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U.S. Military Equipment Prepositioned in Europe: Significant Improvements Made but Some Problems Remain. LCD-78-431A; B-146896. December 5, 1978. 46 pp. + 2 appendices (3 pp.).

Report to Harold Brown, Secretary, Department of Defense; by Richard W. Gutmann, Director, Logistics and Communications Div. Unclassified version of a secret report.

Issue Area: Balance of War Reserves, Prepositioned Stocks, and the Industrial Base. (806).
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The Army stores large quantities of equipment in Europe for use in an emergency by troops deployed from the United States by air. The equipment is stored under a concept known as prepositioned equipment configured to unit sets (POMCUS) which means that each U.S.-based unit's equipment is stored as a set at a particular site to which the unit would deploy. This equipment is kept combat ready through long-term storage in controlled-humidity warehouses and through periodic maintenance designed to keep deterioration to a minimum.
Findings/Conclusions: The Army has made considerable improvement in the management of the POMCUS concept since it began intensifying its effort in January 1977. Although prepositioned equipment shortages have been greatly reduced, some shortages remain. There are also difficulties with updating authorizations of repair parts to reflect the type of equipment stored and the densities of the needed items. Equipment maintenance has improved considerably because of the successful completion of the annual maintenance programs, and more and better controlled-humidity storage facilities have protected the equipment, reducing corrosion problems. Although large maintenance backlogs no longer exist, better maintenance data collection efforts are needed to accurately forecast work force requirements. Accountability of major end items has improved through more frequent physical inventories and a more accurate equipment locator system. Accountability of components and poor inventory record information remain problems. Recommendations: The Secretary of the Army should: establish a more realistic test under simulated contingency conditions of annual deployment of troops assigned prepositioned equipment, identify and obtain repair parts to support wartime needs of the assigned units, closely monitor the cyclic maintenance program to ensure that it stays on schedule, provide protection for combat support equipment stored outside in Germany, develop and coordinate available management information to provide required visibility

over prepositioned equipment assets, assure that inventories which identify shortages and requisitioning needs are properly made and recorded, and improve the new readiness reporting system by showing the ready condition of a total weapons system rather than the end item and components separately. (RRS)

8535

REPORT BY THE U.S.

General Accounting Office

U.S. Military Equipment Prepositioned In Europe -- Significant Improvements Made But Some Problems Remain

The Army stores large quantities of equipment in Europe for use in an emergency by troops deployed from the United States by air. The equipment is stored under a concept referred to as "prepositioned equipment configured to unit sets." Each U.S.-based unit's equipment is to be stored as a set at the particular site to which the unit would deploy. Four different projects, including equipment for three divisions and related support units, are involved in the program. As of July 1978, the value of equipment authorized for storage was slightly over $1 billion.

GAO has reviewed the prepositioned equipment in Europe programs three times in recent years, and this report shows that the Army has made progress in overcoming earlier problems. Shortages of prepositioned equipment have been reduced and other improvements achieved; but some shortages still exist.

LCD-78-431A
DECEMBER 5, 1978

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

LOGISTICS AND COMMUNICATIONS
DIVISION

B-146896

The Honorable Harold Brown
The Secretary of Defense

Dear Mr. Secretary:

This is the unclassified version of our SECRET report (LCD-78-431). It points out that the Army has made significant improvements in its management of prepositioned equipment since GAO last reported serious problems in this area (LCD-76-441, July 12, 1976). However, some problems remain that need immediate attention.

Although we did not request written comments from the Department on this report, we met with Army officials on October 12, 1978; obtained their oral comments; and have considered them, where appropriate, in preparing the report. The Army representatives thought highly of the report and indicated that action had been planned or taken on our recommendations.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of the Army; and the Chairmen, House and Senate Committees on Appropriations and Armed Services, House Committee on Government Operations, and Senate Committee on Governmental Affairs. Copies of this version will be available to other interested parties who request them.

Sincerely yours,

R. W. Gutmann
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE
SECRETARY OF DEFENSE

U.S. MILITARY EQUIPMENT PREPOSITIONED IN EUROPE--SIGNIFICANT IMPROVEMENTS MADE BUT SOME PROBLEMS REMAIN

D I G E S T

The Army has made considerable improvement in the management of the prepositioned equipment program in Europe since it began intensifying its efforts in January 1977.

GAO reviewed the management of this program in 1971-72 and again in 1975-76. Its reports concluded that the Army units with equipment prepositioned could not perform their assigned missions within the required time because of equipment shortages, maintenance problems, and related shortcomings. 1/ (See pp. 2 and 3.)

GAO evaluated the current status of the program in Germany to see whether these problems had been resolved. This was particularly important in light of the President's recent proposal to preposition additional equipment in Europe.

The Army has made substantial progress in overcoming many problems highlighted in earlier reports. Prepositioned equipment shortages have been greatly reduced, although some shortages remain. (See pp. 10 to 12.)

Also, there are difficulties with updating authorizations of repair parts to reflect the type of equipment stored and the densities of the needed items. In one case, about 45 different types of

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1/"Problems with U.S. Military Equipment Prepositioned in Europe" (B-146896, Mar. 9, 1973) and "Continuing Problems with U.S. Equipment Prepositioned in Europe" (LCD-76-441, July 12, 1976).

repair parts for organizational maintenance were stocked for ambulances that had been replaced by another model. Stock lists were never adjusted, and the unit was sent on a deployment exercise without parts to repair its current 36 ambulances. (See pp. 14 and 15.)

Equipment maintenance has improved considerably, due largely to successful completion of the annual maintenance programs. This, in turn, resulted from avoiding large diversions of the maintenance work force to noncyclic maintenance tasks and from civilianizing the work force. For fiscal year 1977 and the first 8 months of fiscal year 1978, the maintenance program was ahead of schedule. (See pp. 19 to 25.)

More and better controlled-humidity storage facilities have protected the equipment, reducing corrosion problems. Equipment stored at three sites was in generally good condition. The Army has 79 controlled-humidity warehouses in use in Germany, compared to 57 at the time of GAO's last report. Some expensive new equipment is still stored outside in Germany. (See pp. 27 and 28.)

Maintenance facility problems--shortage of space, ill-equipped shops, and some unheated facilities--remain essentially the same as last reported. North Atlantic Treaty Organization infrastructure funding is being sought to upgrade the facilities. The Army estimated it needs $43 million to bring maintenance facilities in Germany up to standards. (See p. 31.)

Although the large maintenance backlogs of past cycles no longer exist and the cyclic maintenance program is on schedule, the Army still needs sufficiently reliable data to determine its total work force requirements. Efforts are needed to provide

better maintenance data collection for accurately forecasting work force requirements. (See pp. 34 to 36.)

The Army has continued to improve accountability of major end items through more frequent physical inventories and a more accurate equipment locator system. In testing the accuracy of 82 selected major end items, GAO found that all the items were in the locations designated on storage site location charts.

However, accountability of the components of sets, kits, and basic issue items and poor inventory record information remain problems. During the last inventory completed in April 1978, for example, Army officials in Europe were unable to provide information on shortages or excesses disclosed or, in the case of shortages, whether needed equipment had been requisitioned or received. (See pp. 39 to 41.)

The new readiness reporting system should solve some of the past problems. However, this system should link primary end items, such as tanks, with their armament, fire control, or communications subsystems to be reported as an overall system. Without all the components and subsystems fully operable, the end items cannot be as effective as they could be. (See pp. 43 to 46.)

Recent exercises for testing the Army's ability to deploy under the prepositioned equipment concept have been considerably more realistic than those GAO reported on previously. However, the exercises have not included a key element of the contingency mission--simulating actual warning time conditions during the exercises. (See pp. 8 and 9.)

RECOMMENDATIONS

The Secretary of Defense should direct the Secretary of the Army to:

--Establish a more realistic test under simulated contingency conditions of annual deployment of troops assigned prepositioned equipment. (See p. 9.)

--Identify and obtain the repair parts to support wartime needs of units assigned prepositioned equipment. (See p. 18.)

--Closely monitor the cyclic maintenance program to make sure it stays on schedule. (See p. 26.)

--Provide, at least temporarily, protection for combat support equipment stored outside in Germany. (See p. 31.)

--Develop and coordinate available management information to provide the required visibility over prepositioned equipment assets, particularly for manpower and maintenance management and equipment readiness purposes. (See p. 36.)

--Assure that inventories which identify shortages and requisitioning needs are properly made and recorded. (See p. 42.)

--Improve the new readiness reporting system by showing the ready condition of a total weapons system, such as a tank, rather than the end item and components separately. (See p. 46.)

AGENCY COMMENTS AND GAO EVALUATION

GAO discussed the matters in this report with Army officials on October 12, 1978, obtained their oral comments, and considered their comments in preparing it. The officials concurred with the recommendations and have taken or planned actions to implement them.

The Army's actions on the recommendations, if properly carried out, should further improve the prepositioned equipment program in Germany. GAO plans to follow up on these matters to assess the Army's progress in implementing program improvements.

