



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

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NATIONAL SECURITY AND  
INTERNATIONAL AFFAIRS DIVISION

SEP 25 1984

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Ms. Mary Ann Gilleece  
Deputy Under Secretary  
of Defense  
(Acquisition Management)

Dear Ms. Gilleece:

Subject: DLA's Restructuring of the Industrial Plant  
Equipment General Reserve Will Improve Its  
Management, If Properly Implemented  
(GAO/NSIAD-84-164)

Because you are responsible for the Defense industrial base and for the actions of the Defense Logistics Agency (DLA) that have an impact on this base, we are sending you this report on our recent survey of how DLA's Defense Industrial Plant Equipment Center (DIPEC) manages the Department of Defense (DOD) general reserve of industrial plant equipment.

As you know, the general reserve, established by the Defense Industrial Reserve Act of 1973, as amended, is to be retained for immediate use of the armed services in a time of national emergency. As of December 31, 1983, equipment in the general reserve storage facilities consisted of 14,500 pieces with an acquisition cost of almost \$385 million. The average age of this equipment is well over 25 years; most of the equipment has been in storage and has not been used in 7 years or more; much of the equipment is obsolete; and very few pieces of equipment are of the "state-of-the-art" variety. During fiscal years 1982 and 1983, the DIPEC operation, which includes the management of the general reserve, cost \$23.5 million and \$21.5 million, respectively. (See pp. 3-4.)

Previous GAO and DOD studies on the management of the general reserve equipment identified problems with (1) retention criteria, (2) equipment condition and usefulness, and (3) equipment repair time. The studies resulted in a series of recommendations to alleviate these problems. (See pp. 5-6, and 10-14.)

Shortly after we completed a survey of DIPEC, your office approved on August 1, 1984, DLA's plan to restructure the general reserve. Specifically, this plan identifies a new criterion for determining what equipment currently in the

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reserve should be disposed of and what equipment should be brought into the reserve. DLA believes that, once its plan is implemented, the equipment in the general reserve can be more easily maintained in a ready-for-issue condition.

DLA's new criterion for retaining and selecting general reserve equipment is based on the services' most recent (3 to 5 years) peacetime demands. Exceptions to this criterion will include unique or specialized equipment not normally available in the private sector. The underlying assumption for this criterion is that equipment used to satisfy more recent peacetime requirements will also satisfy wartime needs.

In our 1976 report on the management of DOD's plant equipment, we indicated that, ideally, the criterion for retaining and selecting general reserve equipment should be both the mobilization and peacetime requirements of the services. Representatives from your Office of Industrial Base Assessment agreed with our position, but said that the services have not determined their mobilization requirements for machine tools. Consequently, the Assessment Office believes that the new criterion for the retention and selection of equipment should be the services' most recent peacetime demands. While we still support our past position, we believe that, in lieu of the services' mobilization requirements, the new criterion is a reasonable substitute. (See pp. 6-7.)

DLA's approved plan also directs DIPEC to purge unneeded equipment from the general reserve and to eventually maintain needed equipment in a ready-for-issue condition. In our opinion, this action was needed, and we believe that DLA's plan to restructure the general reserve of industrial plant equipment will improve its management, if properly implemented. (See p. 8.)

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We appreciate the assistance DLA, DIPEC, and your Office of Industrial Base Assessment provided during this survey. At present, we plan no further work under this assignment code, but we will continue to monitor implementation of the DLA plan. Copies of this letter are being sent to the Director, DLA, and to the Secretaries of the Army, Navy, and Air Force.

Sincerely yours,



Kenneth J. Coffey  
Associate Director

Enclosures - 3

DLA'S RESTRUCTURING OF THE GENERAL RESERVE  
WILL IMPROVE ITS MANAGEMENT IF PROPERLY IMPLEMENTED

The experience of World War II demonstrated that there was a need for the services to have the right quantity and type of equipment in times of national emergencies. Consequently, the Congress enacted the National Industrial Reserve Act of 1948 (Public Law 883). This act, which in 1973 became the Defense Industrial Reserve Act, directs the Secretary of Defense to select and maintain a general reserve of industrial plant equipment<sup>1</sup> for immediate use to supply the needs of the Armed Forces in a time of national emergency. The act also authorizes DOD to determine which excess equipment should become part of the reserve and which should be eliminated.

To implement the act, DIPEC, among other things,

--selects equipment for the general reserve; and

--transports, stores, maintains, repairs, and rebuilds equipment in the general reserve.

To obtain maximum use of equipment in the general reserve, DIPEC, at the direction of DOD, makes it available during peacetime to the services and to contractors. The services and contractors, when needing equipment for production or maintenance purposes, are required to screen the DIPEC inventory for suitable equipment in order to avoid buying a new item.

