approach may be an acceptable short-term solution, but it could prove costly and ineffective in the long run. DOD and DOT need to work more closely together to assure retention of minimum levels of essential rail service to defense installations.

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ABBREVIATIONS

DOD	Department of Defense
DOT	Department of Transportation
GAO	General Accounting Office
MTMC	Military Traffic Management Command



## CHAPTER 1

### INTRODUCTION

The Department of Defense's (DOD's) ability to carry out its mobilization missions depends, in part, on its capability to transport equipment and material from U.S. installations to airports and seaports for transport overseas. DOD plans to use the Nation's railroads to help meet its mobilization transportation requirements. The extent to which DOD can and will use the railroad system is directly affected by the rail receiving and outloading capabilities at military installations.

There are about 1,000 major defense installations within the continental United States. According to DOD, 350 of these installations have rail support capability and over 200 of these have missions requiring the use of rail lines.

The Secretary of the Army is DOD's single manager for military traffic, land transportation, and common-user ocean terminals. He carries out his managerial responsibilities through the Military Traffic Management Command (MTMC), a jointly staffed, industrially funded, major Army command. MTMC determines how traffic is to move and which controls are necessary to assure responsiveness to shipper requirements. Where and when freight and equipment are to move are responsibilities of the DOD shippers.

The Transportation Engineering Agency, a subordinate command to MTMC, assesses the existing transportation system serving military installations to determine if they are effectively utilized and can meet mobilization needs. It conducts studies on transportation systems at installations to identify potential problems and constraints and recommends ways to improve responsiveness and economy in rail operations.

The services and the Defense Logistics Agency designate which installations, based on their movement requirements, are to report to MTMC their material outloading and receiving capabilities. In addition to movement capability data, the installations often report constraints that could affect their abilities to move anticipated mobilization items.

The Secretary of Transportation has been delegated authority for determining priorities and allocating civil transportation services in a national emergency. In addition, the Secretary is responsible for the economic viability of the national transportation system. The Department of Transportation (DOT) and DOD have established a memorandum of agreement for discussing common transportation issues.

OBJECTIVES, SCOPE,  
AND METHODOLOGY

Our objectives were to (1) examine efforts to maintain minimum levels of rail service at defense installations to move mobilization requirements and (2) evaluate procedures for identifying deficiencies and for funding corrective actions.

The review was performed in the Washington, D.C., area at the Offices of the Secretaries of Defense and Transportation; Headquarters, Department of the Army; MTMC; and the Interstate Commerce Commission. These offices were included because of their responsibilities for rail transportation during mobilization.

Our review was also performed at the U.S. Army Forces Command, Fort McPherson, Georgia, and the U.S. Army Materiel Development and Readiness Command, Alexandria, Virginia. These Commands were selected because they are the primary ones having installations with rail mobilization missions and they have plans to improve their installations' rail transportation capabilities. In addition, to obtain information at the installation level, we visited four military installations--Fort Knox, Kentucky; Fort Campbell, Kentucky; Lexington-Bluegrass Depot Activity, Kentucky; and Fort Benning, Georgia--which have rail mobilization missions and have either ongoing or planned actions to improve their rail capabilities.

We interviewed various military and civilian personnel responsible for rail operations and maintenance and reviewed various documents regarding the requirements and capabilities of rail facilities at the installations. Where deficiencies existed, we reviewed corrective actions being taken or planned by tracing the actions from the installation through major command to headquarters. We also reviewed budget data for maintenance at the headquarters level and the procedures for allocating rail maintenance funds to installations.

We made an extensive literature search to identify studies made on the U.S. rail system and the capabilities of the system to meet mobilization needs. We used this information to broaden our perspective regarding rail requirements and capabilities and to aid us in scoping our review. We excluded an assessment of the rail support capabilities to move raw materials and finished products, such as ammunition, for the defense industrial base because DOD was doing a study in this area.

During our review, we obtained mobilization requirements information that Army commands had provided to installations. However, we did not review and validate the Army's computations of the requirements because the use of the railroads to move

mobilization items varied significantly among the various contingency plans.

Our review was performed in accordance with generally accepted government audit standards.

## CHAPTER 2

### MORE EFFECTIVE FEDERAL

### ACTIONS REQUIRED TO ASSURE

### MINIMAL LEVEL OF RAIL

### SERVICE FOR NATIONAL DEFENSE

During mobilization, DOD plans to rely on commercial railroads to move a large part of its equipment. We found that over 70 of 216 U.S. defense installations requiring rail service during mobilization are on branch lines that have a low density of rail traffic and therefore are potential candidates for abandonment by the railroads.

Compounding this problem are commercial railroad companies' efforts to abandon unprofitable branch lines, including those serving major military installations. DOD has been attempting to assure its installations receive adequate rail service; whereas, DOT, in its concern for the overall financial viability of the Nation's railroads, has generally supported rail abandonments, even where a military installation is involved. Since the number of defense installations on branch rail lines confronted with the potential loss of rail service is growing, we believe this issue needs to be addressed by the Secretaries of Defense and Transportation. The loss of rail service to installations requiring rail service could substantially increase mobilization costs and delay mobilization efforts.

### GOVERNMENT EFFORTS TO ASSURE ESSENTIAL DEFENSE RAIL SERVICE IS MAINTAINED

Because of its concern about the condition of the rail system, the Congress, under Public Law 96-418, required the Secretary of Defense to study, in conjunction with the Secretary of Transportation, the condition of the railroad lines identified in the Strategic Rail Corridor Network and to make recommendations for correcting any deficiencies. This involved analyzing the 32,500 miles of interconnected network of rail lines important to national defense and the 5,000 miles of rail lines connecting the network to key defense installations with mobilization missions requiring rail service. The map on page 5 shows those rail lines that DOD identified as important to national defense. In its June 1981 study, <sup>1</sup>/ DOD concluded the overall condition of the network and the rail lines connecting defense installations to the network was satisfactory for national defense and therefore did not recommend any action by the Congress.

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<sup>1</sup>/STRACNET Condition Report, June 1981, Military Traffic Management Command, U.S. Army.



# RAIL LINES IMPORTANT TO NATIONAL DEFENSE



5

Source: Military Traffic Management Command, U.S. Army

As noted earlier, many essential defense installations requiring rail service are served by low volume branch lines. We found the number of these installations that may lose rail service is growing. According to Interstate Commerce Commission data, the Nation's railroads have filed 453 abandonment applications since fiscal year 1979, as shown in the following table.

<u>Fiscal year</u>	<u>No. of abandonment applications</u>
1979	113
1980	130
1981	120
1982	<u>90</u>
Total	<u>453</u>

Therefore, we believe the Congress needs to be made aware of the significance of this problem because the loss of rail service to essential installations could increase mobilization costs and delay mobilization efforts.

Under the provisions of Public Law 96-448, signed October 14, 1980, the railroads were given more flexibility in abandoning unprofitable rail lines. In February 1982 the Chairman, Interstate Commerce Commission, testified before the Subcommittee on Transportation, House Committee on Appropriations, that the Commission would be deciding over 300 potential abandonment cases. Some of these cases involve defense installations that require rail service. For example, there were 10 Army installations in April 1982 that were confronted with the potential abandonment of rail service, 7 of which were identified as requiring rail service.

The problem for DOD is that although it is spending millions of dollars to improve rail capabilities at its installations, it cannot be assured that essential rail service beyond the installations' boundaries will be sufficient to move large volumes of materiel and equipment during mobilization. Therefore, DOD's efforts to improve rail capabilities at the installations may not result in an overall increase in rail movement capability.