Contents

ABBREVIATIONS

BII	basic issue item
CEGE	Combat Equipment Group, Europe
GAO	General Accounting Office
MRLOGAEUR	minimum required logistics augmentation, Europe
NATO	North Atlantic Treaty Organization
POMCUS	prepositioned equipment configured to unit sets
REFORGER	return of forces to Germany
2 + 10	2 divisions plus support units
USAREUR	United States Army, Europe

CHAPTER 1

INTRODUCTION

The Army stores large quantities of equipment in Europe for use in an emergency by troops deployed from the United States by air. The equipment is stored under a concept referred to as prepositioned equipment configured to unit sets (POMCUS). This means that each U.S.-based unit's equipment is stored as a set at the particular site to which the unit would deploy. The equipment is kept combat ready through (1) long-term storage in controlled-humidity warehouses and (2) periodic maintenance, designed to keep deterioration to a minimum.

In June 1978, 1,054 lines of equipment valued at about $1 billion were authorized for POMCUS stockage. Equipment on hand totaled deleted leaving a shortage of about deleted The major operational projects for which the Army has prepositioned equipment are (1) the 2 + 10 program (two divisions plus support units), (2) REFORGER (return of forces to Germany), (3) MRLOGAEUR (minimum required logistics augmentation, Europe), and (4) certain medical projects.

The Joint Chiefs of Staff and the U.S. Commander in Chief, Europe, acted to preposition equipment for the 2 + 10 program during the Berlin Crisis in 1961 to increase the speed at which the 7th Army could be reinforced from the United States and to reduce the need for transportation resources.

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In 1968 the Army moved selected combat and combat support units from Germany to the United States to improve the U.S. balance-of-payments position. These forces, called REFORGER units, remain committed to the North Atlantic Treaty Organization (NATO). The commitment is formalized in a multilateral agreement, which also stipulates that certain of these forces will redeploy to Europe annually to conduct field exercises. REFORGER forces consist of the 1st Infantry Division (minus one brigade permanently stationed in Europe), the 3d Armored Cavalry Regiment, and other units.

MRLOGAEUR is a project to provide a minimum of equipment for lines of communications needed to support U.S. forces deploying to Europe in an emergency. This project replaces the old line of communication/port facilities projects. Under the MRLOGAEUR concept, much of the support of U.S. forces in a contingency would be provided by host countries through bilateral agreements. The medical projects provide equipment for use by certain medical units.

The U.S. Army Combat Equipment Group, Europe (CEGE), is responsible for storing, maintaining, and issuing POMCUS equipment prepositioned in Europe for the four projects discussed above. The equipment is stored at various European locations--eight of which are in the NATO Central Army Group Region--and much of the equipment is in humidity-controlled warehouses. (See the map, p. 5, for the general location of storage sites in Germany.)

Other U.S. Army, Europe (USAREUR), commands are responsible for other logistics functions relating to POMCUS. These functions include (1) transporting troops from airfields to storage locations in an emergency, (2) providing bulk fuels for vehicles at storage sites, and (3) managing and storing conventional ammunition supplies for POMCUS units.

We originally reviewed the POMCUS program in 1971-72. Our report "Problems with U.S. Military Equipment Prepositioned in Europe" (B-146896, Mar. 9, 1973) concluded that the Army units in the POMCUS program could not perform their assigned missions in the required time because some of the authorized equipment was not prepositioned and much of the available equipment was inoperable.

We again reviewed the POMCUS program in 1975-76. In that report, "Continuing Problems with U.S. Military Equipment Prepositioned in Europe" (LCD-76-441, July 12, 1976), we concluded that it was still questionable whether the Army could effectively accomplish the missions assigned under the POMCUS concept and outlined in existing operational war plans. We reported that many improvements had been made since the 1973 report but that many deficiencies remained.

--The condition of equipment available in POMCUS stocks had improved considerably, but some equipment stored outside was in particularly bad condition since it had not been maintained according to schedule.

--The number of maintenance personnel had declined, and special projects diverted maintenance personnel from doing the required equipment maintenance.

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--Deficiencies in equipment readiness reporting criteria prevented an accurate presentation of equipment status.

--Shortages existed in some types of repair parts and ammunition.

--Improvements had been made in accountability and physical control of POMCUS stocks, but some problems remained--for example, CEGE had no effective accounting control over components of kits and sets.

--The equipment locator system was quite inaccurate.

--POMCUS storage and maintenance facilities had been improved; however, there were some facility maintenance problems, and storage facilities were not being used as effectively as possible. Also, maintenance facilities were regarded by the Army as substandard.

We also reported that response times in operational plans for Europe appeared unrealistic for some U.S.-based forces, since critical POMCUS equipment shortages would force deploying units to bring their equipment with them, probably by sea. Also, the equipment held by deploying units did not meet accepted criteria for serviceability and reliability. Thus, it would have to be repaired before it could be shipped. Finally, the annual deployment of certain REFORGER units to Germany for training and exercising POMCUS equipment was not done in a manner that realistically tested redeployment under emergency conditions.

On December 29, 1976, the Assistant Secretary of the Army (Installations and Logistics) stated that Army officials generally agreed with our report recommendations. He said the critical POMCUS problems had been recognized and were receiving top management attention within the Departments of the Army and Defense.

On August 16, 1977, the Secretary of Defense ordered that actions be taken to ensure that, by mid-1978, all combat units of the REFORGER and 2 + 10 package could be moved to Europe, issued their equipment, and prepared to begin moving to their battle positions within [deleted] of a decision to reinforce Europe. This was done to enhance the U.S. reinforcement capability in Europe and ensure that the Warsaw Pact's mobilization and reinforcement rate could not significantly outstrip NATO's.

SCOPE OF REVIEW

We evaluated the status of the POMCUS program in Germany to see whether the problems identified previously had been resolved. We placed particular emphasis on the status of the reconstitution of POMCUS stocks and the condition of the available equipment. (See chs. 3 and 4.) This was especially important in light of the continuing problems with the POMCUS program and the President's recent proposal to increase the size of the program by placing stocks in NATO's Northern Army Group Region. (See p. 5.)

We reviewed records relating to the prepositioned stocks of equipment, repair parts, and conventional ammunition in Europe. We made physical inspections and inventories, observed maintenance of equipment, and spoke with personnel responsible for managing and maintaining the prepositioned stocks. This work was done from February to July 1978.

We discussed the matters in this report with Army officials on October 12, 1978, obtained their oral comments, and considered their comments in preparing it. The officials fully concurred in the recommendations set forth in each of the following chapters, and have taken or planned actions to implement them. Their reaction to this report was highly favorable. The Army's actions on our recommendations, if properly implemented, should further improve the prepositioned equipment program in Germany.

Figure 1.

Nato's Central Regional (Showing Corps Sectors And Storage Sites)

GENERAL LOCATION OF CURRENT SITES IN WEST GERMANY.

SOURCE: Adapted from Richard Lawrence and Jeffrey Record, *U.S. Force Structure in NATO* (Washington, D.C.: The Brookings Institution, 1974). p. 31 and also from U.S. Army materials.

a/ NORTHAG (Northern Army Group) and CENTAG (Central Army Group) are the two subdivisions of NATO forces in West Germany.

CHAPTER 2

MANAGEMENT OF THE POMCUS PROGRAM: WHERE IT STANDS TODAY

The POMCUS concept has been an integral part of U.S. defense planning for a NATO contingency. Its objective is to give the United States the capability to quickly reinforce NATO forces during mobilization in Europe. The Department of Defense maintains that prepositioning equipment is more cost effective than stationing the forces in Europe during peacetime or providing sufficient airlift to deploy both troops and equipment from the United States during rapid mobilization.

For the POMCUS concept to be viable, therefore, the Army needed to give the program top management attention and devote a maximum effort to restoring the POMCUS units to the highest possible readiness condition as rapidly as resources became available. The Army has greatly improved the management of POMCUS since it began intensifying its efforts in January 1977. Particularly, it has reduced equipment shortages and eliminated the equipment maintenance backlog. However, large equipment shortages remain, and some problems still need attention. (See chs. 3 to 8.)

For a prepositioning concept to be successful, several key issues need to be fully addressed.

--Maintenance programs for equipment must be effective so that equipment availability is maximized. Equipment must be periodically removed from storage, tested, repaired as needed, inventoried, preserved, and placed back in storage. With the current 4-year maintenance cycle, the elimination of substantial maintenance work backlogs, and an adequate number of personnel, the Army has improved the condition of POMCUS stocks.

--Adequate storage is required to keep equipment from deteriorating. The Army determined that POMCUS equipment can best be stored in controlled-humidity warehouses. The Army has indicated that all weather-sensitive items (all equipment other than trailers) except outsized equipment benefit from such storage. The POMCUS concept assumes that all the appropriate equipment should be stored in a combat-ready condition for several years. Past warehouse deficiencies have been corrected in many cases, and storage has greatly improved.

--POMCUS units, once they mobilize, must draw their equipment and move forward to the battle area as quickly as possible. How long it would take to issue this equipment under emergency conditions is questionable because deployment and issue procedures have never been tested.

--To provide the required visibility over POMCUS stocks for inventories of authorized and on-hand equipment, readiness reporting, and maintenance and manpower management purposes, better data collection is necessary. Without required information and realistic data, the true ready condition of POMCUS assets is difficult to assess.

FUTURE DEVELOPMENTS

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As a way of improving U.S. forces, the President has proposed to expand the use of prepositioned equipment in Europe by several Army divisions. This additional equipment would tremendously increase the size of the POMCUS program. The equipment, estimated to cost between $4 and $6 billion, if purchased new, is supposed to be in place by the end of 1982 in the northern region

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We did not extensively review Army plans for increasing the amount of prepositioned equipment in Europe. This will be covered in a future review. However, while assessing the current status of the program, we noted certain factors affecting the speed with which the United States can increase the amount of prepositioned equipment in Europe and the priority the United States should give to such a program. One factor is the need to reasonably assure, through exercises, that the United States can mobilize and deploy the equivalent of about seven Army divisions in Europe with short warning and to

have these forces ready for combat under currently perceived threat conditions.

