United States General Accounting Office

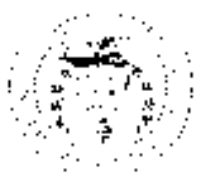
GAO

Report to the Secretary of the Army

December 1989

ARMY MAINTENANCE

Use of German Civilians and U.S. Reservists in Europe for General Support Maintenance



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GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-226358

December 28, 1989

The Honorable Michael P. W. Stone
The Secretary of the Army

Dear Mr. Secretary:

Army maintenance is a key ingredient in the readiness of U.S. military forces. This report expresses our concerns regarding the use of German civilians and rotating U.S. Army reserve component units for general support maintenance in Europe.

The report contains recommendations to you. 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. A written statement must also be submitted to the House and Senate Committees on Appropriations with an 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 Chairmen of the above Committees; the Secretary of Defense; the Director, Office of Management and Budget; and the Chairmen, House and Senate Committees on Armed Services.

Please contact me at (202)275-4141 if you or your staff have any questions concerning the report. Other major contributors to this report are listed in appendix III.

Sincerely yours,

Richard Davis

Richard Davis
Director, Army Issues

Executive Summary

Purpose

Efficient, effective, and economical maintenance of equipment is essential to the readiness of U.S. forces. The Army spends over $5 billion annually on maintenance and supply operations to ensure that its units are ready to perform in wartime. General support maintenance, one of the Army's four maintenance levels, provides important repair support to sustain critical combat and support equipment. This report examines the Army's general support maintenance activities in the European theater. GAO's review addresses (1) the theater's current reliance on civilians of the Federal Republic of Germany for a general support maintenance work force in wartime and (2) the adequacy of the Army's plans for evaluating the effectiveness of the recently started program to use reserve units for general support maintenance in Europe.

Background

Heavy and light equipment maintenance companies constitute the nucleus of the Army's military force structure for general support maintenance. Under current doctrine, command and control of these units are to be assigned to "echelons above corps." This term is used to describe the performance of maintenance in fixed or semi-fixed facilities away from a deployed corps area.

Currently, the Army has no heavy or light equipment maintenance companies assigned to echelons above corps in Europe. Instead, most general support maintenance is being performed by German civilians in fixed or semi-fixed facilities. If hostilities erupted today, the peacetime German civilian work force would constitute the principal general support maintenance capability available in the theater until maintenance units arrived from the United States. In addition, a German army maintenance unit is to be formed to support U.S. forces deployed in northern Germany.

In addition to using German civilians during mobilization, the Army plans to use U.S. military units, particularly the Army Reserve and the National Guard. The Senate Committee on Appropriations requested the Army to study and report on specific overseas missions that could be assumed by Guard and Reserve units to maximize benefits for the total force. In response, the Army has begun a three-phased program designed to train Guard and Reserve units on the Army's most modern heavy equipment systems. The first phase, which began in April 1989, consists of rotating reserve component maintenance companies to Germany to perform general support maintenance.

Results in Brief

The Army may not have an adequately trained and fully staffed German civilian work force to provide required maintenance support to U.S. forces during wartime. An important German army maintenance unit that is intended to provide this support is understaffed, and Army plans do not identify how the German government will fill these shortages with trained personnel. Further, many German civilians could be drafted by the German army and not be available to perform maintenance duties for U.S. forces in war. Without initiatives to resolve these problems, the Army may not achieve the required maintenance capability it expects from the civilian work force in the event of mobilization.

Also, the Army has not developed a plan to evaluate the effectiveness of the first phase of its three-phased program of using reserve components for general support maintenance in Europe. In GAO's opinion, an effective evaluation should assess the initiative in terms of its overall affordability, benefits, and relevance to critical roles that reserve components must perform in wartime. In this regard, the Army may not realize the full benefits of the program because, at least initially, it plans to have reserve units working on older automotive equipment in the theater's general support maintenance backlog until more modern recently fielded equipment begins to enter normal repair cycles.

Principal Findings

Limitations of German Civilian Work Force

German civilians who are currently organized in and employed by designated "support groups" will form the 471st Maintenance Battalion (a reserve unit in the German army) and support U.S. forces. The battalion's three maintenance companies are authorized 660 personnel, which is roughly equivalent to three active Army heavy equipment maintenance companies. Some of these people are currently ineligible to be part of the battalion because they are not qualified for military service in the German army. However, even if all 400 personnel currently in the civilian support groups were eligible to become German army reservists, they would fill only about 61 percent of the 660 authorized strength.

GAO found that the source for completing the authorized strength of the battalion is not evident in the Army's plans. In addition, the Army expressed concern about whether all prospective members of the battalion will have had appropriate training and experience in performing general support maintenance on U.S. Army equipment. Army officials

noted, for example, that many German civilians were currently performing lower level maintenance tasks.

Emergency-essential German civilians, in contrast to civilian support group employees, cannot be used in forward combat areas to repair vehicles and other damaged equipment. Nonetheless, these employees are expected to remain available in wartime to perform maintenance duties in the rear areas. The U.S. government must apply for draft exemptions with the German government to ensure that these employees will not be drafted in the event of mobilization. As of January 1989, however, only about 27 percent of 779 emergency-essential civilian maintenance employees eligible for the draft had been granted exemptions—a situation that could compromise the availability of this work force during hostilities.

U.S. Army, Europe, officials have actions underway that are intended to alleviate this situation. For example, they are in the process of developing an automated program to assist in the monitoring of applications for draft exemptions. Also, they are considering employee-hiring policy revisions, such as employing only draft-ineligible personnel (those who can most easily obtain draft exemptions).

Effectiveness of Using U.S. Reserve Components for Maintenance in Europe Needs to Be Evaluated

In addition to using German civilians during mobilization, the Army plans to use U.S. military units. In response to continuing interest of the Senate Committee on Appropriations, the Army has begun the first phase of a three-phased program to increase the use of reserve components for overseas missions. The initial phase, which started in April 1989, consists of rotating U.S.-based reserve component maintenance companies to Germany to perform general support maintenance tasks.

Although the Committee had expected the rotating units to train on the Army's most modern heavy equipment, Army officials told us that these units would not be able to do so because no maintenance programs had been established for the more modern equipment. This equipment has not yet entered normal repair cycles in large numbers. Until a sufficient volume of new equipment enters the repair cycle, the Army plans to use these units to help repair unserviceable equipment in the general support maintenance backlog, which increased rapidly in fiscal year 1988. The backlog is essentially comprised of older tactical wheeled vehicles, such as 1/4-ton utility, 2-1/2-ton cargo, and 5-ton cargo trucks, which are turned in for general support maintenance when new force modernization equipment is fielded.

Furthermore, the Army had not developed a plan for evaluating the effectiveness of the program's initial phase. In GAO's opinion, an effective evaluation plan should contain provisions for tracking several important factors, such as the total costs incurred in implementing the initial phase, the types of equipment repaired by the reserve maintenance units, and the relevance of that work to the most critical general support maintenance wartime missions. Army theater logisticians acknowledged that it was important to fully and objectively evaluate the initial phase.

Recommendations

GAO recommends that the Secretary of the Army develop an evaluation plan—incorporating the factors discussed in this report—to assess the effectiveness of the initial phase of rotating reserve components overseas to perform general support maintenance.