When a military service no longer needs a piece of equipment, the item is offered to DIPEC, which decides whether to (1) retain it for mobilization/peacetime use or (2) dispose of it on the open market. If DIPEC keeps the equipment, it may be kept in the general reserve for mobilization purposes or for peacetime use for on-going production in contractor- or government-owned plants in lieu of purchasing new equipment.

In the past, DIPEC identified mobilization and peacetime requirements for approximately 4,000 separate categories of equipment. Because the services did not provide their equipment mobilization needs, DIPEC developed its own requirements.

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<sup>1</sup>Industrial plant equipment is used for such operations as manufacturing weapon systems, maintenance, assembly, and research and development. It includes equipment that cuts, grinds, shapes, joins, and tests. It consists of 48 different federal supply classes.

These requirements were based on the difference between the level of equipment in active use during 1968, the peak year of the Vietnam War, and the level in active use today. On August 1, 1984, DOD approved a DLA plan which will base mobilization needs on the services peacetime demands for the past 3 to 5 years.

For peacetime retention, DIPEC applies a complex economic evaluation formula which attempts to determine whether it is more economical to retain, and repair, the equipment that the services no longer need. This evaluation is also applied in DIPEC's mobilization retention decision.

As of December 31, 1983, the equipment in the general reserve storage facilities contained 14,500 pieces, with an acquisition cost of about \$385 million. (See encl. II for a listing of storage locations.)

During fiscal years 1982 and 1983, DIPEC operations, which included the management of the general reserve, cost \$23.5 million and \$21.5 million, respectively.

#### OBJECTIVES, SCOPE, AND METHODOLOGY

Our objectives were to (1) to follow-up on prior recommendations, (2) assess DIPEC's criteria for selecting equipment for the general reserve, and (3) determine whether the equipment is ready for immediate use.

We conducted our work at DLA headquarters, Washington, D.C.; DIPEC's headquarters, Memphis, Tenn.; a DLA storage and maintenance facility in Mechanicsburg, Pa. (selected because it is DLA's largest storage facility); and the Office of the Secretary of Defense, Office of Industrial Base Assessment. Our work was done between January and August 1984.

The results of our survey are based on

- interviews with officials at the above locations;
- reviews of prior studies and reports pertaining to DIPEC's management of the general reserve, and an assessment of DLA's planned actions to alleviate some of the problems noted in the reports;
- an analysis of DIPEC's criterion for selecting equipment for the general reserve; and

--an analysis of data in DIPEC's automated equipment information system concerning the age, condition, and length of time that equipment has been in storage.

We also analyzed the time it took to repair or rebuild general reserve equipment used during peacetime, as determined by a random sample of general reserve equipment shipped from the DLA storage and maintenance facility in Mechanicsburg, Pa., during 1983. We limited our sample to 100 of the 535<sup>2</sup> pieces of equipment shipped. As a result, our projections were made at the 95-percent level of statistical confidence.

This survey was made in accordance with generally accepted government audit standards.

PRIOR REPORTS ON DIPEC'S  
MANAGEMENT OF THE GENERAL RESERVE

During our survey work, we identified at least five reports that we and other audit organizations have issued over the past 8 years which have contained information and made recommendations to improve DIPEC's management of the general reserve equipment.

Some of the reports have pointed out that DIPEC's decisions about what equipment should be retained in the general reserve do not consider the services' mobilization requirements. For example, in October 1976, we reported that DIPEC's selection of items to be retained in the general reserve was based on past experience, and bore no relationship to the services' planning requirements for mobilization production.<sup>3</sup> We advised that decisions about the retention of equipment should be based on the services' total peacetime and mobilization requirements less those requirements that private industry would meet.

In a November 1981 report, DLA said that the services had not provided DLA and DIPEC with the mobilization production requirements necessary to identify equipment needs. DLA recommended that the services be required to do so.

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<sup>2</sup>We excluded from the sample 138 pieces of equipment sent to schools during 1983 because, in most cases, no repair work is performed on equipment loaned to schools.

<sup>3</sup>"Management of DOD Industrial Plant Equipment Can Be Improved" (LCD-76-407, October 5, 1976).

Finally, a November 1983 report by the Logistics Management Institute (LMI) said that DIPEC's equipment retention decisions, for both equipment mobilization and reuse, were arbitrary, lacking in credibility, and biased toward retention. LMI said that DIPEC's equipment requirements for mobilization were based on historic peak use and bore little relationship to actual mobilization needs and to what is available to satisfy them. LMI recommended that DLA redetermine DIPEC's mobilization and peacetime equipment requirements.