Realism in testing POMCUS concept

According to the Defense Department, the POMCUS concept provides the U.S. Army with the capability to quickly reinforce Europe during a contingency. The United States annually practices deployment of U.S. dual-based forces (REFORGER) as part of the NATO exercises in Europe. These exercises, though, have never been carried out under simulated contingency conditions of limited warning and required speed.

Most military strategists maintain that, to be effective under the POMCUS concept, deploying forces must receive sufficient warning and deploy rapidly. They believe that, otherwise, the POMCUS concept loses credibility because equipment in the warehouses could be destroyed during the early stages of the conflict before troops arrive in Europe and disperse with the equipment to the battle area. U.S.-based forces and their equipment are required in Europe at the outbreak of hostilities for NATO to meet the perceived Warsaw Pact threat.

Units in the continental United States that have participated in the REFORGER exercise have had considerable advance warning before deploying, and CEGE has had enough time to specifically prepare the equipment for the exercise. Also, under contingency conditions, the U.S. Army had planned for [deleted] of warning before the outbreak of hostilities.

Now, Army planners believe they will have considerably less warning time--possibly [deleted] or less--and are using the REFORGER exercise to test the POMCUS concept under more stringent deployment conditions. However, U.S.-based units and CEGE still receive much more advanced warning about the exercise than would be expected under normal NATO alert procedures.

Considering the size, cost, and risk involved in the POMCUS concept, we believe the time is right for a more realistic deployment test. As a start, a small test of deployment under contingency conditions could and should be made, within the larger REFORGER exercise, to provide planners with some lessons about an actual contingency deployment.

The Defense Department included such a test in its REFORGER 79 redeployment exercise. It should continue these tests and develop plans for overcoming any identified deployment problems.

RECOMMENDATION

We recommend that the Secretary of Defense direct the Secretary of the Army to establish a more realistic test under simulated contingency conditions of POMCUS unit deployment to provide greater assurance that the program is or can be a viable approach to offsetting the perceived short-warning threat posed by the Warsaw Pact.

CHAPTER 3

ON-HAND STATUS OF PREPOSITIONED EQUIPMENT, REPAIR PARTS, AND AMMUNITION

Although POMCUS equipment shortages have been reduced since our last report, significant shortages remain. Recent Army efforts have increased equipment on hand for high-priority POMCUS units--REFORGER and 2 + 10. deleted The Army has also announced plans to move equipment into MRLOGAEUR and medical projects to make these units combat ready deleted In June 1978 only about deleted percent of the MRLOGAEUR and medical units had enough equipment to be rated combat ready.

Repair parts to support POMCUS units remain a significant problem as little improvement has been made since our last report. The most serious deficiency is the failure to update authorizations to reflect the type of equipment stored and the densities of the needed items. No projected date has been set for correcting the problem.

Theaterwide conventional ammunition stocks, which support POMCUS unit requirements, still have significant shortages primarily because of the critical shortage of storage facilities in Europe. For the storage facilities, a deleted date is projected.

COMBAT EQUIPMENT SHORTAGES HAVE BEEN REDUCED, BUT SIGNIFICANT SHORTAGES REMAIN

At the time of our last review, the POMCUS program was short nearly half of its authorized equipment. In December 1975 POMCUS had equipment shortages totaling $373.9 million.

Project	Authorized	On hand	Shortage	Percent of authorized on hand
	(millions)			
REFORGER	$325.9	$204.9	$121.0	63
2 + 10	360.3	177.4	182.9	49
MRLOGAEUR	76.5	20.4	56.1	27
Medical	15.7	1.8	13.9	11
Total	$778.4	$404.5	$373.9	52

Since our July 1976 report, the Army has taken major actions to increase the on-hand quantities of POMCUS equipment. As shown below, POMCUS shortages as of June 1978 were only deleted 1/

Project	Authorized	On hand	Shortage	Percent of authorized on hand
	(millions)			
REFORGER 2 + 10 MRLOGAEUR Medical Total	deleted			

At the time of the Secretary's August 1977 order to place increased emphasis on POMCUS, only deleted percent of the REFORGER and 2 + 10 units had enough equipment on hand to be rated combat ready (C-1). 2/ To meet the Secretary's goal, the Army concluded that it would need to fill at least

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1/Values reflect cost increases and changes in authorized quantities since our last report.

2/ deleted

deleted By June 30, 1978, the Army had succeeded in filling deleted however, on a unit basis, deleted

The Army is continuing to emphasize filling POMCUS. It hopes to fill all POMCUS projects to deleted and to fill all POMCUS sets to deleted

Remaining shortages

Although the improvement in the readiness of these units is noteworthy, a number of shortages remain to be filled deleted Appendix II contains a list of the shortage lines, including such equipment as deleted USAREUR does not expect all the shortages to be filled in the near future. For example, they do not expect deleted to be available until deleted

Sources of supply to fill equipment shortages

Equipment brought into REFORGER and 2 + 10 units between March and June 1978 (the time period of this review) came from a number of sources in Europe and in the United States. The following list shows the source of supply for equipment received during this period.

Continental United States

--National Inventory Control Points (includes both new and rebuilt equipment).

--Withdrawals from troop units, including the Army Reserves and National Guard.

European theater

--Depot stocks.

--Redistribution within POMCUS projects.

--Theater war reserves. 1/

Transfers from theater war reserve stocks to POMCUS

POMCUS gives the Army the ability to equip deploying forces, and theater war reserves give it the ability to sustain deployed forces in combat. Although POMCUS requirements have a higher distribution priority than theater war reserve stocks, items for which shortages existed in POMCUS were on hand in these reserves. The Army approved the transfer of these stocks to meet the higher POMCUS requirements. The following table summarizes the extent of such transfers from July 1976 through April 1978.

1/Prepositioned items considered mission essential to support U.S. forces in combat until resupply from the United States can be established.

Commodity/equipment type	Number of lines	Number of items
deleted		

deleted

REPAIR PARTS MANAGEMENT NEEDS IMPROVEMENT

Two levels of repair parts stockage are authorized to support POMCUS units: (1) prescribed load lists, which support the needs of a unit at the organizational level, and (2) authorized stockage lists, which support needs at higher maintenance levels.

At the time of our earlier reviews, repair parts stocks were not based on current authorizations and included outdated, obsolete, or unneeded items. We recommended that the Secretary of the Army develop a system for computing and updating repair parts stock lists. In December 1976 the Assistant Secretary of the Army (Installations and Logistics) advised us that action was underway to match repair parts needs with equipment authorizations. This program was to be completed by March 1977.

Our current work indicates that very little improvement has been made in the type and densities of repair parts authorized and stocked to support POMCUS equipment. Our discussions with CEGE supply representatives revealed that, except for up-to-date REFORGER lists:

--CEGE officials do not know precisely how many prescribed load lists they are supposed to support.

--Some existing lists are no longer authorized, and others have not been updated since they were received a number of years ago.

--CEGE does not have updated authorizations for nondivisional authorized stockage/prescribed load list stocks; for example, a recent comparison of CEGE's and the U.S.-based unit's lists of about 1,300 lines authorized for an engineer battalion's authorized stockage list showed a match of only 70 lines.

Reports for the 1977 REFORGER exercise indicate that repair parts were issued at peacetime instead of wartime stock levels. The following examples highlight unsatisfactory repair parts support to POMCUS units during REFORGER exercises. The reports indicate that repair parts stocks:

--Did not provide the type and quantity of repair parts required and thus were used very little.

--Were inadequate, mismatched, and not issued in sufficient quantities to cover requirements for fast-moving, high-density items.

--Were out of line with end item authorizations and on-hand densities of equipment. In one case about 45 lines of a prescribed load list were stocked for one type of ambulance that had been replaced by another model. Stock lists were never adjusted, and the unit was sent to the field without parts to repair its current 36 ambulances.

The ultimate effect of these problems is that much more time is required to repair the equipment because parts were not available in the quantities needed. CEGE's acting commander said action is underway to improve the method of accounting for repair part authorizations to eliminate obsolete items from files and add new items that will be ordered to support requirements.

CONVENTIONAL AMMUNITION THEATER STORAGE CAPACITY IS INADEQUATE

Since our last report, requirements for prepositioned ammunition in Europe have increased deleted This adjustment was based primarily on wartime experience obtained during the 1973 Middle East War.

USAREUR is authorized to preposition ammunition for use in training and as unit basic load, operating stocks, and war reserves. Over 90 percent of the authorized quantities are earmarked as war reserve stocks. The following chart depicts the status of theater ammunition stocks as of March 1978.

Authorized	On hand	Shortage	Shortage as a percent of authorized
deleted			

The authorized quantities may increase since troops are expected to arrive in Europe earlier than previously planned. This could result in further shortages because more troops will be using ammunition for a longer period. Since POMCUS ammunition requirements are part of total European theater requirements, POMCUS units would be affected by any shortage. These shortages are attributed primarily to insufficient ammunition in storage in Europe.