ADDITIONAL EFFORTS ARE NEEDED  
TO MAINTAIN MINIMUM ESSENTIAL  
DEFENSE RAIL SERVICE

Where rail service over branch lines is being abandoned, DOD has attempted to reach a solution as to how to maintain service on a case-by-case basis. In one case, DOD obtained a short-term lease for branch lines. In other cases, we found

that even though DOD claimed that rail service was essential, DOD did not object to the loss of service.

We found that the costs to DOD to maintain rail service on an abandoned branch line could be expensive, as illustrated by what happened at Fort Campbell, Kentucky. In December 1981 the Illinois Central Gulf railroad abandoned service from Nashville, Tennessee, to Hopkinsville, Kentucky. To retain rail service to the installation, the Army leased 18 miles of track from the railroad at an annual cost of \$40,000. The Army has the option to (1) purchase the leased line before October 31, 1984, at a cost of about \$428,000 or (2) extend the lease an additional 2 years and renegotiate the purchase price. The leased line doubles the amount of track that Fort Campbell must maintain.

Leasing or purchasing the line, however, will not be enough. Because of its condition, the leased line was embargoed from handling hazardous materials, such as fuel, ammunition, and chemicals. Therefore, MTMC must obtain a permit before issuing rail routings for hazardous material being sent to or from Fort Campbell.

Because the track does not meet Army standards, the Army Corps of Engineers estimates that \$1.4 million will have to be spent to upgrade the rail line. This rehabilitation will require adding or replacing cross ties, adding ballast, replacing 1 mile of rail, ditching, and removing brush. The photographs on the following page illustrate the condition of the leased line.

In addition, the railroad interchange at Hopkinsville can only handle four to six railcars at a time. Consequently, rail traffic is routed from Hopkinsville to a main line at Princeton, Kentucky. If this stretch of the system is abandoned, Fort Campbell representatives believe that it would be better to construct a new interchange at Hopkinsville rather than to improve the rail line to Princeton. They estimated the cost to upgrade the rail interchange at \$3.5 to \$4 million. Other possible alternatives to building an interchange may include (1) moving material and equipment by truck to a suitable loading point on railroad main lines, (2) increasing the volume of rail traffic to encourage the railroad company to maintain needed rail service, or (3) transferring missions from Fort Campbell to more suitable installations to reduce Fort Campbell's movement requirements.

As shown, it can become expensive for DOD to maintain abandoned rail service to installations. Therefore, DOD needs to assess the impact of an abandonment on its peacetime and war-time needs and identify alternative solutions to meet its movement needs. However, our review disclosed that DOD has taken only limited steps in assessing rail abandonments. In addition, DOD's planning is limited to those rail requirements that are known, such as how much transportation is needed to move units'



**Lack of ballast, unattached rail, and bad railroad ties on leased connector line.**



**Missing railroad spikes on leased connector line.**

equipment. Many other requirements are still unknown, such as the volume of resupply and equipment needed to sustain active and mobilizing forces.

MTMC has developed a list of some options to maintain needed transportation at the key defense installations--such as offering financial assistance, increasing traffic, and loading outside the installation at another suitable site. The following chart shows some of the options that have been used to maintain rail service.

DOD Abandonment Experience

<u>Installation</u>	<u>Option adopted</u>
Camp Grayling	State subsidizing rail service
Camp Ripley	Railroad retained defense portion
Kings Bay Naval Submarine Support Base	5-year agreement to continue rail service
Malmstrom Air Force Base	Competitor purchased rail line
Fort Campbell	Leased with option to buy
Camp Pendleton/Fallbrook	Being purchased and planned for rehabilitation
Portsmouth Naval Shipyard	5-year agreement to continue rail service
China Lake Naval Weapons Center	Use of alternate rail line
Fort Dix/McGuire Air Force Base	Use of motor freight
Picatinny Arsenal	Lease being negotiated

MTMC acknowledges its options have not in all cases assured long-term solutions to the abandonment problem. Furthermore, DOD has not developed any guidance on how the costs of the various alternatives should be computed or what comparisons should be made when determining if abandoned rail service should be maintained. However, MTMC advised the services that they may have to be prepared to fund such rail service.

We believe that without exploring the options for meeting defense mobilization needs, the Federal Government cannot be sure that only minimal levels of essential rail service are

retained at the least cost to the Government. We also believe that DOD must determine the minimal amount of rail capability needed to move mobilization items and identify the problems in retaining essential rail service to key installations. Then DOD would be in a position to explore the alternatives and their costs with DOT to assure transportation to these installations is retained.

#### CONCLUSIONS

We found that the number of pending rail abandonment cases that involve key defense installations is growing. While DOD has been attempting to assure that its installations receive adequate rail service, DOT, in its concern about the overall financial viability of the Nation's railroad system, has generally supported the abandonment of rail service to installations. Although the current case-by-case or piecemeal approach to potential abandonments may be an acceptable short-term solution, we believe it could prove costly and ineffective in the long run. To assure minimum rail service to key installations is retained, DOD needs to determine the minimum rail capability needed to move peacetime and mobilization items and explore with DOT the options for retaining this level of rail service in the most effective manner.

#### RECOMMENDATIONS

We recommend that the Secretaries of Defense and Transportation explore the options for retaining the minimum essential rail service to defense installations with mobilization missions and develop a comprehensive policy to assure such service is retained. This policy should address issues such as

- alternatives and their costs to meet defense mobilization movement needs,
- minimal essential rail service needs,
- amount of funding required to assure this minimal level, and
- need for any legislative changes to assure essential rail services to installations are retained.

The Secretaries should establish milestones for these actions and alert the appropriate congressional committees if existing statutes or policies would adversely affect completion of these actions.

#### AGENCY COMMENTS AND OUR EVALUATION

DOD said it sees no need for congressional review at this time but would prefer to reserve opportunity for such review if

and when it becomes apparent that existing statutes and national policy are adversely affecting national defense. DOD commented that it (1) will coordinate with DOT the options for retaining defense essential rail lines to military installations and (2) together with DOT, will reevaluate existing agreements concerning rail policy and national defense to determine whether changes are needed. DOD also noted that the issues, including the minimum network, abandonment options, funding, and legislation, will be discussed at an official DOD-DOT liaison meeting in 1983.

DOT agreed to keep DOD informed on any significant rail issues that may affect defense readiness and said it supports actions by DOD to work directly with rail carriers on arrangements to maintain rail access at specific locations because it believes the case-by-case approach is the most cost-effective approach to the Federal Government.

We initially proposed that DOD and DOT prepare a comprehensive national policy and submit it to the appropriate congressional committees for review. In view of DOD's comments, we modified our recommendation to give the agencies an opportunity to resolve the issues before congressional involvement.

We believe DOD's planned actions to work more closely with DOT are responsive to our recommendation. However, unless DOD does more than "coordinate with DOT" and DOT does more than "inform DOD," there may be a need for congressional action to assure that essential defense rail service is retained. DOD and DOT need to resolve the apparent conflict between the national economic policy and the needs of national defense.

## CHAPTER 3

### EVALUATION OF DOD'S EFFORTS

#### TO IMPROVE RAIL CAPABILITIES AT

#### ITS INSTALLATIONS

DOD's spending for rail improvements has risen from \$13.1 million in fiscal year 1978 to \$30.4 million in fiscal year 1982. During this period, the backlog of unfunded rail maintenance needs has doubled from about \$42.2 million in fiscal year 1978 to \$85 million in fiscal year 1982. (See app. I.) Increased funding to improve rail capabilities at military installations, however, may not materially improve DOD's overall transportation readiness. We believe DOD needs to address several issues to better determine what rail capabilities are needed and where its rail capabilities need improvements. These issues are

- movement capability reports submitted by installations contain conflicting data,
- rail improvement funds might be better used if rail improvement projects were more adequately justified, and
- DOD's rail movement requirement may have to be adjusted because its policy on moving military vehicles and equipment by motor convoy (road march) for distances up to 800 miles has not been tested.