In addition, GAO recommends that the Secretary of the Army direct the Commander-in-Chief of U.S. Army, Europe and Seventh Army, to take the following actions:

- Work with the German government to identify personnel who have had previous experience maintaining U.S. equipment (such as former German employees of U.S. Army maintenance facilities who are currently in the reserves) and could be employed to complete the authorized strength of the 471st Maintenance Battalion in the event of mobilization.
- Follow through on actions underway to (1) monitor the draft status of emergency-essential German employees and (2) better ensure their availability to perform maintenance repairs during mobilization.

Agency Comments

The Department of Defense agreed with all of GAO's findings and recommendations (see app. II). With regard to GAO's finding that rotating reserve units were not training on the most modern equipment they would be expected to repair in wartime, the Department concurred but commented that there was still training value in the movement and functioning of the units as operational entities.

Contents

Abbreviations

DS	direct support
GAO	General Accounting Office
GS	general support
HEMCO	heavy equipment maintenance company
LEMCO	light equipment maintenance company
USAREUR	U.S. Army, Europe and Seventh Army

Introduction

Keeping Army equipment up-to-date and combat ready requires large amounts of funding and extensive maintenance, ranging from simple servicing to major overhauls and conversions. In performing these tasks, the Army is attempting to enhance its ability to (1) mobilize, deploy, and engage the enemy without unacceptable delays and (2) sustain engaged forces during combat operations. The Army spends over $5 billion annually to support maintenance and supply operations so that Army units are operationally ready to perform their assigned wartime missions.

The Army has four levels of equipment maintenance, ranging from the very basic preventive maintenance performed at the unit level to the industrial type of maintenance performed at the depot level. Intermediate maintenance at the general support (GS) and direct support (DS) levels provides for the interim repair and replacement of equipment on components and end items. Items repaired at the GS level are generally returned to the supply system for ready exchange to replace unserviceable equipment.

We have recently reported on the Army's management and operation of its GS maintenance program in the United States. [1] This report focuses on the Army's GS maintenance activities in Europe.

General Support Maintenance Doctrine

Army doctrine requires that it organize and train in peacetime in a manner that best meets expected wartime responsibilities. This doctrine applies equally to the combat force (the fighting corps) and the support force (maintenance and other logistical elements). In peacetime, many maintenance functions can be and are performed by civilian workers; however, Army doctrine requires that some military units be retained and trained to allow deployment and surge capability during periods of conflict. For example, Army Regulation 750-1, "Army Maintenance," requires Army commanders to acquire and maintain a self-sufficient military capability to perform GS maintenance.

GS maintenance, which is performed in fixed or semi-fixed facilities, as shown in figure 1.1, includes providing repaired or rebuilt pieces of equipment to the supply system for future use and providing backup support to lower level DS units. Its fundamental purpose is to support the Army's supply system through the repair of equipment and components. In their DS backup role, GS units perform direct support-level

[1] Army Maintenance: General Support Maintenance Units Not Prepared to Perform Wartime Missions (GAO/NSIAD-89-183, July 17, 1989).

repairs (such as removing and replacing an engine) on reparable items, components, or end items as necessary to return them quickly to the user or to the supply system in ready condition.

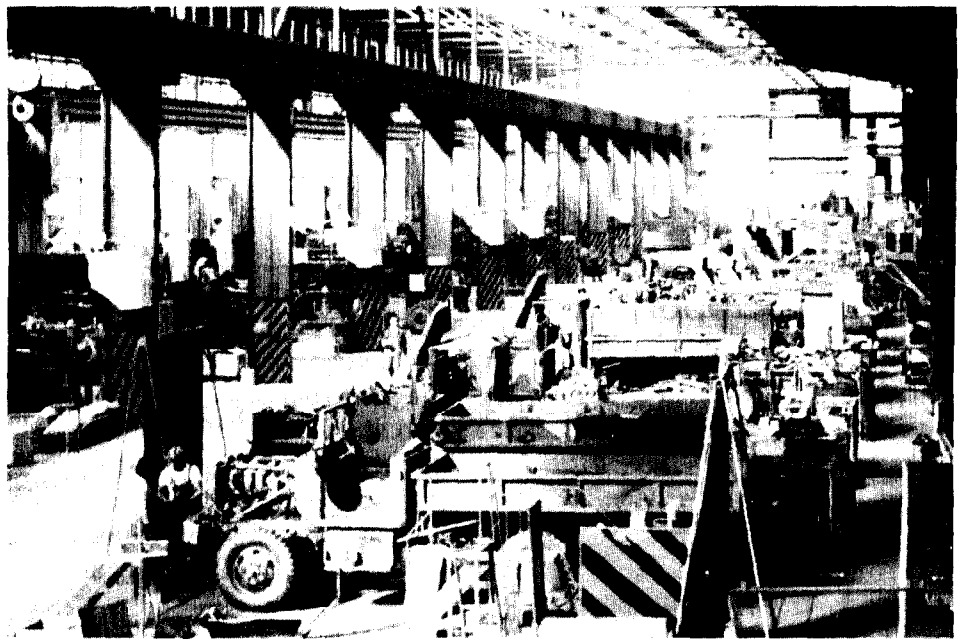


Figure 1.1: A U.S. Army General Support Maintenance Facility Located in West Germany

GS maintenance activities support a major command, subcommand, or other force as a whole rather than specific elements of these entities. GS maintenance programs are scheduled by materiel managers at the appropriate command level to respond to the needs of the theater supply system as a whole, depending on the availability of repair parts and other maintenance resources. GS maintenance is usually performed in rear areas outside a deployed corps area—sometimes referred to as "echelons above corps"—a term used to describe the performance of maintenance in fixed or semi-fixed facilities away from a deployed corps area.

Heavy equipment maintenance companies (HEMCO) and light equipment maintenance companies (LEMCO) constitute the nucleus of the Army's military force structure for GS maintenance. HEMCOs are responsible for maintaining combat and tactical vehicles, while LEMCOs are primarily responsible for maintaining light equipment and their components, such

as electronic and communications equipment and small arms. Under current doctrine, command and control activities of these maintenance units are performed at echelons above corps.

HEMCOs and LEMCOs are integral elements of the Army's "forward support maintenance" concept. The goal of forward support maintenance, in battle, is to repair the maximum amount of disabled equipment and get it back into action as quickly as possible. However, only minimal GS maintenance can be performed near the battle area because such maintenance requires resources provided in fixed or semi-fixed facilities.

General Support Maintenance in Europe

At echelons above corps in Europe, the Army has established several GS maintenance programs. However, most GS maintenance in the theater is conducted under one program, the "general support repair program." The principal objective of this program, which is developed and managed at the theater level, is to enhance the readiness and sustainability of U.S. Army, Europe and Seventh Army (USAREUR), by upgrading equipment to a serviceable condition and returning it, particularly combat and tactical end items and major assemblies, to the supply system to meet active Army, war reserve, and other Army needs.

In fiscal year 1988, this program accounted for $71.2 million, or about 80 percent, of the theater's total funding of $88.6 million for GS maintenance. Similarly, in fiscal year 1989, it accounted for $70.0 million, or about 77 percent, of the theater's total funding of $91.4 million.