Storage capacity shortfall

The shortages result primarily from insufficient theater storage capacity. deleted Real estate must be acquired for some of the storage sites, and funding is expected to come from both NATO infrastructure and U.S. military construction funds.

As of February 1978 the following ammunition shortages were either not on requisition or on only limited requisition due to a lack of theater storage space in Europe.

Type of ammunition	Rounds authorized	Rounds short	Percentage short
8-inch howitzer:			
Prop Chg M2			
Proj HE			
Proj ICM			
155mm howitzer:			
Proj Chg M3			
Prop Chg M4			
Prop Chg M119			
Proj HE			
M16 rifle:			
5.56mm tracer			
5.56mm ball			
Cal .50 machine gun:			
AP/API-T linked			

deleted

Army inventory shortages

As of February 1978 the following types of ammunition deleted

Type of ammunition	Rounds authorized	Rounds short	Percentage short

deleted

CONCLUSIONS

Having enough combat-ready equipment stored in Europe to outfit the units scheduled to deploy in an emergency is the objective of the POMCUS concept. Further, enough repair parts must be available to support the operation of the equipment, and enough ammunition must be available to enable units to effectively carry out their mission.

The Army has made progress in its efforts to completely reconstitute current POMCUS stocks, and it should continue work in this area. However, it has done little to improve the status of repair parts stocks needed to support POMCUS units' equipment during wartime. This problem has existed in some form since 1971. We believe the Army should establish a deadline for upgrading repair parts stocks and devote the resources necessary to accomplish the task, as it is doing to reduce equipment shortages. Further, deleted POMCUS units would be affected by these shortages. Since action is planned to reduce the shortages, we are not recommending any further action at this time.

RECOMMENDATION

We recommend that the Secretary of Defense direct the Secretary of the Army to identify repair parts needs and obtain enough of the proper stocks to support POMCUS units' wartime needs.

CHAPTER 4

CONDITION OF AVAILABLE EQUIPMENT

During our last review, we found that, except for badly deteriorated vehicles in open storage, the overall condition of POMCUS equipment had improved. Our current review indicated that the Army has continued to improve the condition of POMCUS equipment. However, the equipment still has not been painted with camouflage patterns to match the equipment used by active units in Europe.

EQUIPMENT SERVICEABILITY CRITERIA

The POMCUS concept establishes the need for storing equipment in combat-ready condition for issue within a minimum reaction time. USAREUR considers to be combat ready (1) all POMCUS stocks in storage and (2) those POMCUS stocks in maintenance that meet the following criteria:

1. Equipment which is free from deficiencies that would limit the reliable performance of its primary mission for [deleted] in operation.

2. Equipment which requires only organizational level maintenance skills and repair parts authorized for stockage at the organizational level to make it ready for issue. The organizational level staff-hours to do repairs cannot exceed prescribed limits. For example, 6 hours are authorized for tanks while 5 hours are allowed for repair of artillery weapons.

THE CYCLIC MAINTENANCE PROGRAM IS ON SCHEDULE

USAREUR established a cyclic maintenance program in March 1973 to insure that stored equipment was periodically removed from storage, inspected, functionally tested, repaired as necessary, inventoried, preserved, and placed

back in storage. 1/ At the time of our last review, no annual maintenance program had been completed since the cyclic maintenance program was established. Failure to complete the cyclic maintenance programs was attributable in part to additional maintenance workloads resulting from approved special projects, such as [deleted] and (2) preparation of equipment for issue to Brigade 75.

At the time of our last report, maintenance cycles of 5 years for equipment stored in controlled-humidity warehouses and 2-1/2 years for other equipment had been established. Since that time the cycles have arbitrarily been changed to 4 and 2 years, respectively, to reduce the large amount of equipment that was in poor condition at the end of the longer cycles. As POMCUS equipment is maintained more frequently, the overall condition of POMCUS stocks should improve.

The results of CEGE's fiscal year 1977 cyclic maintenance program are shown in the following table.

	Number of pieces programed	Number of pieces completed	Percent completed	Carryover
Maintenance	21,320	19,603	92	1,717
Preservation	21,320	17,298	81	4,022

According to CEGE officials, the primary reasons for carryover into the fiscal year 1978 cyclic maintenance program relate to equipment (1) awaiting parts for repairs, (2) awaiting inspection, or (3) being at higher level maintenance for repair. CEGE officials believe that they do not have enough personnel authorized to adequately carry out the equipment preservation task before storing the equipment.

1/A cyclic maintenance program consists of two distinct functions--equipment maintenance and equipment preservation, in that order. In later discussions, the terms "cyclic maintenance" and "CEGE maintenance personnel" generally pertain to both functions. Reference to either function by itself will be clearly labeled.

During the first 8 months of CEGE's fiscal year 1978 cyclic maintenance program, maintenance was somewhat ahead of schedule whereas preservation work continued to lag. CEGE's overall goal was to complete 70 percent of the equipment in maintenance and preservation by May 15, 1978.

	Number of pieces programed	Actual percent completed (note a)
Maintenance	27,715	71
Preservation	27,490	66

a/As of May 15, 1978.

CEGE officials stated that, assuming the size and frequency of REFORGER exercises do not change, the workload in cyclic maintenance during the fiscal year 1978 program represents about the same workload that would be in an average annual program [deleted] Based on the progress to date in meeting fiscal year 1978 goals, there should be little carryover into next year's program.

Reasons for improvement in cyclic maintenance

Discussed below are a number of changes related to CEGE's facilities, personnel, equipment, and maintenance requirements made since our last review. In our opinion, these changes have had a positive impact on CEGE's cyclic maintenance workload and have led to a general improvement in the condition of POMCUS equipment.

No major maintenance manpower diversions

The following table identifies some of the special projects that in the past diverted CEGE maintenance personnel to tasks other than the cyclic maintenance program. Such diversions contributed to CEGE's inability to keep up with cyclic maintenance requirements. Since fiscal year 1976 no major diversions have occurred.

Major diversion	Fiscal year	Number of maintenance man-hours diverted	Diverted man-hours as a percent of total maintenance man-hours for the year
Middle East shipments	1975	a/33,000	22
Brigade 75 issue	1975	(b)	-
Brigade 76 issue	1976	74,000	24

a/This figure represents only the man-hours diverted during fiscal year 1975. deleted however, CEGE did not have man-hour data for the earlier shipments.

b/CEGE could not identify the man-hours associated with the Brigade 75 issue during fiscal year 1975.

More and better storage facilities

At the time of our last review, POMCUS equipment was stored in 57 controlled-humidity warehouses in West Germany. Today, there are 79 controlled-humidity facilities in Germany and 4 in Belgium. In addition, CEGE is also using 47 general-purpose warehouses to store POMCUS equipment. The additional available warehouse space has given CEGE the opportunity to store more equipment inside, thereby better protecting the equipment and reducing the need for maintenance.

The additional inside storage space has also reduced CEGE's maintenance workload. With the receipt in recent months of new equipment into REFORGER and 2 + 10 projects and the projected receipt of deleted CEGE estimates it will be short about 15 percent in POMCUS requirements for controlled-humidity storage space. USAREUR and CEGE estimated this means that eight additional controlled-humidity warehouses would be required to accommodate POMCUS equipment in Germany at deleted percent of authorization. (See ch. 5.)

Less maintenance time spent preparing REFORGER equipment for issue

CEGE personnel responsible for programing the cyclic maintenance workload for fiscal year 1979 are allowing only 4 to 6 weeks of maintenance personnel time for assisting the REFORGER units to prepare and withdraw equipment for the exercise. This includes such things as preparing water trailers, load-testing wreckers, and preparing some of the large weapons. In the past, up to 3 months of cyclic maintenance time was diverted to allow CEGE personnel to prepare equipment for issue, including any needed maintenance.

Less maintenance time spent repairing REFORGER equipment after the exercise

After the REFORGER exercise, participating units are directed to do needed repair work in order to return all equipment to the CEGE storage site in as close to ready-for-issue condition as possible. If units return vehicles in ready-for-issue condition, CEGE's future cyclic maintenance workload will be reduced. CEGE officials cite the maintenance work done by REFORGER 1977 units as a major reason why the fiscal year 1978 cyclic maintenance program is ahead of schedule. For example, one REFORGER unit was cited for exceptional performance because it installed over 1,200 repair parts within a 5-day period. Another unit was credited with returning equipment in as good or better condition than when issued.

Less maintenance time spent on newer equipment coming into POMCUS

CEGE officials at the headquarters, battalion, and storage site levels believe that, with only minor exceptions, the large amount of equipment brought into POMCUS during the last year was received in good condition. This equipment included both new stocks from production and rebuilt equipment received from Army depots. Because this equipment is relatively new, it requires less cyclic maintenance than much of the older equipment in POMCUS stocks.

Increased productivity as a result of civilianizing many maintenance positions

As detailed in chapter 6, CEGE officials believe that civilianization of much of CEGE's maintenance work force has increased overall productivity. With a largely civilian work force, CEGE officials concluded that fewer hours are lost to military nonmaintenance functions. Our analysis shows that local national employees have an estimated 200 hours more time available to perform maintenance each year than their military equivalents.

Equipment upgrade and corrosion control programs

In our prior review we recommended that the Secretary of the Army provide USAREUR with enough resources--personnel and funds--to complete the equipment upgrade and corrosion control programs. Since that time, CEGE has integrated into its cyclic maintenance program the identification of equipment requiring upgrade or corrosion work. These efforts have apparently been successful in correcting equipment problems related to upgrade and corrosion control.