#### TRANSPORTATION MOVEMENT CAPABILITY DATA NEEDS TO BE ACCURATE

As mentioned on page 1, certain installations are to report their material outloading and receiving capabilities to MTMC. The reports contain separate and combined rail and truck capabilities for processing peacetime and mobilization movement needs. The reports also contain a remarks section, which the installations can use to qualify, reduce, or caveat reported capabilities. MTMC uses the data shown as the daily mobilization capabilities to develop the various movement plans for mobilization needs.

Our analysis of capability reports disclosed that they often contained conflicting data on installations' capabilities to meet potential mobilization needs. For example, Camp Atterbury, Indiana, reported a daily mobilization capability of 162 railcars for both separate and combined rail and truck operations. However, it also reported in the remarks section that rail loading from Camp Atterbury was not possible due to track and bridge conditions and that its operations would have to be conducted at a location 31 miles away. We found that MTMC almost always accepts the correctness of the capability data



reported by installations without making adjustments for any constraints in the remarks section.

Another problem is that the installations reporting movement capability data often do not include the time installations would need to reach their maximum receiving and outloading capabilities. Such information is not required by the joint services regulation, which establishes the criteria for reporting movement capabilities. We believe this information should be reported since mobilization movement plans are based on the installations' abilities to obtain their reported capabilities within specified time frames.

Our visits to several defense installations, as well as our analysis of other installations' transportation capability reports, disclosed that the time it would take the installations to reach their reported maximum daily capability varied greatly. Three installations reported that they would need about 15 to 30 days to reach their reported maximum capability; whereas, another installation estimated that it would take at least 90 days to reach its reported mobilization capability. Also, we identified an installation that estimated it would take up to 150 days to reach its rail mobilization capability for one type of material.

#### RAIL IMPROVEMENT PROJECTS SHOULD BE BETTER JUSTIFIED

As mobilization needs are established, DOD assesses its capabilities and plans rail improvement projects to remedy any shortfalls in capabilities. We found that some improvements being made or planned have not been appropriately justified and the specific benefits to be gained from the improvements have not always been clearly defined. If better justifications were required for rail improvement projects, DOD might use its rail maintenance funds more effectively.

The services allocate their operating and maintenance funds to the various commands and subordinate activities for the rail maintenance and repair projects. Over the past five fiscal years, rail improvement needs have far exceeded actual defense expenditures, which, in turn, has caused substantial increases in the unfunded rail maintenance backlog. The following table shows the number of U.S. Army installations in the continental United States reporting rail maintenance backlogs to the Corps of Engineers for fiscal years 1980 and 1981 and the dollar range of the backlogs.

<u>Fiscal year</u>	<u>No. of installations</u>	<u>Dollar range of rail maintenance backlog</u>
1980	44	\$8,000 to \$4.5 million
1981	50	\$2,000 to \$6.9 million

The Army has a special funding package for rail improvements for fiscal years 1982 through 1984. The projected cost of these improvements is over \$31 million of which the Army budgeted \$11.3 million in fiscal year 1982 and \$9.7 million in fiscal year 1983. We found that the Army has not clearly defined the scope and objectives of the package.

In March 1981 the Army estimated that it would cost \$16 million to upgrade rail facilities at 31 installations. However, about 6 months later, the U.S. Army Forces Command--the Command for most of the installations with rapid deployment force missions--estimated it would cost \$30.1 million to just upgrade its rail facilities at 23 installations. In March 1982 the Command provided the installations with specific standards for rail weight and ties for use in developing rail upgrade estimates. Using these standards, the Command estimated that it would cost \$18.5 million--a \$2.6 million increase over an earlier estimate--to upgrade only 4 of the 23 installations. Although the estimated costs for some locations increased, Command officials still believe all of the rail upgrades can still be completed within the original \$30.1 million estimate.

We found that the Army has not determined the specific benefits it expects to gain by improving rail mobilization capabilities. For example, the Army plans to repair broken ties and replace ballast, and it may replace up to 286 miles of light rail trackage with heavier rail. While the repair work appears warranted, the Army has not demonstrated the need to replace the lighter rail with heavier rail to sustain the expected mobilization outloading requirements nor has it determined the expected savings to be achieved in annual maintenance expenses. We also found that the heavier rail exceeds Army standards as specified in Army Regulation 420-72. Also, this regulation directs that existing nonstandard rail that meets operational requirements and is in good condition will not be replaced.

One location where the Army planned rail improvements under the package was Fort Bragg, North Carolina. In a May 1982 outloading capability study of Fort Bragg, MTMC estimated it would cost \$53,000 to upgrade portions of the track to meet DOD standards and \$51,200 to construct 600 feet of track needed by the installation. However, the Army was planning to spend over \$8.6 million for rail improvements and upgrading of which over \$5 million was to replace portions of its rail network with heavier rail. After completion of our review, U.S. Army Forces Command representatives informed us that Fort Bragg was no longer a priority installation for funding under the special funding package. We believe the substantial cost to upgrade the rail makes it imperative that the Army determine what specific benefits will be gained from such projects before they are undertaken.

In another case, the Army estimated it would cost either \$3.2 million to upgrade the rail trackage at Fort Benning,

Georgia, to meet Army standards or \$5.7 million to replace the rail with heavier rail. However, Fort Benning is close to several ports of embarkation, and the Army anticipates, if movement to the ports is necessary, little rail service will be needed at the installation to deploy mobilizing units.

In summary, we found that the Army has not clearly demonstrated that some planned rail improvements would enhance mobilization capabilities. We believe the Army needs to better justify the work and more clearly identify anticipated benefits before it fully implements its planned improvements.

DOD MOVEMENT CRITERIA ON  
ROAD MARCHING VEHICLES FOR LONG  
DISTANCES SHOULD BE REEVALUATED

One factor influencing what level of rail service is needed at defense installations is the criteria used to determine how defense vehicles, equipment, and supplies are to be moved during mobilization. The defense movement criteria include the option of road marching roadable vehicles for distances up to 800 miles. Although this concept allows the services a greater mix of transportation options to meet their movement requirements, it has not been subjected to extensive analysis and testing. Therefore, there are uncertainties on the feasibility and practicality of this option.

Guidelines for selecting how military equipment is to be moved in the continental United States during mobilization are contained in MTMC's "Logistics Handbook for Strategic Mobility Planning." The selection considers the distance to port of embarkation, the total weight of the cargo to be moved, and the types of equipment to be moved. These criteria are summarized on the following page.

<u>Distance to port of embarkation</u>	<u>Primary method of transportation</u>
1 to 150 miles	Road march roadable vehicles and use commercial trucks for other vehicles and equipment.
151 to 800 miles	Road march roadable vehicles, use commercial trucks for other vehicles and equipment when the total shipment is 240 short tons or less, and use the railroads for other vehicles and equipment when the total shipment exceeds 240 short tons.
Over 800 miles	Use commercial trucks for all cargo except vehicles when the total shipment is 23 short tons or less, and use the railroads for vehicles and other cargo when the total shipment exceeds 23 short tons.

Under the MTMC movement criteria, roadable vehicles, such as trucks and jeeps, would be driven from installations to their designated mobilization ports when the distance is 800 miles or less, and the same vehicles would be transported to ports by railroad when the distance exceeds 800 miles. The difference in the amount of rail capability required under these two conditions is substantial. For example, during the peak 10-day period, 530 railcars or less would be needed to transport equipment and vehicles from Fort Knox, Kentucky, to ports if roadable vehicles were driven, while over 2,600 railcars would be needed if the same vehicles and equipment were moved by railroad.