The theater's manager for the general support repair program is USAREUR's Assistant Deputy Chief of Staff for Logistics, Materiel Readiness and Modernization, who also serves as commanding general of the 200th Theater Army Materiel Management Center, located in Zweibruecken, Federal Republic of Germany. The Center distributes the theater's GS maintenance work load to applicable organizations, particularly to the 21st Theater Army Area Command, which is the echelon above corps in Europe. The Command has primary responsibility for performing GS maintenance in the theater but has no military GS maintenance HEMCO or LEMCO units.

Most GS maintenance is performed by civilians of the Federal Republic of Germany in fixed or semi-fixed facilities. Figure 1.2 shows civilian mechanics at work in a maintenance facility in West Germany. In October 1986, all military HEMCOs in Europe were inactivated, and none

have been reestablished at echelons above corps. Rather, the force structure spaces made available by the inactivations were converted to meet other logistical needs. Specifically, the spaces were converted to form DS maintenance companies and heavy materiel supply companies within the corps.

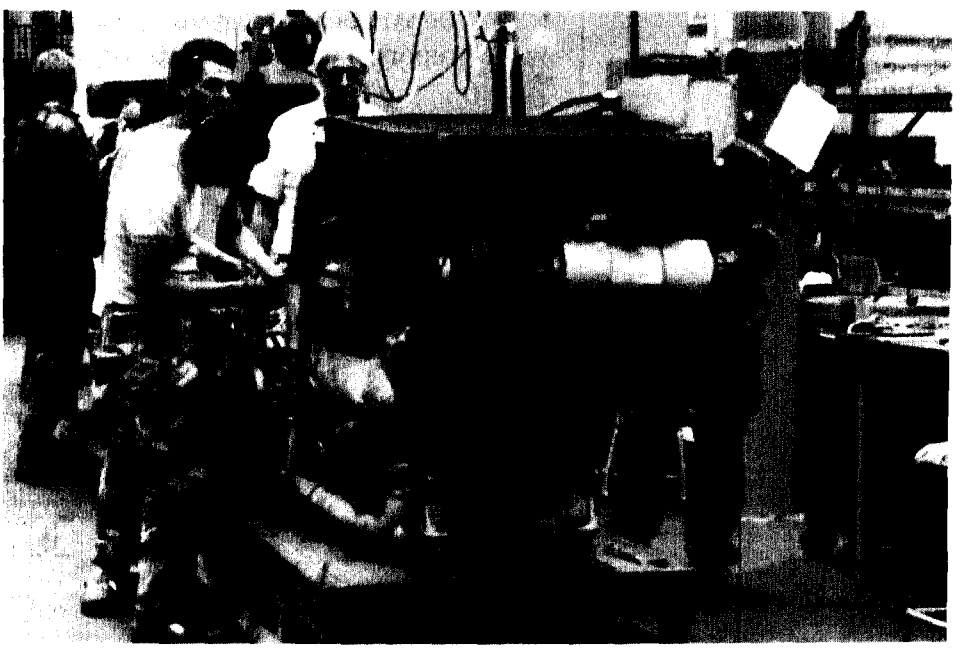


Figure 1.2: German Civilians Repairing a Bradley Fighting Vehicle Engine at a Maintenance Facility in West Germany

Objectives, Scope, and Methodology

In evaluating the management of GS maintenance activities in Europe, we focused on two objectives. Our first objective was to analyze the wartime availability and roles of the theater's current work force for performing GS maintenance—a work force consisting primarily of German civilians.

To accomplish this objective, we interviewed Army officials at USAREUR headquarters and the 21st Theater Army Area Command. We obtained and analyzed statistics on the number of workers in civilian support groups and in emergency-essential positions.

Our second objective was to analyze the concept of periodically deploying Army Reserve and National Guard maintenance units overseas for training and assigning them to perform missions normally accomplished by active units. We reviewed the Army's plans for

deploying reserve HEMCOs from the United States to Germany to perform GS maintenance. Again, we interviewed officials at USAREUR headquarters and the 21st Theater Army Area Command.

We performed our review during July 1988 through March 1989 in accordance with generally accepted government auditing standards. The Department of Defense provided written comments on a draft of this report. These comments are included as appendix II.

More Attention Needed to Ensure the Availability of the Civilian Work Force During Mobilization

The peacetime GS maintenance work force at echelons above corps in Europe consists of German civilian support groups and other local national workers at various maintenance and equipment support centers. If hostilities erupted today, the German civilian work force would constitute the principal GS maintenance capability available in the theater until HEMCOs and LEMCOs arrived from the United States. Thus, how much of the civilian work force would remain available to provide continued maintenance support and what roles they would play are important wartime sustainability issues, particularly during the early stages of mobilization or hostilities.

In performing its "transition-to-war" role, USAREUR plans to reorganize the peacetime civilian work force. Host nation civilians who are currently organized in and employed by designated "support groups" will form a reserve maintenance battalion unit in the German army and support U.S. forces. A portion of the other civilian workers occupying emergency-essential positions will remain on the job during hostilities and continue to operate their maintenance facilities. However, during our review, we found the following potential problems:

- The civilian support group maintenance battalion will require additional mechanics, but the source of these "filler" mechanics is not evident in USAREUR's plans. Even if they are available when needed, the mechanics might not have had the needed experience repairing U.S. Army equipment.
- Emergency-essential workers, due to their draft eligibility, may not be available to provide needed maintenance at their present facilities in rear areas during hostilities.

Use of German Civilian Support in Europe

"Civilian support" refers to work units made up primarily of German civilians who perform a variety of roles and missions in support of U.S. forces, including security, transportation, supply, and maintenance. Civilian support personnel are organized into company-sized units called "civilian support groups." These groups have their own chains of command but generally are under the operational control of the U.S. unit to which they are assigned.

In time of crisis or war, all civilian support groups will disband. Some of the groups will convert into German army reserve units to support U.S. forces. For this purpose, civilian support groups have been designated as "category A" or "category B" groups. Upon mobilization in Germany, category A civilian support groups will transfer equipment and draft-

eligible employees to German army reserve units. For example, the draft-eligible employees in three category A groups will transfer into the 471st Maintenance Battalion—a reserve unit in the German army. Category B personnel are not to be draft eligible and will continue to perform duties as emergency-essential employees.

Limitations of the 471st Maintenance Battalion

During a time of crisis or war, draft-eligible employees in three host nation civilian support groups of the 21st Theater Army Area Command (the 8900th, the 8903rd, and the 8908th) will be formed into the 471st Maintenance Battalion. Although it will be a reserve unit in the German army, the battalion's mission will be to support U.S. forces deployed in northern Germany. Of all the wartime-reorganized civilian units, the units in this battalion will most closely reflect the capabilities afforded by active Army HEMCOs. The battalion will be mobile, with teams used in forward battle areas to assess and repair damaged equipment.

Our review indicated that the battalion will have certain limitations regarding its composition and experience. For example, the battalion's wartime authorization for the three maintenance companies totals 660 personnel, which is roughly equivalent to three active Army HEMCOs. However, even if all 400 personnel in the civilian support groups authorized in peacetime were eligible to become German army reservists, they would fill only about 61 percent of the authorized strength of 660.