Upgrade program

During 1974 and 1975, CEGE identified more than 1,200 pieces of equipment needing excessive parts or man-hours to return them to an operational status. A command material upgrade program was initiated to repair, where possible, equipment in this category. As of February 1978, only 47 items were awaiting upgrade, and CEGE expected this work to be completed by August 1978.

Corrosion control program

Storage site quality control personnel inspect equipment scheduled to undergo cyclic maintenance both before and after maintenance and preservation steps are applied, and they are responsible for identifying equipment requiring corrosion treatment. Equipment with advanced corrosion is sent to a higher level maintenance unit. During 1976 and 1977, CEGE identified about 2,500 items (trailers, wheeled vehicles, and other prime movers) needing major rust repair work, some of which were classified as being beyond economical repair. According to a CEGE spokesman, all but

50 to 100 of the 2,500 items have been repaired or replaced. Officials at the three sites we visited said that, to their knowledge, no equipment was at a higher level maintenance unit for correction of corrosion problems.

Based on information obtained from CEGE officials and on our inspection of equipment at the three sites we visited, rust is not being allowed to reach advanced stages and corrosion of POMCUS equipment is no longer the problem it was at the time of our last review. Specifically, we reached this conclusion only after closely examining 82 pieces of equipment as a part of our locator system accuracy test (see ch. 7) and observing hundreds of items during our walk-through of controlled-humidity warehouses and open storage areas at storage sites.

EQUIPMENT CAMOUFLAGE PROGRAM

At the time of our last review, none of the POMCUS equipment was camouflaged. USAREUR officials said painting would probably begin in fiscal year 1977 and require 4 years to complete. As of June 1978, POMCUS equipment had still not been camouflaged and only preliminary budget planning had taken place. The estimated cost of camouflaging POMCUS equipment using contract personnel is about $7.1 million over a 4-year period.

In USAREUR's opinion, an absence of camouflage paint not only will decrease the battlefield survivability of POMCUS units, but also may actually help the enemy identify the movement of POMCUS units in a contingency. This would occur because the forward-deployed U.S. units in Europe have already completed camouflage painting of their equipment.

USAREUR, aware of the importance of camouflage, has even considered delaying CEGE's cyclic maintenance program in order to accomplish camouflage painting. However, funds requested for fiscal year 1979 to camouflage the equipment were not approved. USAREUR will again request funds for this project for fiscal years 1980-83.

CONCLUSIONS

Regular periodic maintenance is necessary to insure that POMCUS equipment will be combat ready in an emergency as well as to protect the equipment.

Since our last report, the Army has improved the condition of POMCUS equipment. This improvement resulted from changes in CEGE's maintenance policies and programs, increased availability and productivity of maintenance personnel, more and better storage facilities, and procurement of newer equipment requiring less maintenance. Each factor enhanced CEGE's ability to keep up with cyclic maintenance.

RECOMMENDATION

Because of past problems in keeping POMCUS equipment in ready condition, we recommend that the Secretary of Defense direct the Secretary of the Army to closely monitor the cyclic maintenance program to make sure that it remains on schedule.

CHAPTER 5

STORAGE AND MAINTENANCE FACILITIES

CEGE's success in carrying out its mission to store and maintain combat-ready equipment depends partly on the availability and adequacy of storage and maintenance facilities. In our last review we found that, because CEGE had too few controlled-humidity warehouses, some of its equipment had to be stored in open storage lots. Also, we reported that the maintenance of controlled-humidity warehouses was largely unsatisfactory and that CEGE's equipment maintenance facilities were generally substandard.

Currently, CEGE's controlled-humidity warehouse space may still be insufficient, and equipment maintenance facilities are still inadequate; but some actions have been taken to plan or finance improvements.

CONDITION AND USE OF CONTROLLED-HUMIDITY WAREHOUSES

CEGE currently has 79 controlled-humidity warehouses in use in Germany. USAREUR headquarters and CEGE officials estimated that eight additional warehouses are required to provide controlled-humidity storage for all equipment (except trailers, outsized engineer equipment, and MRLOGAEUR equipment) expected to be received in Germany when POMCUS reconstitution is completed. No actions had been taken to get approval for these warehouses. Currently, all existing POMCUS equipment, except that mentioned above, is stored in controlled-humidity or general-purpose warehouses.

MRLOGAEUR equipment is stored at three locations, two in Germany and one in Belgium. The sites in Germany are temporary, and some of the expensive new equipment is stored outside, because the Army plans to eventually store all MRLOGAEUR equipment [deleted] Three controlled-humidity warehouses are planned in Belgium for this equipment.

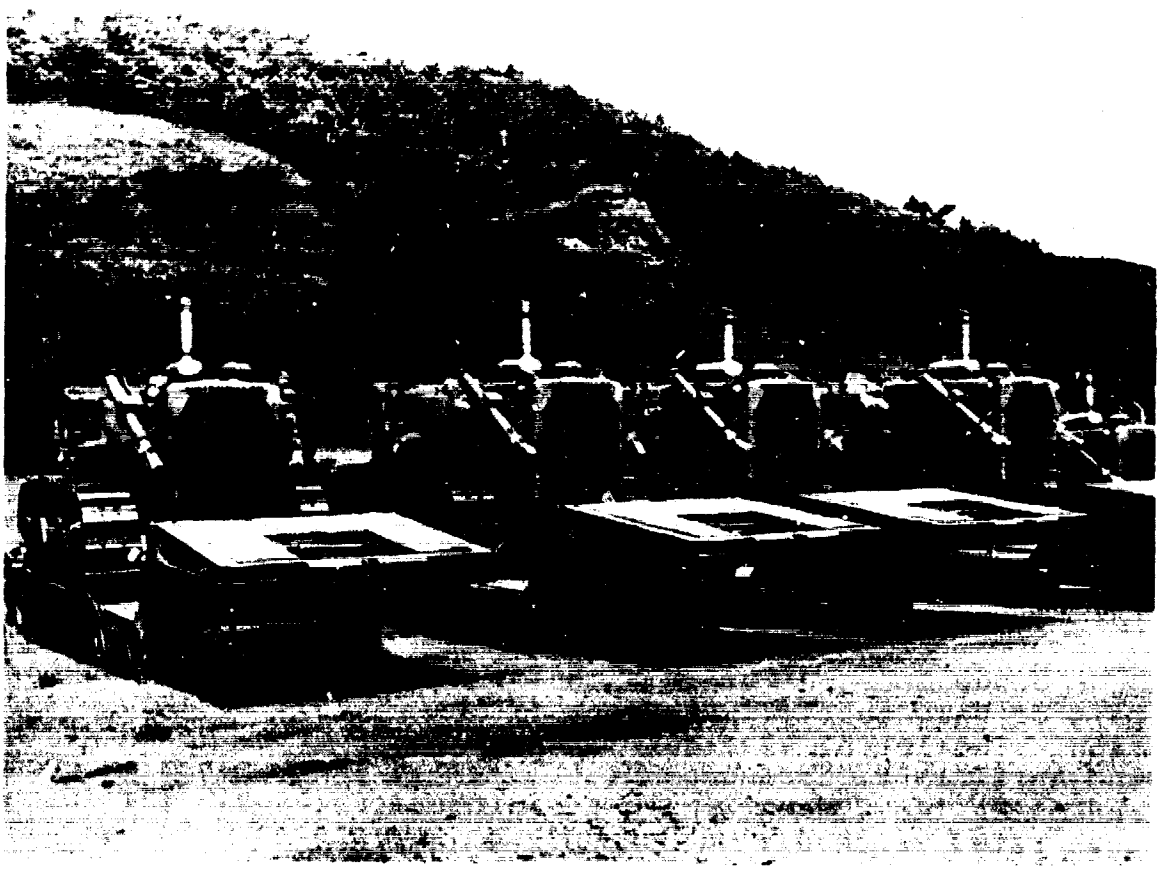
Since the controlled-humidity warehouses in Germany are part of NATO infrastructure, they are subject to NATO inspection. The latest available inspection reports, dated March and April 1978, include 6 of CEGE's 7 storage sites in Germany and 65 of the 79 controlled-humidity warehouses. The inspectors rated warehouse maintenance as satisfactory to excellent, a significant improvement over conditions at the time of our

last review. They report, however, that CEGE is still having problems keeping humidity in some warehouses within acceptable limits.

During our site visits to three storage units, we inspected nine controlled-humidity warehouses and found that four had humidity readings outside tolerable limits. Overall, however, the warehouses were in good condition.