We found that the road march concept was successfully tested during some military movement exercises. For example, in October 1981, the Army road marched its mechanized units of the 24th Infantry Division for distances up to 71.4 miles. The exercise included driving 200 wheeled vehicles and about 250 tracked vehicles with rubber pads on the tracks. The tracked vehicles ranged in weight from 18,000 to 109,000 pounds each. These tests alone do not seem sufficient to demonstrate the feasibility of road marching vehicles for distances up to 800 miles.

If road marches are used, we believe there is a need to consider such factors as (1) the impact of the additional wear and tear on the vehicles, (2) the impact on U.S. bridges and highways, (3) the time it would take to drive the vehicles to their destinations, and (4) the availability of drivers, vehicle

maintenance, and fuel during the road march. DOD officials said the 800 mile criteria had not been subjected to extensive analytical analysis and testing and acknowledged that the DOD road march criteria should be periodically reviewed.

#### CONCLUSIONS

DOD's ability to determine the minimum level of rail support necessary to meet its mobilization movement needs is made more difficult because

- installations report conflicting movement capability data,
- rail improvement projects are not being appropriately justified, and
- defense criteria for road marching vehicles long distances are untested.

We believe that by addressing these issues DOD can better enhance its mobilization planning and better utilize its rail maintenance funds.

#### RECOMMENDATIONS

We recommend that the Secretary of Defense

- modify DOD reporting requirements to assure that defense installations accurately report their outloading and receiving capabilities to meet peacetime and mobilization movement needs and identify the key constraining factors,
- establish procedures to ensure rail maintenance projects are appropriately justified and cost effective, and
- reevaluate the feasibility and practicality of DOD movement criteria to include road marching vehicles for distances up to 800 miles.

#### AGENCY COMMENTS AND OUR EVALUATION

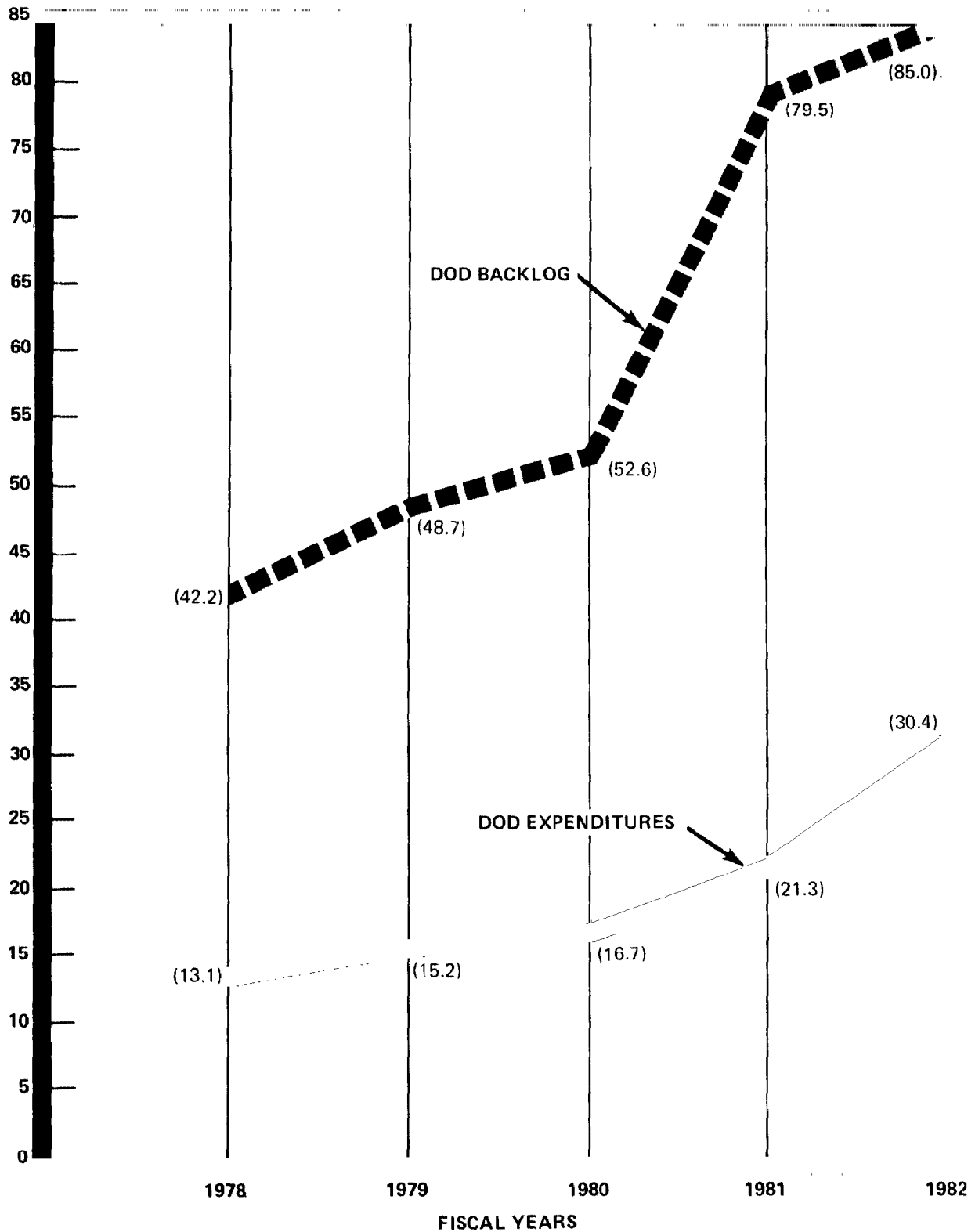
DOD agreed with our recommendation on the need to modify its reporting requirements to assure that defense installations accurately report their outloading and receiving capabilities. DOD said it plans to complete a revision of the joint services regulation pertaining to installation outloading reports by December 1983 and the proposed revision would address our concerns.

DOD partially agreed with our recommendation that DOD establish procedures to ensure rail maintenance projects are appropriately justified and cost effective. DOD commented that existing policies, procedures, and reviews are sufficient to assure rail maintenance projects are appropriately justified and cost effective. However, DOD noted that it is investigating the feasibility of establishing a rail maintenance system that would take a systematic approach to identifying and correcting rail maintenance deficiencies and that it plans to implement the system if such a system would be beneficial. We believe that DOD rail improvement projects should be justified and demonstrated to be cost effective before the services request funds for such projects, which currently is not being done effectively. Therefore, we believe additional procedures are required.

DOD also agreed with our recommendation on the need for DOD to reevaluate the feasibility and practicality of defense movement criteria to include road marching vehicles for distances up to 800 miles. DOD said it expects to complete a reevaluation of the criteria by December 1983.

### DOD EXPENDITURES AND BACKLOG FOR RAIL MAINTENANCE FOR FISCAL YEARS 1978 THROUGH 1982

MILLIONS OF DOLLARS





MANPOWER,  
RESERVE AFFAIRS  
AND LOGISTICS

## ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301

8 APR 1983

Mr. Donald J. Horan  
Director, Procurement Logistics  
and Readiness Division  
United States General Accounting Office  
Washington, D.C. 20548

Dear Mr. Horan:

This responds to your letter of March 9, 1983, requesting DoD comments on your draft report, "Evaluation of Defense Rail Mobilization Requirements and Capabilities" (Code 947468) (OSD Case #6211).

A summary of your findings, conclusions and recommendations and DoD comments is enclosed. We met with Messrs. Landicho, Dunham, and Eminhizer of your staff on March 24, 1983, to discuss the content of your report and the DoD comments.