An official for USAREUR's Civilian Support Agency told us that employees in the three civilian support groups are intended to be only the nucleus of the 471st Maintenance Battalion. The official explained that the German government will fill the balance of the positions with other personnel. The manner in which the German government plans to meet these additional mechanic requirements is not evident in USAREUR's plans. The official said that identifying former civilian support group personnel who are currently reservists and obtaining agreement from the German government to use these personnel to complete the authorized strength of the 471st Maintenance Battalion would improve the theater's "transition-to-war" capabilities. However, the USAREUR official doubts whether these personnel will have had any general support maintenance experience with U.S. Army equipment because many of them were currently performing lower level maintenance.

Another circumstance that could limit the effectiveness of the 471st Maintenance Battalion is employees' draft eligibility. Only draft-eligible employees, that is, those who can pass the physical standards of

the German army, can transfer from the three civilian support groups into the 471st Maintenance Battalion during a time of crisis or war. At the time of our review, 76 of the total 400 employees authorized in the three groups were either draft ineligible or had not had their status reviewed by the German government for inclusion in the maintenance battalion. However, the German government was considering the draft status of a few of these 76 employees.

Officials of the 21st Theater Army Area Command have begun discussions with German labor groups to institute a policy of hiring (for the three applicable groups) only German men who are qualified for military service. Under the proposed policy, the current employees not qualified for military service will remain employed until they terminate voluntarily or their contracts expire.

Mobility and Availability Problems With Emergency-Essential Workers

Most of the civilian workers performing GS maintenance in repair facilities of the 21st Theater Army Area Command are in emergency-essential positions, which means that these employees are expected to remain working during a time of crisis or war. However, as shown in table 2.1, less than one-half of the facilities' total on-hand strength in emergency-essential positions would be available in wartime.

Table 2.1: Wartime Availability of GS Maintenance Emergency-Essential Civilians in the 21st Theater Army Area Command as of December 1988

Repair facility	Authorized strength	Total on-hand strength (T)	Number draft eligible (D)	Number of draft eligibles with exemptions (E)	Number available in wartime (T-D+E)
Maintenance center					
Germersheim	137	126	107	8	27
Kaiserslautern	356	288	269	81	100
Pirmasens	305	303	168	25	160
Equipment support center					
Kaiserslautern	279	153	137	62	78
Mannheim	206	188	98	38	128
Total	**1,283**	**1,058**	**779[a]**	**214**	**493**

[a]At the time of our review, USAREUR was in the process of revising its criteria for identifying draft-eligible employees. Civilian Personnel Office representatives at the 21st Theater Army Area Command told us that this process would more realistically identify draft-eligible employees and probably would result in lowering the total number.

Emergency-essential civilians, in contrast to civilian support group employees who will be transferred into German army reserve units, cannot be used to perform maintenance in combat areas, such as assessing and repairing combat-damaged vehicles for forward-deployed troops. This lack of mobility is a significant disadvantage of using civilian mechanics rather than personnel in military maintenance units, such as HEMCOS.

Another limitation of civilian mechanics is that, in the event of severe hostilities, the work force will not be evacuated and formed elsewhere to continue providing maintenance support. USAREUR and 21st Theater Army Area Command officials told us that if hostilities force a maintenance center or an equipment support center to close down, the theater will not evacuate the German civilian work force to another location.

A more fundamental concern regarding civilian workers is whether they will still report to work during hostilities, even at their present facilities in rear areas. Generally, the command and staff officials we contacted at USAREUR headquarters, the 200th Theater Army Materiel Management Center, and the 21st Theater Army Area Command told us that, given the absence of military GS maintenance units in the theater, it is imperative that emergency-essential civilians report to work during wartime.

Most of the emergency-essential civilians performing GS maintenance in the 21st Theater Army Area Command are draft eligible and had not been exempted from the draft. When German civilians hold emergency-essential positions, the U.S. government must apply for draft exemptions for those individuals so that the German government does not draft them in the event of mobilization. If mobilization occurs, a draft-exempt individual must either continue to work in the position that allowed the exemption or be drafted.

As shown in table 2.1, 779 employees, or about 74 percent, of the total 1,058 emergency-essential personnel are draft eligible. Of the 779 draft-eligible employees, only 214, or about 27 percent, have been granted draft exemptions by the German government.

At the time of our review, the 21st Theater Army Area Command's personnel office was in the process of developing a program to automate requests and monitor applications for draft exemptions. Also, a USAREUR regulation had been drafted with the objective of further ensuring that emergency-essential workers would be available. The draft of this regulation seeks not only to simplify the application process for draft

exemptions but also to establish a new policy of hiring only draft-ineligible personnel (or those who can most easily obtain draft exemptions) for emergency-essential positions.

Conclusions

In the event of hostilities, the civilian GS maintenance work force in Europe will be expected to provide continuing support. USAREUR needs to ensure that the civilian work force is properly prepared for mobilization to the maximum extent possible.

During hostilities, the 471st Maintenance Battalion of the German army, which will be formed in part with a nucleus of draft-eligible German employees from civilian support groups in the 21st Theater Army Area Command, will provide HEMCO-type support to U.S. forces. The Area Command has taken actions to help ensure that all employees in these civilian support groups will be eligible for military service. However, Army plans do not identify the source of the additional mechanics needed to complete the authorized strength of the 471st Maintenance Battalion. This lack of identification raises a concern about whether prospective members of the battalion will have had the necessary training and experience performing GS maintenance on U.S. Army equipment. This situation could be improved if the Army considered identifying prospective members for the battalion from among German civilians formerly employed at U.S. maintenance facilities.

In contrast to those employees in civilian support groups that will be mobilized, emergency-essential employees will continue to provide GS maintenance support but only in rear theater areas during hostilities. However, as of December 1988, 21st Theater Army Area Command records showed that the majority of the emergency-essential employees could be called up by the German army during a transition to war. This situation could compromise the theater's GS maintenance capability in the crucial period at the beginning of hostilities unless steps are taken to ensure that these employees will be available when needed.

Recommendations

We recommend that the Secretary of the Army direct the Commander-in-Chief, USAREUR, to take the following actions:

- Work with the German government to identify personnel who have had previous experience maintaining U.S. equipment (such as former

German employees of U.S. Army maintenance facilities who are currently in the reserves) and could be employed to complete the authorized strength of the 471st Maintenance Battalion in the event of mobilization.

- Follow through on actions underway to (1) monitor the draft status of emergency-essential German employees and (2) better ensure their availability to perform maintenance repairs during mobilization.

In its comments on our draft report, the Department of Defense agreed with our findings and recommendations.

Overseas Deployment Training of Reserve General Support Maintenance Units Must Be Fully Evaluated

During mobilization, the Army plans to augment the German civilian work force with military active and reserve HEMCOs. To support this plan, the Army is testing a program designed to provide overseas training in GS maintenance missions to selected reserve units. The Army may not realize the full benefits of this program until the more modern equipment being introduced into the inventory begins to enter normal repair cycles. Initially, it plans to have reserve component maintenance units repairing older automotive equipment being phased out by the newer equipment.

The Army has not developed a plan to evaluate the effectiveness of the program.