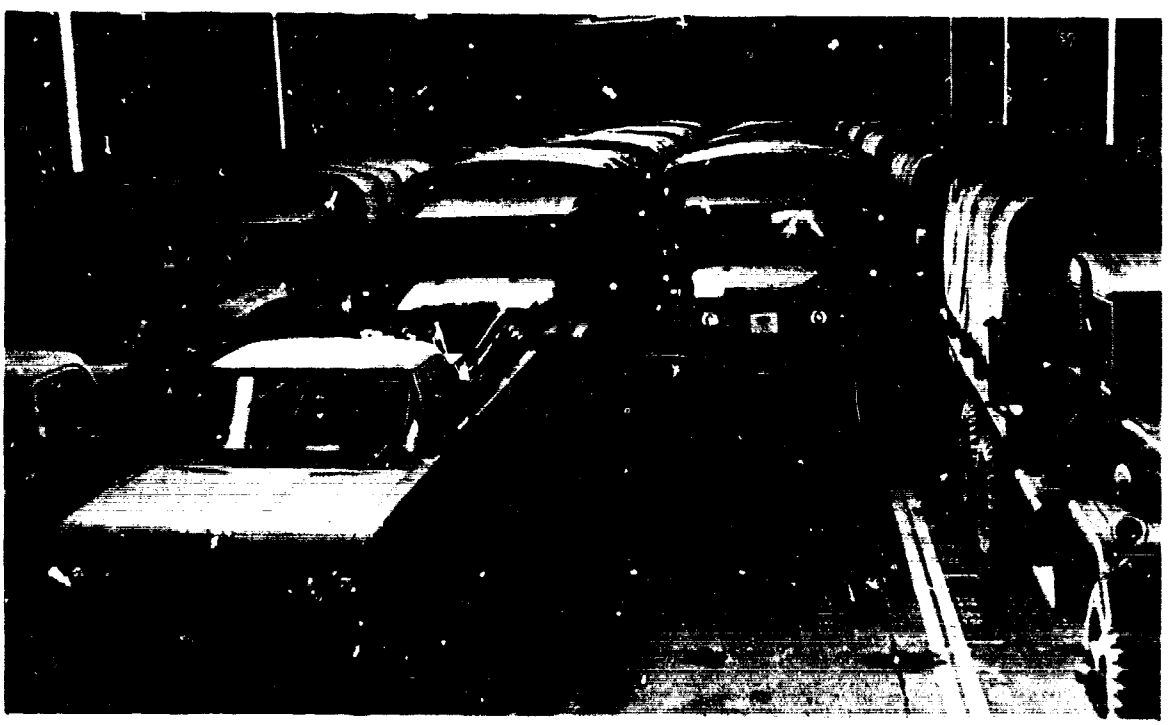
Also, all space in the controlled-humidity warehouses was being fully used. No equipment was stored outside which should have been stored in these facilities. At one site, a controlled-humidity warehouse was being used to store nonmechanical equipment. However, all equipment requiring controlled-humidity storage was already in such storage.

The following photographs show equipment stored inside and outside, and the types of storage facilities that accommodate the equipment.

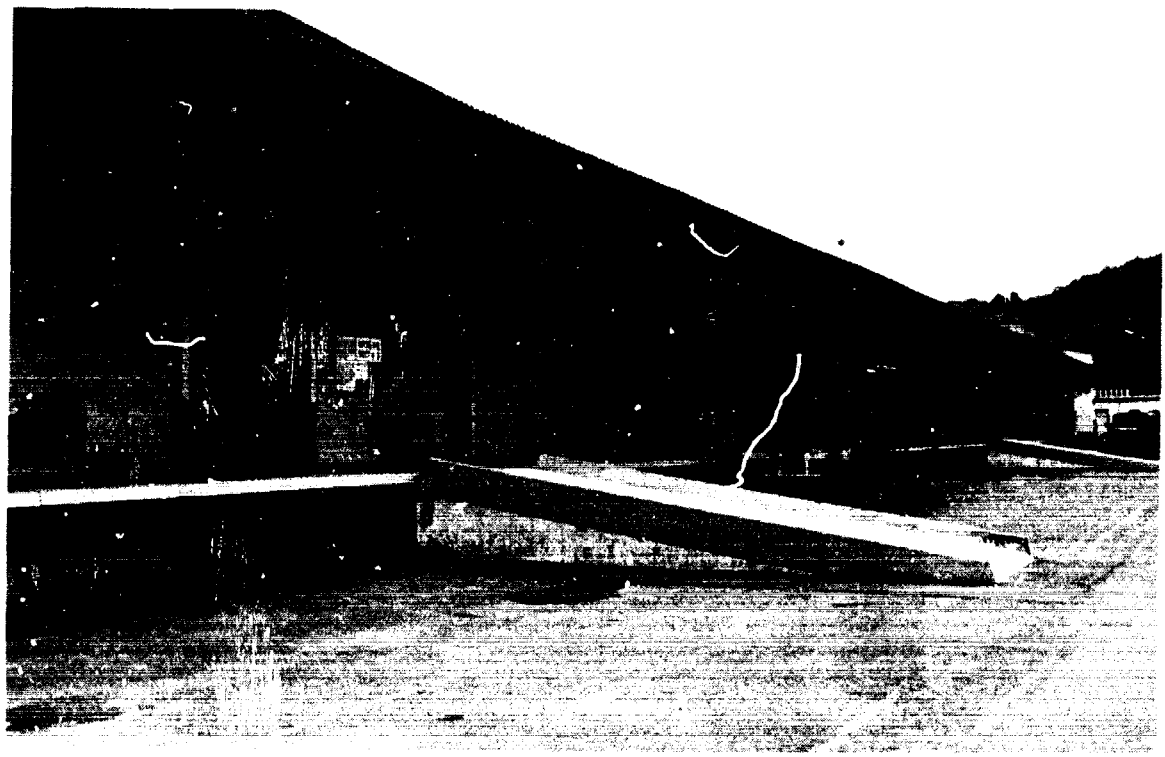


MRLOGAEUR EQUIPMENT STORED OUTSIDE IN GERMANY

M-60 TANKS STORED IN CONTROLLED-HUMIDITY WAREHOUSES



POMCUS EQUIPMENT STORED IN CONVENTIONAL WAREHOUSES



EXTERIOR OF CONVENTIONAL WAREHOUSES AT A CEGE STORAGE SITE

CONTROLLED-HUMIDITY WAREHOUSES AT A CEGE STORAGE SITE

MAINTENANCE FACILITY IMPROVEMENTS ARE PLANNED

During 1975 CEGE completed a survey of its facility needs and estimated that about $43 million would be required to bring CEGE maintenance facilities in Germany up to Army standards. USAREUR sent a facilities requirements list to the Department of the Army in June 1976. It included major CEGE needs, such as

--armament maintenance and storage facilities,

--vehicle maintenance and preservation facilities,

--shipping and receiving areas, and

--wash and grease racks.

Headquarters, USAREUR, requested the Department of the Army to provide about $40 million in the fiscal year 1978 military construction budget to construct eight new maintenance facilities. The Congress approved $33.6 million in military construction funding but directed the Department of the Army to first seek NATO direct funding for these facilities. CEGE requirements have been passed through channels to be considered for NATO funding in 1978.

CONCLUSIONS

CEGE's success at carrying out its mission to store and maintain combat-ready equipmen depends partly on the availability and adequacy of storage and maintenance facilities. Presently, some equipment maintenance facilities are inadequate, but the Army has acted to plan or finance improvements. Therefore, we are not making any recommendations about such facilities at this time. However, we believe USAREUR should seek temporary means to cover the MRLOGAEUR equipment stored outside in Germany.

RECOMMENDATION

We recommend that the Secretary of Defense instruct the Secretary of the Army to provide, at least temporarily, protection for MRLOGAEUR equipment currently stored outside in Germany.

CHAPTER 6

POMCUS SUPPORT PERSONNEL

CEGE has no significant personnel shortages and appears to be properly staffed to adequately perform its equipment maintenance mission; however, it may not have enough personnel to properly perform the prestorage equipment preservation function.

As of June 1978, CEGE had 2,309 personnel authorized and 2,248 assigned, leaving a shortage of 61. The following table illustrates the June 1978 personnel status.

	Military	Civilian	Total
Authorized	523	1,786	2,309
Assigned	476	1,772	2,248
Shortage	47	14	61

CIVILIANIZATION OF SUPPORT PERSONNEL

At the time of our last report, Headquarters, USAREUR, had directed CEGE to substantially civilianize its work force by June 30, 1976. This action occurred as a part of the Army's compliance with the "Nunn Amendment" (Public Law 93-365). As shown below a net reduction of 213 personnel occurred in the CEGE work force--military personnel were not replaced on a one-for-one basis with civilian personnel.

Authorization	Military	Civilian	Total
Pre-Nunn Amendment	1,533	931	2,464
Post-Nunn Amendment	536	1,715	2,251
Reduction (-) or gain	-997	784	-213

Although some U.S. military personnel continue to maintain POMCUS equipment, CEGE's maintenance work force is made up primarily of non-U.S. civilians. The non-U.S. civilian work force consists of two groups of employees--local

national and labor service. 1/ In June 1978 local nationals made up about 77 percent of CEGE's civilian maintenance work force.

CEGE's work force was a good candidate for civilianization since its local national maintenance work force does not have a wartime mission after the POMCUS equipment is issued to deploying U.S.-based forces. The civilianization took place primarily at the storage sites, generally involving personnel that store, maintain, and preserve the equipment.

According to CEGE officials, civilianization of these positions has increased productivity by

--reducing the amount of time CEGE personnel spend away from their jobs on military requirements,

--stabilizing the work force by reducing turnover caused by military personnel rotation, and

--allowing faster filling of position vacancies.

ADEQUACY OF CEGE's WORK FORCE

CEGE officials believe the work force, in terms of "wrenchturners" performing equipment maintenance tasks, is sufficient to handle the maintenance mission when CEGE has 100 percent of its authorized equipment. However, they believe they do not have enough personnel authorized to adequately carry out the equipment preservation tasks before the equipment is stored. CEGE's opinions are supportable. For example, statistics show that 92 percent of the pieces of equipment scheduled in the 1977 cyclic maintenance program were completed in maintenance, while only 81 percent of the pieces requiring preservation were completed.