DoD generally agrees with the recommendations in the report, however, we do not totally agree with some of the findings and conclusions used as a basis for the recommended actions. In addition to the comments enclosed, we believe that your report broaches two issues which apply in a broader context of defense preparedness: the apparent conflict between national economic and regulatory policy and the needs of national defense and the matter of identification of DoD transportation requirements as a basis for determining the adequacy of the national transportation system and related defense programs.

The deregulation of the transportation industry and other policy trends have introduced new concerns for defense preparedness which demand more intensive DoD analysis of industry dynamics and additional DoD resource allocations to preserve defense capabilities. While DoD has thus far enjoyed certain peacetime economies from deregulation of the transportation industry, this policy trend also portends an increasing burden on the defense budget to preserve and maintain the transportation infrastructure needed for national defense.

Your report highlights some defense impacts of corporate decisions made by railroads who are pursuing purely economic interests. These kinds of impacts are not peculiar to the railroad industry. They encompass the entire transportation industry including railroads, motor carriers, maritime and related industries such as shipyards, ocean and air ports and manufacturers of transportation equipment.

GAO note: Page references have changed to correspond to pages in the final report.



Thus far, the mechanisms provided by law and national policy have given us the means to manage the resulting problems. Management of these problems, however, assumes that any national transportation system capability which is needed for national defense and which cannot be profitably sustained by industry, can be sustained by DoD resources through the defense budget. For these reasons we believe that the policies which produce these disparate results in terms of economic viability and defense preparedness should be reviewed in the broadest context.

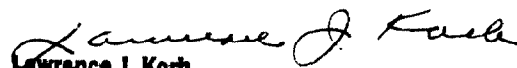
With regard to the identification of DoD transportation requirements as a basis for determining the adequacy of the national transportation system, we believe that clarification is needed as to how DoD requirements are determined and how they relate to the total mobilization picture. Your report implies that DoD mobilization needs for the national transportation system should be based on detailed identification of movement requirements.

While we agree that any expansion of our knowledge of detailed transportation requirements is beneficial, there are practical limits to this approach and resource decisions must sometimes be made based on more general mission-related criteria. For example, requirements for rail service to DoD installations are generally determined by the mission of the installation. Overall requirements and capabilities for rail freight traffic are based on a general assessment of traffic volumes and flows. This assessment is portrayed by DoD's Strategic Rail Corridor Network (STRACNET). Specific rail lines within the STRACNET corridors which are capable of handling the projected traffic volumes have been designated by the Federal Railroad Administration (FRA).

DoD identifies in commodity and time-phased detail, those movement requirements which must be accomplished in connection with force deployments and initial logistic support of deployed forces. This is done to assess logistic feasibility and manage the deployment process. The practical limit of this detailed approach as a determinant of the adequacy of the national transportation system becomes more apparent in the context of national mobilization. In this context, DoD requirements become part of a broad and complex range of transportation requirements which emanate from all Government agencies and an expanding industrial base. To assess requirements and capabilities in this context, the Department of Transportation has developed a "Transportation Mobilization Demand Capacity Model," an analytical tool which uses indices of industry performance related to levels of national economic activity projected for various mobilization scenarios. Currently, this model represents the only practical method for a total assessment of the adequacy of the national transportation system.

We appreciate the opportunity to review and provide comments on your draft report.

Sincerely,

  
**Lawrence J. Korb**  
**Assistant Secretary of Defense**  
**((Manpower, Reserve Affairs, and Logistics))**

Enclosure

DOD COMMENTS

GAO DRAFT REPORT DATED MARCH 9, 1983

(GAO CODE NO. 947468) -- OSD CASE NO. 6211

O FINDING A: Number of Low Density Branch Lines Losing Rail Service Is Growing. GAO found that a least 70 of over 200 military installations requiring rail service during mobilization are on branch lines which have a low density of rail traffic, and the number of these installations which may lose rail service due to abandonment is growing. GAO further found that some pending rail abandonment cases involve military installations which require rail service--the Interstate Commerce Commission will be deciding over 300 potential abandonment cases some of which involve military installations requiring service. (GAO noted that during mobilization, DOD plans to rely on commercial railroads support to meet a large part of its movement requirements, however, conflicts exist in that (1) commercial railroad companies are trying to abandon unprofitable branch lines, (2) the Department of Transportation, has supported rail abandonments, including those servicing major military installations, expressing concern for the financial viability of the nations railroads, (3) in a June 1981 study DOD concluded that the condition of the Strategic Rail Corridor Network for National Defense was satisfactory and (4) under Public Law 96-448, October 14, 1980, the railroads were given more flexibility in reducing or stopping rail service on unprofitable rail lines. [See pp. 4-6.]

DOD Comment: DOD partially concurs with the GAO finding. DOD agrees that civil rail line abandonments are a matter of concern. However, DOD has found that only a small proportion impact national defense and that the matter is manageable. The magnitude of abandonments is best illustrated by the following:

- Interstate Commerce Commission data show that for the FY 1979, 80, 81, and 82 the nations railroads (excluding CONRAIL) filed 113, 130, 120, and 90 abandonment applications respectively. The special abandonment provisions for CONRAIL expire in October. It appears the initial surge in abandonments is over.
- The number of installations served by low traffic density lines (i.e., traffic less than 5 million gross tons per mile per year) is a function of changing traffic volumes. The deregulation of freight rates is tending to improve traffic volumes and economic viability of rail lines. Increases in traffic volume reduce the number of installations on the list. Also improved economic viability reduces the likelihood of abandonment at those installations still on the list.

- The GAO Report on page 6 states that there were eleven Army installations confronting potential rail line abandonment last April 1982. DOD believes GAO is referring to DOD installations where carriers had lines under study for potential abandonment. As of March 1983 there are only four DOD installations where carriers have abandonments under study.

Of the more than 1000 major DOD installations in the United States some 350 have rail service. Based on information submitted by installation commanders through command channels to military service headquarters for validation, and reviewed by the Military Traffic Management Command on behalf of DOD, only 216 installations and activities require rail service to accomplish their assigned mission. This means that the number of installations with rail service (350) is greater than those with presently assigned missions requiring rail service (216).

The fact that an installation is listed as requiring rail service does not necessarily mean that the designated line is defense essential. Any event in the civil sector which endangers a designated defense line, triggers a DOD review, analysis, and preliminary determination as to the defense essentiality of the line. A case-by-case analysis of each proposed abandonment is required because of the number of variables involved, e.g., (1) the peacetime, mobilization, and/or contingency requirement for rail, (2) alternate rail carriers, lines, and railheads available, etc.

Based on experience, the DOD has identified the following options to civil rail line abandonments:

- o Carrier retains
- o Other carrier retains
- o State retains
- o Other shippers retain
- o Increase traffic
- o Carrier proposes new freight rates

- o Use alternate carrier/line/railhead (e.g. outload off-post)
- o ICC abandonment proceedings
- o Move mission requiring rail
- o Offer financial assistance for the line (i.e., contract, lease or purchase)

The options are presented in the approximate sequence explored by DOD. Civil sector solutions are explored and used before options involving the expenditure of DOD funds. DOD has had a fair measure of success in implementing the options. Since 1975, there have been only three abandonments where DOD has had to offer financial assistance (contract, lease, and purchase, respectively) as a means to retain defense essential rail lines. ICC approval of an abandonment application does not necessarily mean physical loss of a defense essential rail line. DOD has not lost nor does it expect to lose a defense essential rail line.