Overseas Deployment Training Plans May Not Initially Meet the Intent of the Senate Committee on Appropriations

Since about the mid-1980s, the Senate Committee on Appropriations has shown a continuing interest in finding ways to enhance the deployment training of the reserve components (the Army National Guard and the U.S. Army Reserve) and, simultaneously, to reduce the number of active component units stationed overseas. Generally, the Committee believed that the Army's Guard and Reserve units could possibly assume some active duty missions in Europe by rotating overseas for deployment training. In 1987, the Committee requested the Army to study and report on specific overseas missions that could be assumed by Guard and Reserve units.

In response to the Committee's request, the Army has proposed a three-phased program:

- The purpose of phase 1, which began in April 1989, is to test the concept by rotating reserve component HEMCOs to Germany to perform GS maintenance for USAREUR.
- If phase 1 is successful and affordable, permanent rotation of reserve component HEMCOs will be established in phase 2, beginning around June 1990.
- In phase 3, tentatively targeted to begin in January 1991, the program will expand to other types of units and missions as warranted and supportable.

At the time of our review, phase 1 plans called for initially designating 18 Army reserve HEMCOs in the United States to deploy, on a rotational basis, for 3-week periods to Germany. These deployments would total 54 weeks of reserve component presence and support in Europe.

According to USAREUR officials, the Army has chosen to use reserve component HEMCOs because (1) the total number of available reserve component HEMCOs is large enough to rotate each unit only once about every 3 years and (2) the units would receive training they need to accomplish wartime missions.

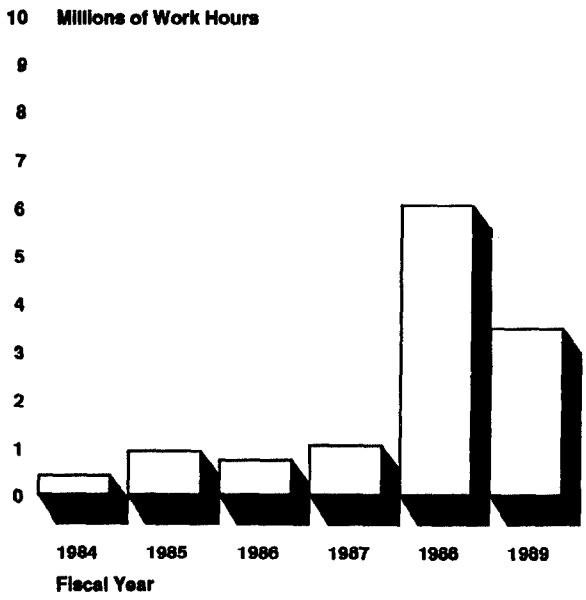
To manage the training of and assignment of work loads to these units, the Army proposed creating an equipment maintenance center in Kaiserslautern, Germany, under the command and control of the 21st Theater Army Area Command. In its June 1988 report on the 1989 Department of Defense appropriation bill, the Senate Committee on Appropriations took note of the Army's proposal and stated:

"The Committee is pleased that the Army has developed an innovative and meaningful proposal in response to the Committee request . . . . This center will better target and use current overseas deployment training to maximize benefits for the total force. It will enable Guard and Reserve units to train on the Army's most modern heavy equipment systems . . . .

"The Committee believes that this overseas equipment maintenance center will demonstrate the capability of the Army Guard and Reserve to assume overseas missions on a full-time basis, and the Committee looks forward to further overseas missions being tasked to the Guard and Reserve."

USAREUR initially plans to use reserve component HEMCOs to help repair unserviceable equipment in the GS maintenance backlog. Figure 3.1 shows the recent trend in the size of this backlog, while appendix I provides additional details. As shown in the figure, the backlog increased rapidly in fiscal year 1988 and remained at a high level in fiscal year 1989. The growth was attributable primarily to large numbers of older automotive equipment, such as 1/4-ton utility, 2-1/2-ton cargo, and 5-ton cargo trucks, entering GS maintenance. This older equipment is most often retained and maintained to meet other Army unit or war reserve requirements.

Figure 3.1: General Support Repair Program in Europe: Total Unfinanced Work Hours



Note: Backlogs are expressed in unfinanced work hours which represent the time required to complete identified maintenance requirements that were not funded in USAREUR's budget.

Because the Army's fleet of automotive equipment is very old, we asked European theater officials whether this prospective work load met the Senate Committee on Appropriations' expectation that reserve units "train on the Army's most modern heavy equipment." In response, 21st Theater Army Area Command officials told us that most modern equipment, such as M1A1 tanks and Bradley Fighting Vehicles, generally is still too new to require extensive repairs. Thus, large numbers of this newer equipment have not yet entered normal maintenance cycles.

However, logisticians at the 21st Theater Army Area Command acknowledged that more attention should be given to assigning the reserve units to repair new equipment and components. These officials told us that when some of the theater's newer equipment, such as Commercial Utility Cargo Vehicles, becomes available for repair programs in fiscal years 1990 or 1991, consideration would be given to having the reserve units repair these items. Similarly, during a program review meeting in Germany in February 1989, the attendees, who included Army headquarters representatives, agreed that component repair training should be included in the assignments of work loads for fiscal year 1990. Theater logisticians told us that component repair is extremely important because unserviceable components probably

account for 90 percent of the downtime associated with combat and tactical vehicles.

Objective Evaluation of the Initial Phase Is Needed

The Army, at the time of our review, had not developed a plan to evaluate the initial phase of rotating reserve components overseas to perform general support maintenance. According to a 21st Theater Army Area Command official, Department of the Army headquarters has tasked the Area Command with formulating an evaluation proposal subject to the Department's review and approval. The official told us that, in evaluating the initiative, the Command would track measurable factors, such as amounts of equipment repaired, and compare them to figures representative of other theater maintenance facilities.

An effective evaluation should also provide the means for tracking other factors, such as total costs incurred for implementing the initial phase, the types of equipment repaired by the reserve HEMCOs, and the relevance of that work to the most critical GS maintenance wartime missions. In some circumstances, there may be compelling reasons to assign the reserve HEMCOs to work on older, automotive equipment. However, if it is not practical to assign rotating maintenance units to work on new equipment or too difficult to assign them critical tasks because of insufficient training, these limitations should be recognized and considered in evaluating the initiative.

Conclusions

The Senate Committee on Appropriations has requested the Army to seek ways to increase the use of reserve components for overseas missions. In response to this interest, the Army developed a phased program, starting in April 1989, to rotate reserve component HEMCOs from the United States to Germany. Because most modern heavy equipment systems have not yet entered regular maintenance repair cycles, the Army plans for the reserve components to initially work on the older, displaced automotive equipment that makes up the Army's GS maintenance backlog in Europe. In later years, the Army will consider assigning the more modern equipment to reserve maintenance units once that equipment begins to enter regular maintenance cycles.

The Army's evaluation of using reserve units for missions overseas in general, and for GS maintenance specifically, needs to address key issues, such as the benefit of using reserve components for overseas missions and the Army's ability to productively use and train these units during 3-week overseas tours. In assessing the overall effectiveness of

the program's initial phase, the Army needs to develop a plan that objectively evaluates factors such as total costs incurred in implementing the initial phase, the types of equipment repaired by the reserve HEMCOs, and the relevance of that work to the most critical GS maintenance wartime missions.