For fiscal year 1978 CEGE's overall goal was to complete 70 percent of the equipment in maintenance and preservation by May 15. As of this date, CEGE had actually

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1/Labor service employees are organized as mobile units, which are assigned to and perform support missions for parent U.S. military units. These employees have a wartime role. Local national employees are all other non-U.S. employees.

completed 71 percent of the 27,715 pieces scheduled for maintenance, but only 66 percent of the 27,490 pieces scheduled for preservation.

As discussed in chapter 4, CEGE officials believe that the 1978 cyclic maintenance program workload is about the same as the average annual program workload will be when the currently authorized stocks are filled. Because of this, and the fact that overall they are ahead of the maintenance schedule after the first 8 months of the fiscal year 1978 program, they believe their work force is sufficient to handle the future cyclic maintenance program without accumulating a serious backlog.

Weakness in CEGE maintenance data information system

To substantiate CEGE's opinion on the adequacy of the work force, we computed the number of personnel CEGE would need in its shops to adequately handle the cyclic maintenance program with POMCUS at 100 percent of authorization. CEGE's data for making such an analysis is questionable.

We used four basic data elements to compute the required work force:

1. Number and type of authorized pieces of equipment.

2. Average hours required per piece of equipment.

3. Percent of total authorized equipment going through cyclic maintenance annually.

4. Average productive man-hours per direct labor employee.

We have confidence only in the first element--number of authorized pieces of equipment--because CEGE has a listing of all items and their densities authorized for prepositioning.

The second data element--average man-hours per piece of equipment--may not be reliable for projecting future staff requirements because the averages used, which were based on the fiscal year 1977 cyclic maintenance program, may be overstated.

Average man-hours per piece of equipment may decrease because greater productivity is achieved through civilianization, new equipment is received which requires less maintenance, and more maintenance is being done before the equipment is returned after REFORGER exercises. As a result, more equipment is being processed through the 1978 maintenance program than through the 1977 program, with the same size work force.

The third item--percentage of total authorized equipment that would go through cyclic maintenance annually--may not be reliable because CEGE has not been able to state precisely how much equipment is stored inside and outside. As mentioned earlier in the report, the maintenance cycle for items stored inside is different from the cycle for items stored outside.

The fourth item--average productive man-hours per direct labor employee--is not supportable because CEGE's maintenance personnel data information system does not account for all of the employees' direct labor time.

We attempted to refine the data on our own and with CEGE officials, but were unsuccessful. Since an error of even 1 percent in the amount of equipment in each annual program or in the percentage of each worker's workday spent on direct labor greatly affects the number of personnel required (up to 15 in some cases), the results of our analysis would not be useful.

We also reviewed the approaches used by the manpower survey teams to make surveys at CEGE during 1976 and 1977. The survey teams used the same kinds of data we attempted to work with at CEGE, such as unreliable man-hour averages and CEGE estimates for certain tasks' time requirements. Although today's authorized staffing level is about the same as the manpower survey team's final recommendations, we have no confidence in the survey team's approach to determine CEGE's staffing needs.

CEGE officials agreed that their maintenance data information system is not adequate to determine work force requirements and stated that actions are underway to define and provide maintenance management data that is reliable for these purposes.

Our last report noted that the Department of the Army concluded in a June 13, 1975, survey report on POMCUS that CEGE efforts to improve maintenance management are inhibited by the lack of a management information system. The Army recommended that USAREUR emphasize the ongoing effort to develop a management information system for POMCUS.

CONCLUSIONS

CEGE appears to be properly staffed to adequately carry out its equipment maintenance mission, but CEGE officials believe they may not have enough personnel to do the pre-storage equipment preservation work. Currently CEGE is not reporting any significant personnel shortages. CEGE needs sufficient maintenance data to accurately accumulate maintenance man-hour information, develop work standards, and forecast work force requirements.

RECOMMENDATION

We recommend that the Secretary of Defense direct the Secretary of the Army to develop sufficient maintenance data for accurate forecasting of work force requirements. This data should be coordinated with other available data to provide more complete information for managing POMCUS assets.

CHAPTER 7

INVENTORY ACCOUNTABILITY AND CONTROL

Our prior review indicated that accountability and control of POMCUS equipment had improved but that improvements were still needed in the (1) accountability for components of sets and kits and (2) equipment locator system.

CEGE is now making more frequent inventories of components, but accountability of components and other items and poor inventory record information are still problems. On the other hand, the equipment locator system at the three sites we visited had improved significantly. Problems and improvements in POMCUS equipment inventory accountability and control are discussed below.

PHYSICAL INVENTORIES ARE BEING MADE

The Division Logistics System accounting system requires that the CEGE property book officer annually inventory each major end item. Inventories of major end items should be made monthly on about 10 percent of all POMCUS units to insure that all of the units are inventoried each year. In January 1977, CEGE also initiated a one-time inventory program for components of all POMCUS equipment. After completing this one-time program, CEGE directed that component inventories be made on a unit basis as a part of the regular cyclic maintenance program. Storage sites also inventory both major end items and components for each participating REFORGER unit's equipment before and after the exercise.

We examined inventory reports submitted to CEGE by the POMCUS storage sites between October 1976 and May 1978. These reports indicate that storage sites are routinely inventorying both major end items and components. Reports of physical inventories are submitted only when inventories disclose gains or losses. Thus, we could not confirm that inventories had been done every month in all cases. The results of the most recent physical inventories of POMCUS equipment are discussed below.

Inventory adjustments

During fiscal year 1977, a net increase of $136,725 occurred in end items and component property accounts:

Adjustments for gains	$543,657
Adjustments for losses	406,932
Net gains	$136,725

After 2 years of making adjustments almost entirely for inventory losses, CEGE's fiscal year 1977 program shows gains exceeding losses. CEGE officials believe this indicates that its personnel are making more thorough inventories than in the past. This trend was also prevalent during the first 8 months of fiscal year 1978, during which reported gains were nearly 13 times greater than losses for the same period.

Inventory gains

Gains were recorded in property accounts when inventories showed that items were on hand but not included in property accounts or when an item was found during an investigation of its loss. Some of the more expensive items found during inventories were trailers, generators, radios, compressors, refrigerators, and 1/4-ton utility trucks. Gains reported for the first 8 months of fiscal year 1978 totaled $187,713.

Inventory losses

Losses were recorded in property accounts for items that were supposed to be on hand but which were not found during inventories. Only one major end item, a 1/4-ton cargo trailer, was reported as a loss during fiscal year 1977. The remaining losses included a number of components categorized as "everyday tools," such as portable saws, drills, sanders, socket sets, torches, vises, and general-purpose tool kits. In 1977 one site reported a loss of over $21,000 in components from tool kits, including the following:

Item	Number of units lost	Unit price	Total reported loss
Portable electric drills	13	$ 64	$ 832
Circular saws	26	383	9,958
Disk sanders	15	85	1,275

CEGE-wide losses reported for the first 8 months of fiscal year 1978 were only $15,332, compared to losses of $406,932 reported during fiscal year 1977.

ACCOUNTABILITY AND CONTROL OF SOME COMPONENTS OF SETS AND KITS ARE STILL A PROBLEM

A problem still exists concerning accountability and control over components of sets and kits that are not individually accountable items. For example, a tool set is an accountable item, and it is recorded in property records. However, the tools in the set are classified as expendable items and, therefore, are not individually recorded in property records. Such items are vulnerable to pilferage.

Reasons for component losses

CEGE's fiscal year 1977 physical inventory reports show that component shortages had been frequently noted during inventories after (1) movements of entire units' equipment from one storage site to another site (restationing) and (2) movements of select pieces of equipment from one storage site to another (cross-leveling). Because shortages of POMCUS equipment in high-priority units have been reduced, the need for future cross-leveling has diminished. Also, the major restationing program is complete, and there are no plans to move entire unit sets from one storage site to another.

Other component shortages were disclosed during inventories before and after the REFORGER exercise. In several cases, loss of components was attributed to using unsecured storage facilities and storing components unsecured on the back of vehicles during the exercise. Both situations increase the potential for pilferage. From our review of inventory adjustment reports, we were unable to determine any major cause of component losses. However, a CEGE storage site official pointed out that, because most components have no serial numbers, accountability over them is difficult.

CEGE's component inventory program

To improve the overall POMCUS program, USAREUR directed CEGE to undertake a 100-percent component inventory of all POMCUS equipment. According to CEGE's commanding officer, past CEGE efforts to complete an effective component inventory were not totally successful. Therefore, CEGE initiated a component inventory program in January 1977, with plans to complete all component inventories by March 1978. Requisitions for shortage components were to be submitted by April 1978 to have all shortages filled by June 30, 1978. CEGE was given funding to meet this deadline.

Component inventories were reportedly made by the individual storage sites between February 1977 and April 1978. CEGE was responsible for monitoring the program's progress. According to a CEGE supply officer, a 100-percent component inventory of all POMCUS equipment was completed in April 1978.

We are not convinced that the inventory program was successful in identifying, requisitioning, and filling all component shortages. CEGE's Directorate of Supply, although responsible for the program, was unable to provide any information on program results. They could not tell us the extent of shortages or excesses disclosed during the inventory or, in the case of shortages, whether needed components had been requisitioned and received. In addition, component inventories were made during a period when POMCUS equipment on hand was considerably less than authorized quantities. In this regard, CEGE was unable to assure us that component inventories were made of the vast quantities of new equipment received during recent months.