- O FINDING B. Loss of Rail Service Could Hinder Mobilization. GAO found that, the loss of rail service to essential defense installations could substantially increase mobilization costs and delay mobilization efforts. GAO further found that, although DOD is expending millions of dollars to improve its rail capabilities, it may not result in increased rail movement as (1) sufficient rail service to meet mobilization needs beyond the military installations' boundaries is not assured, and (2) availability and capability of rail branch lines to handle large volumes of traffic during mobilization is uncertain. (GAO noted that the extent to which DOD can and will use the railroad system to carry out its mobilization missions is directly impacted by the rail receiving and outloading capabilities at military installations). [See p. 4.]

DOD Comment: Partially concur.

The loss of essential rail service could delay mobilization efforts and increase mobilization costs. The DOD retention of rail service could also increase mobilization costs. DOD considers options and compares alternatives and costs.

DOD has assured that designated defense lines beyond military installation boundaries are available (i.e., can be retained) and are in a defense readiness condition: (1) the STRACNET Condition Report identified the designated lines; (2) the options, identified in the DOD response to GAO Finding A, assure that the lines can be retained; and (3) the STRACNET Condition Report and more recent reviews by DOD assure that the lines are in an acceptable defense readiness condition.

- O FINDING C. Additional Efforts Needed To Assure Minimum Essential Transportation To Key Defense Installations. GAO found that, when an essential rail line is subject to abandonment, DOD has taken limited steps in assessing the impact of the abandonment on its peacetime and wartime needs and in identifying alternative solutions/options. GAO further found that DOD has specifically (1) attempted to reach solutions on maintaining essential service on a case by case basis, (2) reached interim solutions, in some cases to maintain service, (3) not developed or issued any guidance on how the costs of the various alternatives are to be computed or what comparisons should be made when determining if rail service should be maintained, (4) limited current Defense planning to those rail requirements which are known and (5) did not object to the abandonment and loss of service even when the rail service was essential. (GAO noted that it can become very expensive for DOD to maintain rail service once it has been abandoned as illustrated in the GAO report (pp. 6-10) by the Fort Campbell, Kentucky situation. GAO further noted that, (1) the Military Traffic Management Command (MTMC), which is the major Army command through which the Secretary of the Army carries out his DOD single manager military transportation function, has developed a list of some options to maintain needed transportation and (2) the Army is giving consideration to proposing legislation for purchasing abandoned rail trackage). [See pp. 6-10.]

DOD Comment: Partially concur. DOD takes extensive steps to assess the impact of abandonment of designated defense lines. Based on this experience, DOD has identified options and procedures for civil rail line abandonments. The final report is anticipated April 1983.

Item 1: DOD determines the defense essentiality of designated defense lines based on a review and analysis of the defense requirements and a case-by-case analysis of proposed abandonments and options available. (See the DOD comment to GAO Finding A).

- Item 2: DOD uses an interim solution where an interim solution is appropriate. At the time of the Illinois Central Gulf Railroad (ICG) abandonment to Ft. Campbell, the ICG indicated (in sworn testimony before the ICC) that they would continue to provide service from Hopkinsville, KY to Princeton, KY. Under those circumstances, Ft. Campbell would continue to have rail service via Princeton. This was the most cost effective solution for DOD. The DOD lease agreement with the ICG, includes an option regarding future access to the Louisville and Nashville Railroad at Hopkinsville in the event the ICG finds it's Princeton to Hopkinsville line not to be economically viable. It would not have been in the best interests of the taxpayer or the ICG to consider a new interchange with the L&N when the ICG was striving to continue service through Princeton.
- Item 3: DOD has issued interim guidance on options and costs and final guidance is anticipated April 1983. The first six of the ten options do not entail DOD Operation and Maintenance (O&M) or Military Construction (MILCON) funds.
- Item 4: DOD acknowledges that current Defense planning is limited to known requirements. We have identified and are continuing to refine the categories of DOD movement requirements which must be quantified and included with current deployment and mobilization movement requirements. Included in the undefined or unknown categories are industrial surge production requirements associated with expanding the industrial base under national mobilization. At this time there are no established methodologies for identification of such requirements in commodity or time-phased detail. The DOT is addressing this problem through the use of modeling techniques based on statistic indices of performance of the national economy under conditions of national mobilization.
- Item 5: DOD has not lost nor does it expect to lose a defense essential rail line.



O FINDING D.

Increased Funding May Not Materially Improve Transportation Readiness. Although Defense spending for rail improvements has risen, GAO found that this may not materially improve defense transportation readiness until the following issues are addressed:

- movement capability reports submitted by installations contain conflicting information,
- Defense rail improvement funds might be better utilized to increase rail mobilization capabilities if rail improvements projects were more adequately justified, and
- defense need for rail movement may have to be adjusted because DOD's policy on moving military vehicles and equipment by motor convoy (road march) for distances up to 800 miles has not been tested. (FINDING E-H)

GAO further found that once these issues are addressed DOD will be better able to determine where its rail capabilities need improvements. (GAO noted that Defense spending rose from \$13.1 million in FY 1978 to \$21.3 million in FY 1981, and during the same period the backlog of unfunded rail maintenance needs grew from about \$42.2 million to \$79.5 million (over a 88.4 percent increase). [See p. 12.]

DOD Comment:

Partially concur. Detailed discussion of movement capability reports is contained in FINDING E. The justification for improvement projects is discussed in FINDING F. Discussion of 800 mile planning criteria is in FINDING H.

- O FINDING E. Conflicting Information Being Reported On Capabilities To Meet Potential Mobilization Requirements. GAO found through its analysis of installation capability reports that the reports often contained conflicting data on capabilities to meet potential mobilization requirements, i.e. Camp Atterbury, Indiana reported a daily mobilization capability of 162 rail cars for both separate and concurrent rail and truck operations, but the remarks section indicated that rail loading is not possible at this location and its operations would have to be conducted 31 miles away. GAO further found defense installations (1) often do not report information on the time frames to reach maximum receiving and outloading capabilities---such information is not required to be reported by joint services regulation and (2) the time it would take the various installations to reach their reported maximum capability greatly varied, i.e. 15 to 30 days at three installations versus up to 150 days at another. (GAO noted that MTMC almost always accepts the correctness of capability data reported by such installations. GAO further noted that the military services and Defense Logistics Agency designates installations which are to report their material outloading and receiving capabilities to MTMC who uses the data when it develops the various movement plans for defense mobilization needs). [See pp. 12-13.]

DOD Comment: Concur. MTMC and the military services are in the process of revising the joint services regulation (AR 55-4/OPNAVINST 11200.7a/AFR 75-23/MCO 4810.1A/DSAR 4510.8). The revision incorporates GAO comments and recommended fixes. The revision is intended to provide for the following:

1. Guidance to ITO's for accurate capability reporting, e.g., actual capability figures on report forms.
2. Inclusion in annual report the date that mobilization capability is achieved for more accurate analyses of daily outload capability.
3. Consider all constraints and degrade capability figures accordingly; report only actual outloading and receiving which can be done.

4. Report ability to use any offpost facilities included within reported figures.

Revisions are expected to be completed by December 1983.

Also the military services' Inspector Generals will be reviewing each installation to assure that installation transportation officer reports on the availability of rail service are submitted and reflected in the DOD Terminal Facilities Guide.

O FINDING F.Rail Improvement Projects Should Be Better

Justified. GAO found that rail improvements being made or planned have not been appropriately justified. GAO further found that the Army has not clearly defined the scope and objectives of the rail improvement funding package--the Army has a special funding package for FY 1982-1984 projected to cost over \$31 million for such rail improvements. (GAO noted (1) in March 1981, the Army estimated it would cost \$16.0 million to upgrade rail facilities at 31 locations, (2) 6 months later it was estimated it would cost about \$30.1 million to upgrade Army's Forces Command rail facilities at 23 installations, (3) the Command provided specific guidance in developing rail upgrade estimates whose use resulted in an increase of \$2.6 million for just four of the 23 installations originally scheduled to receive funds, and (4) although Command officials still believe all their contemplated special projects can be completed with the original \$30.1 million estimate--GAO infers this is an unjustified assumption). [See pp. 13-15.]