Recommendation

We recommend that the Secretary of the Army develop an evaluation plan to assess the effectiveness of the initial phase of rotating reserve components overseas to perform general support maintenance. The evaluation should consider, at a minimum, the total costs incurred in implementing the initial phase, the types of equipment repaired by the reserve maintenance units, and the relevance of that work to the most critical general support maintenance wartime missions.

The Department of Defense agreed with our findings and recommendation. With regard to our finding that rotating reserve units were not training on the most modern equipment they would be expected to repair in wartime, the Department concurred but commented that there was still training value in the movement and functioning of the units as operational entities.

General Support Maintenance Backlog in the European Theater

In Europe, more equipment is awaiting GS maintenance than can be timely repaired in the theater. As table I.1 shows, this maintenance backlog totaled 19,677 pieces of unserviceable equipment in fiscal year 1988 and 10,140 pieces in fiscal year 1989. Program managers at the 200th Theater Army Materiel Management Center projected for 1988 a need for about 6.1 million work hours above the 2.4 million financed and for 1989 a need for 3.5 million work hours above the 2.2 million financed.

Table I.1: General Support Repair Program in Europe: Financed and Unfinanced Fiscal Year Requirements

	Pieces of equipment needing repair		Work hours required		Total cost[a] (thousands)	
Requirements	**1988**	**1989**	**1988**	**1989**	**1988**	**1989**
Financed	149,083	35,553	2,404,445	2,204,629	$71,189	$70,000
Unfinanced[b]	19,677	10,140	6,065,280	3,498,688	262,921	142,523
Total	**168,760**	**45,693**	**8,469,725**	**5,703,317**	**$334,110**	**$212,523**

Note: Repair actions in the general support repair program vary widely in cost and complexity. Of the 149,083 financed pieces of equipment needing repair in fiscal year 1988, 102,974, or 69.1 percent, were protective masks. In contrast, the unfinanced requirements that year consisted mainly of major end items—automotive vehicles, such as trucks and trailers. Consequently, the work hours and costs shown for this equipment represent 71.6 percent of total work hours and 78.7 percent of the total costs.

[a]Labor costs at the 21st Theater Army Area Command are funded by USAREUR and are, therefore, not reflected in the general support repair program totals.

[b]The unfinanced portion of the requirements is the GS maintenance backlog. Most of the unfinanced requirements can be attributed to automotive equipment in need of repair.

Our analysis showed that growth in the backlog occurred primarily in fiscal year 1988. For example, the 6.1 million unfinanced work hours in fiscal year 1988 represent an increase of about 5 million work hours (or about 489 percent) from the approximately 1 million unfinanced work hours in fiscal year 1987. Our analysis further showed that most of this increase in the backlog consisted of unserviceable automotive vehicles.

The backlog is primarily comprised of automotive equipment that is turned in for GS maintenance when new force modernization equipment is fielded. Much of the old, displaced equipment must be refurbished to meet the requirements of other Army units or war reserves. Of the 5 million work hour increase in fiscal year 1988, about 4.3 million work hours, or about 86 percent, involve automotive vehicles, such as 1/4-ton, 2-1/2-ton, and 5-ton trucks. The vast majority of unfinanced requirements since fiscal year 1984 has consisted of unserviceable automotive equipment.

The size of the backlog was reduced in fiscal year 1989 but remains far above the historical norm. The approximately 3.5 million unfinanced work hours in fiscal year 1989 represent a decrease of about 2.6 million work hours, or about 42 percent, from the unfinanced work hours in fiscal year 1988. This decrease resulted largely because the theater determined that much of the equipment was either obsolete or in a condition uneconomical to repair. Despite this decrease, the 1989 backlog is nearly six times larger than the average annual backlog existing during fiscal years 1978 through 1987.

As part of a program to improve GS maintenance capabilities in the theater, USAREUR has taken several steps to alleviate the backlog. An important first step was the development and distribution in June 1988 of a theater maintenance priority list. USAREUR's plans call for updating the priority list annually. Generally, the various maintenance officials we contacted during our review commented favorably on the priority list's usefulness in allocating resources.

USAREUR has developed a theater program for screening backlogged equipment to obtain current information on repair requirements, including the identification of equipment uneconomical to repair. Further, as discussed in chapter 3, USAREUR plans to use reserve component HEMCOs to help repair unserviceable equipment in the backlog. It plans to establish one active component HEMCO in the theater in fiscal year 1991.

In January 1989, the Department of the Army endorsed a USAREUR initiative to reduce the backlog by adopting uniform criteria for measuring equipment serviceability. Prior to this change, equipment entering war reserves had serviceability standards higher than those for equipment used by the active Army. For example, in the active Army, commanders could report equipment with some shortfalls (but no "deadlining" deficiencies) as being mission capable, that is, being ready to "move, shoot, and communicate."

In contrast, however, guidance regarding equipment being inducted into war reserve stocks required that the equipment be free of shortfalls. This difference in serviceability standards necessitated additional expenditures of maintenance funds on equipment entering war reserves. Under the new standards, war reserves equipment need only be repaired to a mission-capable condition. According to the Chief of the Maintenance Operations Branch, 200th Theater Army Materiel Management Center, this change could reduce the total cost of repairs in the backlog by an estimated 15 to 25 percent.

Comments From the Department of Defense

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

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

October 17, 1989

PRODUCTION AND
LOGISTICS
(L/MD)

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and
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U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) Draft Report, "ARMY MAINTENANCE: Use of German Civilians and U.S. Reservists in Europe for General Support Maintenance," dated August 28, 1989 (GAO Code 393332/OSD Case 8111). The Department concurs with the draft GAO findings and recommended actions.

Because of the short response period, the DoD is not able to provide specific implementation dates for the recommended actions. The Department will provide these in response to the final report.

The DoD comments on each finding and recommendation are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

R.L. BECKWITH, MGen, USMC
Military Deputy to
Assistant Secretary of Defense (P&L)

Enclosure

**GAO DRAFT REPORT - DATED AUGUST 28, 1989
(GAO CODE 393332) OSD CASE 8111**

"ARMY MAINTENANCE: USE OF GERMAN CIVILIANS AND U.S. RESERVISTS IN EUROPE FOR GENERAL SUPPORT MAINTENANCE"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A: General Support Maintenance Doctrine.** The GAO observed Army doctrine requires that it organize and train in peacetime in a manner that best meets expected wartime responsibilities. The GAO noted that this doctrine applies equally to the combat force (the fighting corps) and the support force (maintenance and other logistical elements). The GAO pointed out that, in peacetime, many maintenance functions can be and are performed by civilian workers; however, Army doctrine requires that some military units be retained and trained to allow deployment and surge capability during periods of conflict.

  The GAO described general support maintenance, which is performed in fixed or semi-fixed facilities, as providing repaired or rebuilt pieces of equipment to the supply system for future use and providing backup support to lower level direct support units. The GAO explained that the fundamental purpose of general support maintenance is to support the Army's supply system through the repair of equipment and components. The GAO noted that, in the direct support backup role, general support units perform direct support-level repairs (such as removing and replacing an engine) on reparable items, components, or end items--as necessary to return them quickly to the user or to the supply system in ready condition.