Basic issue items

Generally, a basic issue item (BII) supports the mechanical operation of POMCUS equipment. An example of a BII is a vehicle's general-purpose tool kit, including such items as wrenches and a jack.

BII shortages are not being requisitioned

Some BII boxes with known shortages are shipped from CEGE's central packing facility to the storage sites. USAREUR considers a BII box to be complete when packed at 90-percent fill as long as none of the items omitted are critical to the operation or servicing of the equipment the BII is intended to support.

Procedures for inventorying BIIs differ from site to site. At one site when a BII box is first received, supply personnel break the bands and inventory the contents against the packing list. Another site simply receives and stores the BII box without making an inventory. Regardless of the inventory procedures used, no sites are replenishing BII shortages existing at the time the BII is received by the storage site. According to CEGE's deputy commander, CEGE does not consider it cost effective to have sites identify, requisition, receive, and pack items falling within the 10-percent shortage category.

BIIs reported unsatisfactory by some REFORGER units

Problems with BIIs were noted by participating units during REFORGER 77. For example, an inventory of BIIs by the exercising units revealed a number of discrepancies between on-hand quantities listed on the packing list and the items actually on hand. CEGE also reported an instance in which 20 BII boxes for jeeps were found to be empty. These boxes had been banded and affixed with a packing list. The CEGE supply activity representatives responsible for packing BIIs were informed of the numerous discrepancies and of the empty BII boxes but were unable to explain the shortages.

CEGE'S EQUIPMENT LOCATOR SYSTEM HAS IMPROVED

In our last review, upon testing the accuracy of the equipment locator system for seven units at five CEGE storage sites, we found that only 70 percent of the items checked were actually where the locator system indicated they would be. We believed that such inaccuracies would inhibit timely equipment issue in an emergency.

During our recent visit to three storage sites, we tested the accuracy of the equipment locator system for 82 serial-numbered major end items, including tanks, generators, and various wheeled and tracked vehicles. The items tested were assigned to 21 units stored in 20 warehouses and 4 open storage areas. Our test showed that all items were in the locations designated on storage site location charts. Similar tests performed by CEGE's battalion inspectors also indicate that location accuracy for major end items is no longer a problem.

CONCLUSIONS

Although records show that CEGE is making more frequent and periodic inventories of POMCUS equipment, accountability of components is still a problem. CEGE has not exercised enough control over its component inventory program to state with any certainty the extent to which component shortages have been identified, requisitioned, and filled. Similarly, CEGE has not established procedures to insure proper inventories of basic issue item components and subsequent requisitioning of shortages.

Our tests of the accuracy of CEGE's equipment locator system showed that the system is extremely accurate and has improved significantly since our last report.

RECOMMENDATION

We recommend that the Secretary of Defense direct the Secretary of the Army to assure that inventories which identify shortages and requisitioning needs are properly made and recorded.

CHAPTER 8

READINESS REPORTING

At the time of our last report, only 19 percent of the REFORGER and 2 + 10 units were reported combat ready. However, equipment receipts under the Army's program to improve the readiness of these units have increased to over deleted percent the number of combat-ready units. The following table shows the June 20, 1978, unit readiness status of all POMCUS units, as reported to the Department of the Army on July 26, 1978.

	Ready (C-1)	Substantially ready (C-2)	Marginally ready (C-3)	Not ready (C-4)	Total
REFORGER	deleted				
2 + 10					
MRLOGAEUR					
Medical					
Total					
Percent of total					

IMPLEMENTATION OF THE NEW READINESS REPORTING SYSTEM

During our last review, the readiness reporting system was accurate in reporting that POMCUS was not ready to support its overall mission, but the system was not definitive enough to show what mission POMCUS could support or to pinpoint specific problems. We made no specific recommendation since USAREUR had initiated action to develop a better readiness reporting system for POMCUS.

Since that time the Army has developed a new system. The system, referred to as the Unit Status Report, was scheduled for implementation in September 1978. It should overcome most of the old system weaknesses noted in our earlier report and improve overall readiness reporting. A final assessment of the improvement in readiness reporting

resulting from the new system cannot be made until it is operational.

The new system, like its predecessor, will report readiness of POMCUS equipment using two criteria. The first is availability, which is first expressed as a percentage of equipment on hand versus that authorized. The second judges equipment serviceability according to whether the equipment is in storage (ready) or in maintenance (not ready). 1/

The major change in the new reporting system involves a redefinition of readiness reportable equipment. In the past, readiness was evaluated quarterly on all reportable lines of equipment in a unit without regard for the essentiality of such equipment to a unit's mission. Under the new system, monthly unit readiness reports will be based on both (1) primary weapons and equipment in total and (2) pacing items, which are those primary weapons and equipment items of such importance that they "pace" unit readiness as a whole. Primary weapons and equipment are major pieces of equipment essential to and employed directly in accomplishing assigned operational missions and tasks. Pacing item equipment includes tanks, howitzers, and armored personnel carriers. The pacing item is of key importance because a unit's equipment rating can be no higher than the lowest of its pacing item ratings.

IMPROVEMENTS AND WEAKNESSES IN THE NEW UNIT STATUS REPORTING SYSTEM

The following sections discuss the extent to which the new readiness reporting system will address weaknesses in the current system noted in our last report.

--In the old system, the criteria for reporting the percentage of equipment on hand versus that authorized treated each item equally regardless of its combat essentiality. For example, trailer-mounted bakery plants and portable bath units were given the same weight as combat tanks, machine guns, howitzers, and armored personnel carriers. The new system will focus and report only on equipment considered essential to the unit's mission.

1/Under certain circumstances, equipment in maintenance can be considered ready if CEGE can make repairs within prescribed time limits.

--The old system did not provide for commanders' comments as in normal Army units. Therefore, the reporting system did not provide judgmental appraisals. The new system requires commanders' remarks for any POMCUS unit not rated combat ready. The remarks must explain the equipment shortages and/or problems causing the degraded status and give, if known, a projected date when the unit will be combat ready.

--Readiness reporting in the 1976 report was based on 1973 authorizations, which did not reflect actual authorizations at the time. Under the new readiness reporting system, reportable equipment will be annotated against current equipment authorizations. USAREUR expected to receive the new authorizations in July 1978.

--Equipment condition addressed in our 1976 report was based on whether or not equipment was in storage (ready) or in maintenance (not ready). Some of the equipment in storage was known to be in poor condition (not combat ready) and should not have been reported ready merely because it was in storage and not in maintenance. Further, not all equipment in the maintenance cycle was likely to have deficiencies large enough to cause it to be rated not combat ready. Under the new system, equipment in storage will continue to be reported as "ready," provided that it was operational when placed in storage. Equipment in maintenance, however, can be reported operational if CEGE is able to make it operational within established time limits.

--The old system does not link a weapons system with its components. For example, a combat tank is not linked with its armament, fire control, or communications. This procedure is unchanged under the new system. Since POMCUS end items and components are stored and tested separately, Army officials feel this justifies a different reporting procedure from that used by the active forces. We believe POMCUS equipment should be reported as a total system so decisionmakers will be aware of the complete readiness condition of the entire weapon, including the end item and components that go along with it.

--The old reporting system does not relate available assets to requirements of units in their order of deployment--it does not show what units can be supported when shortages exist. This procedure is the same under the new system. However, in view of the overall reduction in POMCUS shortages (see ch. 3), this reporting system weakness is less important. REFORGER units, generally the first units to deploy to Europe in a contingency, have been receiving equipment ahead of lower priority POMCUS units.

CONCLUSIONS

Since our last report the Army has developed a new readiness reporting system. We believe the new system will overcome most of the old system's weaknesses noted in our earlier report and improve overall readiness reporting. Nevertheless, steps should be taken to further improve readiness reporting.

RECOMMENDATION

We recommend that the Secretary of Defense direct the Secretary of the Army to improve the new readiness reporting system for POMCUS by showing the ready condition of the total weapon system, rather than the end item and components separately. This is the way material readiness is now reported for the active forces.

APPENDIX I APPENDIX II

EQUIPMENT ON-HAND RATINGS OF REFORGER AND 2 + 10 UNITS AS OF JUNE 30, 1978

REFORGER project

Unit	Rating C-1	C-2	C-3	C-4	Total
1st Infantry Division					
3d Armored Cavalry					
Other REFORGER					
Total					
Percent of total					

deleted

2 + 10 project

deleted	
Total	
Percent of total	

deleted

Note: The ratings in this chart for the REFORGER and 2 + 10 units differ from the REFORGER and 2 + 10 unit ratings on the first page of chapter 8 for two reasons:

1. The ratings in this chart recognize equipment receipts up to June 30, 1978, while the ratings in chapter 8 reflect June 20, 1978, status. This should have a minimal effect on the ratings.

2. This chart represents only equipment ratings, while the chart in chapter 8 recognizes both equipment on hand and equipment condition in the ratings.

APPENDIX II

SHORTAGES AS OF JUNE 30, 1978, TO BE FILLED BEFORE ALL REFORGER AND 2 + 10 COMBAT UNITS CAN BE COMBAT READY (EQUIPMENT ON HAND)

Nomenclature	Quantity
deleted	

APPENDIX II

Nomenclature	Quantity
deleted	