DOD Comment.

Concur. A rail improvement funding package was established for FY 82 through FY 84 to increase installation outloading capability to support rapid deployment of Army units. In an effort to compensate for years of deferred maintenance, some installations submitted projects to Headquarters, Department of the Army (HQDA) for substantial rebuilding of rail facilities that would result in a higher FRA Class than the Class 2 minimum standard. When the projects were reviewed by HQDA, it was recognized that they exceeded the original scope of the program. Consequently, only one project was approved in the amount of \$691,500 for the upgrade of the rail facility at Fort Riley, Kansas. The remainder of the projects were returned by HQDA. Guidance provided by HQDA for development of future projects included consideration of the level of rail operations (peacetime and mobilization) at the installations, tonnage, switching workload, required locomotive speed of Army and commercial carrier equipment and other pertinent operating factors. Army Commands were advised that the FRA Class 2 standard was adequate for track maintenance programs at the vast majority of Army activities. It is expected that prioritized rail repair projects will be resubmitted for 22 installations at a cost of

approximately \$22 million. An additional, \$1.8 million for blocking and bracing materials, \$816,000 for spanners and \$340,000 for end ramps will bring the total cost to approximately \$25 million for the rail and installation outloading upgrade project. Specifics of each project will be subject to further review by HQDA. The installation project priorities have been established after analyzing studies and movement tables for CENTCOM and European operations plans.

Deferred maintenance programs have been the rule rather than the exception for Army utility roadroads. Listed below are the total expenditures reported for the years FY 78, FY 81 and FY 82 for all Army owned rail trackage including the installations covered in the rail improvement funding package.

<u>FY</u>	<u>1,000 Lineal Ft Maintained</u>	<u>Total Cost</u>	<u>Backlog of Track Maint</u>
78	14866	\$ 9,225,245	\$25,186,126
81	15842	\$13,914,032	\$51,593,275
82	15225	\$18,221,946	\$47,608,074

- O FINDING G. Specific Benefits To Be Gained By Enhancing Rail Mobilization Capabilities Not Determined. GAO found that the Army has not identified the specific benefits it expects to gain by enhancing mobilization capabilities. GAO found that although Army plans include repairing broken ties, replacing ballast, and replacing up to 286 miles of light rail trackage with heavier rail (1) the Army has not demonstrated that there is a need to replace the lighter rail with heavier rail, (2) the heavier rail exceeds the Army's own rail standards, Army Regulation 420-72 and (3) this Army Regulation directs that existing non-standard rail in good condition and meeting operational requirements will not be replaced. (GAO noted the following: (1) the Army estimated it would cost \$3.2 million to upgrade rail trackage at Fort Benning, Georgia to meet Army Standards, or \$5.7 million if heavier rail is used and (2) as Fort Benning is close to several ports of embarkation, this will probably necessitate little needed rail service at this installation to deploy the mobilizing units). [See pp. 13-15.]

DOD Comment: Concur. An Army utility railroad corresponds to a small short line or industrial railroad. The length of the average train move is limited so efficient operations do not require speeds in excess of 10 miles per hour. Annual tonnage handled is usually less than 100,000 tons and most mobilization missions would not exceed 1,000,000 tons annually. Therefore, the FRA Class 2 track standard, considered the acceptable level of maintenance, is compatible with the operating requirements. Utility railroad trackage at Army installations has not enjoyed a high maintenance priority in recent year because of austere budgets. In view of the extensive repairs required to bring the trackage to Class 2 standards, project engineers recommended replacement of all rail below the 90# standard. Projects for the replacement of lightweight rail that was not defective have not been approved by Headquarters, Department of the Army. The concerned Army Commands have been advised that the quality of the roadbed, not the weight of rail, is the critical factor in a safe utility railroad operation. A normalized program of maintenance has been recommended for the Army utility railroad systems. This program calls for nominal tie replacement of approximately 200 ties per year and other routine

maintenance including replacement of tie plates, spikes, defective rail as needed, ballast and track alignment. The program will, within a five year period, result in a normalized status where one half of the useful life of the rail track components remain and the trackage can be maintained at a FRA Class 2 track standard or better in perpetuity. This approach will minimize annual expenditures in relation to the mission and use of the track, while maintaining a state of readiness. The maintenance policies established in AR 420-72, Surfaced Areas, Railroads, and Associated Structures and the technical guidance published in TM-5-627, Maintenance of Trackage, will be observed in the design and construction of all rail maintenance projects.

- O FINDING H. Defense Movement Criteria For Long Distances Should Be Reevaluated. GAO found that the feasibility and practicality of road marching vehicles for long distances up to 800 miles during mobilization is uncertain. GAO further found that if road marches are to be used there is a need to consider such factors as (1) the impact of the additional wear and tear on the vehicles, (2) the impact on U.S. bridges and highways of moving heavy defense equipment, (3) the time it would take to drive the vehicles to their destination, (4) the availability of drivers and (5) the availability of vehicle maintenance and fuel during the road March. (GAO noted that guidelines/criteria for selecting how military equipment is to be moved to meet mobilization needs are contained in a MTMC handbook and were developed without analytical analysis or testing of distances involved. GAO further noted that under MTMC movement criteria, roadable vehicles would be driven to their designated mobilization port for distances of 800 miles or less and transported by railroad for distances in excess of 800 miles---the difference in amount of rail capability required under each condition is substantial). [See pp. 15-17.]

DOD Comment.

Partially concur. DOD agrees with the GAO finding that there is uncertainty involved in planning for organic motor convoy movements in CONUS of up to 800 miles. The factors identified by the GAO which would have to be considered in executing a road march are also valid, though by no means exhaustive. Other factors such as time of year, weather conditions, potential for sabotage or civil disruption, availability of motor and rail assets and projected availability of sealift assets would have to be considered at the time the decision to convoy is made. The fact that 800 miles is used as a planning criteria should not lead to the conclusion that it would be the governing factor in actual execution decisions. In wartime, operational considerations may dictate cases where motor convoy of even a short distance is ruled out and, conversely, motor convoy of greater than 800 miles may be a necessity. Of significance in assessing this finding is the impact that this planning criteria has had on the definition of rail support requirements for mobilization. While DOD concurs in the intent of the finding, it is requested that the report be changed to read: "800 miles planning criteria published in the MTMC handbook has not been subjected to extensive analysis and testing". This change acknowledges the fact that the criteria was established based on experience factors and military judgment.



- O CONCLUSION 1. GAO concluded that Congress needs to be made aware of the significance of the growing number of pending key military installations as the loss of rail service to essential defense installations could increase mobilization costs and delay mobilization efforts. [See p. 10.]

DOD Comment:

- DOD partially concurs. Congress should be informed if the law and national policy pose specific adverse impacts on defense preparedness or if additional legislation is needed to facilitate the retention of a national railroad system adequate for the needs of national defense. However we believe that DOD has been able to insure that defense needs are accommodated during realignment of the nations rail system. DOD has:
- adjusted to abandonment statutes passed by Congress and enacted by the President.
  - adjusted to DOT policies and ICC regulations implementing the abandonment statutes.
  - identified and successfully utilized options and procedures to protect defense interests in the event of an abandonment.
  - reached understandings with DOT, e.g. (1) memorandum concerning rail transportation policy as it relates to national defense, (2) memorandum of agreement for discussing common transportation issues.
  - successfully retained defense essential rail lines.
  - managed its needs for civil rail lines and transportation at minimum cost without degradation of mobilization capability.