  The GAO reported that general support maintenance activities support a major command, subcommand, or other forces as a whole, rather than specific elements of these entities. The GAO mentioned that general support maintenance programs are scheduled by materiel managers at the appropriate command level to respond to the needs of the theater supply system as a whole, depending on the availability of repair parts and other maintenance resources. According to the GAO, general support maintenance is

Enclosure

usually performed in rear areas outside a deployed corps area--sometimes referred to as "echelons above corps"--a term used to describe the performance of maintenance in fixed or semi-fixed facilities away from a deployed corps area.

The GAO explained that military units responsible for the general support maintenance of combat and tactical vehicles are referred to as heavy equipment maintenance companies and light equipment maintenance companies. The GAO pointed out that these companies constitute the nucleus of the Army's military force structure for general maintenance. The GAO noted that under current doctrine, command and control activities of these maintenance units are performed at echelons above corps.

The GAO concluded that the equipment maintenance companies are integral elements of the Army's forward support maintenance concept. The GAO observed, however, that only minimal general support maintenance can be performed near the battle area because such maintenance requires resources provided in fixed or semi-fixed facilities. (pp. 2-3, pp. 10-12/GAO Draft Report)

Now on pp. 2, 8-10.

DoD RESPONSE: Concur.

- **FINDING B**: **General Support Maintenance in Europe**. The GAO explained that, at echelons above corps in Europe, the Army has established several general support maintenance programs. The GAO noted, however, that most general support maintenance in the European theater is conducted under one program, the "general support repair program." The GAO stated that the principal objective of this program, which is developed and managed at the theater level, is to enhance the readiness and sustainability of U.S. Army, Europe, and the Seventh Army by upgrading equipment to a serviceable condition and returning it to the supply system to meet active Army, war reserve, and other Army needs--particularly combat and tactical end items and major assemblies.

  The GAO found that, in FY 1988, this program accounted for $71.2 million, for about 80 percent, of the theater's total funding of $88.6 million for general support maintenance. The GAO further found that, in FY 1989, it accounted for $70.0 million, or about 77 percent, of the theater's total funding of $91.4 million.

  The GAO observed that the theater's manager for the general support repair program is the U.S. Army, Europe's Assistant

Deputy Chief of Staff for Logistics, Materiel Readiness and Modernization, who also serves as commanding general of the 200th Theater Army Materiel Management Center, located in Zweibrueken, Germany. The GAO explained that that center distributes the theater's general support maintenance workload to applicable organizations--particularly to the 21st Theater Army Area Command, which is the echelon above corps in Europe. The GAO noted that the Command has primary responsibility for performing general support maintenance in the theater, but has no military general support maintenance units.

See comment 1.

The GAO observed that, since October 1988, most general support maintenance has been performed by German civilians in fixed or semi-fixed facilities. The GAO reported that, in October 1988, all heavy equipment maintenance companies in Europe were inactivated, with none of the units reestablished at echelons above corps. The GAO found that the force structure spaces made available by the inactivations were converted to meet other logistical needs--specifically, the spaces were converted to form direct support maintenance companies and heavy materiel supply companies within corps. (pp. 2-3, pp. 12-13/ GAO Draft Report)

Now on pp. 2, 10-11.

DoD RESPONSE: Concur.

- **FINDING C: Use of Civilian Support in Europe.** The GAO explained that the term "civilian support" refers to work units made up primarily of German civilians, who perform a variety of roles and missions in support of U.S. forces-- including (1) security, (2) transportation, (3) supply, and (4) maintenance. The GAO noted that civilian support personnel are organized into company sized units called "civilian support groups." The GAO reported that, while these groups have their own chains of command, they are generally under the operational control of the U.S. units to which they are assigned.

  The GAO reported that, in time of crisis or war, all civilian support groups will disband. The GAO found that some of the groups will convert into German army reserve units to support U.S. forces. The GAO explained that upon mobilization in Germany, category A civilian support groups will transfer equipment and draft-eligible employees to German army reserve units. The GAO noted, however, that category B personnel are not to be draft eligible and thus will be available to continue to perform duties as emergency-essential employees. (pp. 3-5, pp. 15-16/GAO Draft Report)

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

DoD RESPONSE: Concur.

- **FINDING D**: **Limitations of Civilian Support Group**. The GAO learned that, during a time of crisis or war, draft-eligible employees in three host nation civilian support groups of the 21st Theater Army Area Command (the 8900th, the 8903rd, and the 8908th) will be formed into the 471st Maintenance Battalion. The GAO observed that, although it will be a reserve unit in the German army, the 471st Maintenance Battalion's mission will be to support U.S. forces deployed in northern Germany. The GAO observed that, of all the wartime-reorganized civilians, the units in this battalion will most closely reflect the capabilities afforded by active Army heavy equipment maintenance companies. The GAO indicated that the battalion will be mobile--with teams used in forward battle areas to assess and repair damaged equipment.

  The GAO found that the battalion will have certain limitations regarding its composition and experience. The GAO reported that, according to an official of the U.S. Army, Europe, Civilian Support Agency, employees in the three civilian support groups are only intended to be the nucleus of the 471st Maintenance Battalion. The GAO further reported that, according to the same official, the German government will fill the balance of the positions with other personnel. The GAO observed that the manner in which the German government will fill these positions is not evident in the Army's plans.

  The GAO mentioned that another circumstance that could limit the effectiveness of the 471st Maintenance Battalion is employees' draft eligibility. The GAO observed that only draft-eligible employees can transfer from the three civilian support groups into the 471st Maintenance Battalion during a time of crisis or war--that is, those who can pass the physical standards of the German army,. The GAO found, however, that 76 of the total 400 employees authorized in the three groups were either draft ineligible or had not had their status reviewed by the German government for inclusion in the maintenance battalion.

  The GAO indicated that officials of the 21st Theater Army Area Command have begun discussion with German labor groups to institute a policy of hiring only German men who are qualified for military service (i.e., for the three applicable groups). The GAO explained that the proposed policy would allow current

employees not qualified for military service to remain employed until they terminate voluntarily or their contracts expire.

The GAO concluded that the Area Command has taken actions to help ensure that all employees in these civilian support groups will be eligible for military service. The GAO emphasized, however, that the Army needs to identify the source of the additional mechanics needed to complete the authorized strength of the 471st Maintenance Battalion. According to the GAO, this lack of identification raises a concern about whether prospective members of the battalion will have the necessary training and experience performing general support maintenance on U.S. Army equipment. (pp. 3-5, pp. 16-18/GAO Draft Report)

Now on pp. 3-4, 14-15.

DoD RESPONSE: Concur.

- **FINDING E: Mobility and Availability Problems with Emergency-Essential Workers**. The GAO observed that most of the civilian workers performing general support maintenance in repair facilities of the 21st Theater Army Area Command are in emergency-essential positions--which means that these employees are expected to remain working during a time of crisis or war. The GAO found, however, that less than one-half of the facilities' total on-hand strength in emergency essential positions would be available in wartime.

  The GAO explained that emergency-essential civilians, in contrast to civilian support group employees who will be transferred into German army reserve units, will not be mobile during a time of crisis or war. The GAO concluded that lack of mobility is a significant disadvantage in the use of civilian mechanics as opposed to personnel in military maintenance units.