CONCLUSION 2. GAO concluded that while DOD has been attempting to assure it received adequate rail service at its installations, the Department of Transportation in its concern about the overall financial viability of the nation's railroad system, has supported the abandonment of rail service to defense installations. [See p. 10.]

DOD Comment: DOD concurs.

CONCLUSION 3. GAO concluded that the current case-by case or piecemeal approach to potential abandonment problems may be an acceptable short-term solution, but could prove very costly and ineffective in the long run. [See p. 10.]

DOD Comment: DOD partially concurs. DOD believes that the case-by-case comprehensive analysis of proposed abandonments and of the related options is currently the most effective and economical solution. See the DOD comments on GAO Finding A. Two factors are noteworthy: (1) the variables applicable to each abandonment are numerous and vary significantly in their impact and (2) the first six options available to DOD do not involve DOD O&M or MILCON funds. For this reason DOD explores these options first.

CONCLUSION 4. GAO concluded that in order to assure minimum essential rail service to key installations, DOD needs to assess what minimum rail capability is needed to move peacetime and mobilization requirements and explore with the Department of Transportation the options for maintaining this minimum level of rail service in the most effective manner. [See p. 10.]

DOD Comment: Concur. Identification of minimum defense rail requirements has been accomplished by DOD. The minimum requirements include main lines designated by the Federal Railroad Administration to satisfy STRACNET and connector lines from STRACNET to military installations where rail service has been identified as required for mission completion. As previously indicated, the DOD has options and procedures to deal with abandonments to defense installations.

CONCLUSION 5.

GAO concluded that DOD's ability to determine the minimum level of rail support necessary to meet its mobilization movement needs is made more difficult because (1) defense installations report conflicting movement capability data, (2) rail improvement projects are not being appropriately justified, and (3) defense criteria for road marching vehicles long distances is untested. [See p. 17.]

DOD Comment:

Concur. Installation reporting project justification, and road march criteria are covered in FINDINGS E, F, and H, respectively.

CONCLUSION 6.

GAO concluded that by addressing the issues above, DOD can better enhance its mobilization planning and better utilize its rail maintenance funds.  
[See p. 17.]

DOD Comment:

Concur.

O RECOMMENDATION 1.

GAO recommended that the Secretary of Defense and Transportation explore the options for maintaining the minimum essential rail service to defense installations with mobilization missions and then draft a proposed comprehensive national policy to address the issues. This proposal should be submitted to the appropriate Congressional Committees for review and should address such issues as (1) DOD's alternatives and their costs to meet defense mobilization movement requirements, (2) DOD's minimal essential rail service needs, (3) the level of funding required to assure this minimal level, and (4) the need for any legislative changes to assure essential rail services to defense installations. [See p. 10.]

DOD Comment.

DOD partially concurs. DOD will coordinate the options for retaining defense essential rail lines to military installations with DOT. DOD together with DOT will reevaluate existing agreements concerning rail policy and national defense to determine whether changes are needed. The issues including the minimum network, abandonment options, funding, and legislation are expected to be discussed at an official DOD-DOT liaison meeting in 1983.

DOD sees no need for Congressional review at this time but would prefer to reserve opportunity for such review if and when it becomes apparent that existing statutes and national policy is adversely affecting national defense and there is no recourse but to seek necessary legislation or procedural changes.

- O RECOMMENDATION 2. GAO recommended that the Secretary of Defense modify its reporting requirements to assure that defense installations accurately report their capabilities to meet peacetime and mobilization movement needs and that they identify the key constraining factors. [See p. 17.]

DOD Comment: Concur. This is discussed in detail in FINDING E. MTMC expects to complete revision of the joint services regulation pertaining to installation outloading reports by end of 1983.



- O RECOMMENDATION 3. GAO recommended that the Secretary of Defense establish procedures to ensure rail maintenance projects are appropriately justified and cost effective. [See p. 17.]

DOD Comment. Partially concur. The policies and procedures for rail track maintenance in AR 420-72, Surfaced Areas, Railroads, and Associated Structures, are sound and comprehensive. The technical guidance on track maintenance presented in TM-5-627, Maintenance of Trackage, adheres to the best commercial practices for the repair and maintenance of railroad trackage. Guidance in these publications has been tailored for the scope of maintenance required at military installations. Comprehensive reviews of proposed rail improvement projects are conducted at Army Command and Headquarters levels. These reviews have eliminated the conditions addressed in the draft report such as replacement of light weight rail that is not defective. The scope of each improvement project is reviewed by operating as well as maintenance personnel to ensure that the repairs are compatible with the required operating capability.

The Office of the Chief of Engineers, Headquarters, Department of the Army, has directed the Construction Engineering Research Laboratory to investigate the feasibility of establishing a Rail Maintenance System that would take a systematic approach to identifying and correcting rail maintenance deficiencies. The investigation will be completed in FY 83. If it is determined that such a system would be beneficial, it will be initiated and executed for the rail track maintenance program.

O RECOMMENDATION 4. GAO recommended that the Secretary of Defense through limited testing or analysis reevaluate the feasibility and practicality of defense movement criteria to include road marching vehicles for distances up to 800 miles. [See p. 17.]

DOD Comment: Concur. Reevaluation of the 800 mile planning criteria will be completed by December 1983.



**U.S. Department of  
Transportation**

Assistant Secretary  
for Administration

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

APR 12 1983

Mr. J. Dexter Peach  
Director, Resources, Community  
and Economic Development Division  
U.S. General Accounting Office  
Washington, D.C. 20548

Dear Mr. Peach:

We have enclosed two copies of the Department of Transportation's (DOT) reply to the General Accounting Office (GAO) draft report, "Evaluation of Defense Rail Mobilization Requirements and Capabilities," dated March 9, 1983.

GAO recommends that the Secretaries of Defense and Transportation explore options for maintaining essential rail service to defense installations with mobilization missions and draft a comprehensive national policy to address the issue.

DOT has agreed to keep the Department of Defense (DOD) informed on any significant rail issues that may affect defense readiness and supports actions by DOD to work directly with rail carriers on arrangements to maintain rail access at specific locations.

We believe this case-by-case approach to the rail service issue is the most cost-effective course of action available to the Federal government and see no need to develop a comprehensive national policy.

If we can be of further assistance, please let us know.

Sincerely,

  
Robert L. Fairman

Enclosures

DEPARTMENT OF TRANSPORTATION REPLY  
TO  
GAO DRAFT REPORT OF MARCH 9, 1983  
ON  
"Evaluation of Defense Rail Mobilization  
Requirements and Capabilities"

SUMMARY OF GAO FINDINGS AND RECOMMENDATIONS

The Department of Defense (DOD) cannot be assured that the rail network will be able to move required defense material and equipment during mobilization because many branch railroad lines connecting defense installations may be abandoned. Where required rail service over branch lines is abandoned, DOD has attempted to reach solutions on a case-by-case basis which could prove very costly and ineffective. GAO recommends that the Secretaries of Defense and Transportation explore options for maintaining essential rail service to these defense installations with mobilization missions and draft a comprehensive national policy to address the issue.

POSITION STATEMENT

Based on the premise that DOD's rail logistic requirements will be best served by a financially sound railroad industry, the Department has generally supported abandonment of unprofitable lines. We have agreed to keep DOD informed on any significant rail issues that may affect defense readiness, including any potential rail service interruptions to any military installations currently served by a rail carrier. The Department supports actions by DOD to work directly with rail carriers on arrangements to maintain rail access at specific locations.

We believe this case-by-case approach to the rail service issue is the most cost-effective course of action available to the Federal government and see no need to develop a comprehensive national policy.

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