  The GAO noted that another limitation of using civilian mechanics in the event of severe hostilities, is the fact that the work force will not be evacuated and formed elsewhere to continue providing maintenance support. The GAO concluded that a fundamental concern regarding civilian workers is whether they will still report to work during hostilities--even at their present facilities in rear areas. The GAO also expressed concern that, as of December 1988, 21st Theater Army Area Command records show that the majority of the emergency-essential employees could be called up by the German army during a transition to war. The GAO concluded that, unless steps are taken to ensure that these employees will be available when needed, this situation could compromise the theater's general

Now on pp. 3-4, 15-17.

support maintenance capability in the crucial period at the beginning of hostilities. (pp. 3-5, pp. 18-21/GAO Draft Report)

DoD RESPONSE: Concur.

- **FINDING F**: **Overseas Deployment Training Plans May Not Initially Meet the Intent of the Congress**. The GAO observed that, since the mid-1980s, the Senate Committee on Appropriations has shown a continuing interest in finding ways to enhance the deployment training of the Reserve components and, simultaneously, to reduce the number of Active component units stationed overseas. The GAO indicated it was the Committee's view that the Army Guard and Reserve units could possibly assume some active duty missions in Europe by rotating overseas for deployment training. The GAO reported that the Committee requested the Army to study and report on specific overseas missions that could be assumed by Guard and Reserve units.

  The GAO found that, in response to the Committee's request, the Army has proposed a three-phased program, as follows:

  - Phase 1 , which began in April 1989, is to test the concept by rotating Reserve component heavy equipment maintenance companies to Germany to perform general support maintenance for the U.S. Army, Europe.

  - If phase 1 is successful and affordable, permanent rotation of Reserve component heavy equipment maintenance companies will be established in phase 2, beginning around June 1990.

  - In phase 3, tentatively targeted to begin in January 1991, the program will expand to other types of units and missions, as warranted and supportable.

  The GAO observed that, because most modern and heavy equipment systems have not yet entered regular maintenance repair cycle, the Army intends for the Reserve components to initially work on the older, displaced automotive equipment--which makes up the Army's general support maintenance backlog in Europe. The GAO pointed out that, in future years, the Army plans to assign the more modern equipment to Reserve maintenance units--once that equipment begins to enter regular maintenance cycles. (pp. 5-6, pp. 23-26/GAO Draft Report)

Now on pp. 4-5, 19-21.

DoD RESPONSE: Concur.

- **FINDING G**: **Objective Evaluation and Validation of the Initial Phase Are Needed**. The GAO found that the Army has not developed a plan to evaluate the initial phase of rotating Reserve components overseas to perform general support maintenance. The GAO did acknowledge, however, that the Department of the Army headquarters has tasked the Area Command with formulating an evaluation proposal, subject to the review and approval. The GAO observed that the evaluation would track measurable factors, such as amounts of equipment repaired, and compare them to figures representative of other theater maintenance facilities.

  The GAO emphasized that an effective evaluation should also provide the means for tracking other factors--such as (1) the total costs incurred for implementing the initial phase, (2) the types of equipment repaired by the reserve units, and (3) the relevance of that work to the most critical general support maintenance wartime missions. The GAO recognized that there may be compelling reasons to assign the Reserve maintenance units to work on older, automotive equipment. The GAO concluded, however, that if it is not practical to assign rotating maintenance units to work on new equipment or too difficult to assign them critical tasks because of insufficient training, these limitations should be recognized and considered in evaluating the initiative. (pp. 5-6, p. 27/GAO Draft Report)

Now on pp. 5, 22.

DoD RESPONSE: Concur. In evaluating cost factors, care must be taken to identify those sunk costs that do not result from the program of rotating Reserve component units overseas to perform the general support maintenance mission. Much of the cost of transportation would be incurred in any case to meet training requirements not dependent upon this project. In a similar manner, the costs of facilitization charged to the program should not show costs that would have been necessary had the maintenance been accomplished by other means, such as local contract. The cost of the program should reflect savings, or excess costs, resulting from accomplishing the maintenance by means of this program.

While the types of equipment repaired in the training workload are important to the skill of individual mechanics and require the presence of specific test equipment and repair parts stockage, paramount training value is the moving and functioning of the unit as an operational entity. This training in movement

and unit operations is obtained even if the repair work is performed on older equipment. It must also be considered that, if mobilization occurred today, much of the general support maintenance immediately necessary would be the repair of the older equipment on hand and available for use in the theater. As that equipment is displaced from the theater, it will become more important to have obtained skill and test equipment for the modernization items.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1**: The GAO recommended that the Secretary of the Army develop an evaluation plan to assess the effectiveness of the initial phase of rotating Reserve components overseas to perform general support maintenance. The GAO suggested that the evaluation should consider, as a minimum, (a) the total costs incurred in implementing the initial phase, (b) the types of equipment repaired by the Reserve maintenance units, and (b) the relevance of the work to the most critical general support maintenance wartime missions. (p. 6, p. 28/GAO Draft Report)

Now on pp. 5, 23.

DoD RESPONSE: Concur. In evaluating cost factors, care must be taken to identify those sunk costs that do not result from the program of rotating Reserve component units overseas to perform the general support maintenance mission. Much of the cost of transportation would be incurred in any case to meet training requirements not dependent upon this project. In a similar manner, the costs of facilitization charged to the program should not show costs that would have been necessary had the maintenance been accomplished by other means, such as local contract. The cost of the program should reflect savings, or excess costs, resulting from accomplishing the maintenance by means of this program.

While the types of equipment repaired in the training workload are important to the skill of individual mechanics and require the presence of specific test equipment and repair parts stockage, paramount training value is the moving and functioning of the unit as an operational entity. This training in movement and unit operations is obtained even if the repair work is performed on older equipment. It must also be considered that if

mobilization occurred today, much of the general support maintenance immediately necessary would be the repair of the older equipment on hand and available for use in the theater. As that equipment is displaced from the theater, it will become more important to have obtained skill and test equipment for the modernization items.

See comment 2.

- **RECOMMENDATION 2**: The GAO recommended that the Commander-in-Chief, U.S. Army, Europe, work with the German government to identify personnel, who have had previous experience maintaining U.S. equipment and who could be drawn on to complete the authorized strength of the 471st Maintenance Battalion in the event of mobilization (such as former German employees of U.S. Army maintenance facilities, who are currently in the reserves). (pp. 6-7, p. 22/GAO Draft Report)

Now on p. 5, 17-18.

DoD RESPONSE: Concur.

See comment 3.

- **RECOMMENDATION 3**: The GAO recommended that the Commander-in-Chief, U.S. Army, Europe, implement initiatives to monitor the draft status of emergency-essential employees to better ensure their availability to perform maintenance repairs during mobilization. (pp. 6-7, p. 22/GAO Draft Report)

Now on p. 5, 17-18.

DoD RESPONSE: Concur.

The following are GAO's comments on the Department of Defense's letter dated October 17, 1989.

GAO Comments

1. This date has been changed to October 1986 to reflect the actual date of the inactivations of all military HEMCOs in Europe.

2. In our draft report, this recommendation was directed to the Commander-in-Chief, U.S. Army, Europe and Seventh Army. In our opinion, it is more appropriate to address it to the Secretary of the Army.

3. As above, this recommendation is now directed to the Secretary of the Army. The recommendation has also been revised to recognize Army initiatives underway.

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