Some of the reports also pointed out that the general reserve equipment is old, obsolete, and in need of repair; and that the time need to repair the equipment is lengthy. For example, the President's Private Sector Report on Cost Control, July 13, 1983, stated that most of the general reserve equipment is very old, dating from World War II and the Korean War. Furthermore, the report said that the equipment has been rendered obsolete by machine tools that have such characteristics as faster cycle times and higher tolerance capability. The report also noted that DIPEC's repair leadtime for general reserve equipment had increased to about 14 months after an item was requisitioned. Because of the long leadtime, many customers were beginning to accept unrepaired equipment, opting to do the repairs themselves. This report recommended that DLA evaluate the general reserve equipment to determine which equipment could be used and which should be scrapped or sold.

The 1981 DLA study also reported on equipment repair time. It stated that, in time of mobilization, it would take a minimum of 3 to 5 years to repair and deliver general reserve equipment to customers. However, the report did not identify what corrective action was needed.

Enclosure III provides a listing of the reports and summary of their findings and recommendations.

The following sections describe the results of our survey work.

NEW CRITERION FOR SELECTING  
EQUIPMENT FOR THE GENERAL RESERVE  
AND OUR ANALYSIS

Until August 1, 1984, DIPEC's criterion for selecting equipment for the general reserve was based primarily on the amount needed in 1968, the peak usage year of the Vietnam War. This criterion has been changed. DIPEC will now base equipment

selection on the services' most recent (3 to 5 years) peacetime demands. Specifically, the selection process will use a general reserve acquisition and retention level equal to five and seven times the annual demand rate for a piece of equipment for the past 3 to 5 years or 15 percent of the in-use assets.

For equipment with assets below the established acquisition level, DIPEC will take back serviceable or economically repairable assets into the general reserve. For equipment with assets greater than the established retention level, disposal will be initiated. When assets fall between the acquisition and retention levels, DIPEC will consider asset exchange as a means to upgrade the general reserve. Exceptions to this methodology will include the large, high cost, long leadtime equipment not normally available in the private sector but required for production under surge or mobilization conditions.

According to DLA, adoption of this policy will ensure that assets retention will be predominately demand-driven and that the reserve will be more reflective of changing production and maintenance requirements as assets become available.

In our 1976 report, we pointed out that, ideally, peacetime and mobilization requirements should be the basis for selecting equipment for the general reserve. We said that the general reserve should consist of the difference between the services' total equipment peacetime and mobilization requirements less the active equipment in contractor plants and military installations, the equipment in the services' plant equipment packages, and the equipment that private industry can provide. DLA advised us that they have tried to obtain the services' mobilization requirements but have been unsuccessful. Representatives from the Office of Industrial Base Assessment told us that, while they agree with our position, the services have not identified their mobilization requirements for machine tools. Consequently, they believe that the criterion for the retention and selection of equipment for the general reserve should be the services' most recent peacetime demands.

GENERAL RESERVE EQUIPMENT  
NOT READY FOR IMMEDIATE USE

Much equipment in the general reserve needs repair and, therefore, is not ready for immediate use to supply the needs of the armed services during national emergencies, counter to the Defense Industrial Reserve Act of 1973, as amended. About 74 percent of the general reserve inventory at DLA's storage and maintenance facility at Mechanicsburg, Pa., would

have to be repaired in order to bring the equipment to full operating capacity. However, 27 percent of this equipment could operate without any repair at some capacity, but not to designed specifications.

The repair of equipment in the general reserve takes a long time. Of the 100 pieces we analyzed in our random sample, 53 were from the general reserve. Our analysis of these items showed that it had taken the Mechanicsburg facility between 9 1/2 and 21 1/2 months to repair and rebuild 24 of the 53 pieces of equipment.

The waiting time for parts significantly increased the time needed to repair equipment. The long waiting time for parts occurred because of the following factors:

- Manufacturers of parts for some equipment were no longer in business.
- Manufacturers were sometimes reluctant to make the parts in the small volumes ordered, preferring to wait for sufficient orders from numerous sources.
- DIPEC had to compete with other customers for precision parts, which were manufactured only in very small quantities per production run.
- The government's procurement process for buying parts was lengthy.

#### DLA's Approved Plan and Our Analysis

DLA's approved plan requires DIPEC to purge unneeded equipment from the general reserve and to eventually maintain needed equipment in a ready-for-issue condition.

Under the new criterion for equipment selection and retention DIPEC will excess that equipment for which there has been little or no recent demand, equipment that is not currently in-use in substantive quantities, and equipment whose retention cannot be justified on an exception basis. DLA believes that the general reserve will ultimately be reduced to a level whereby the needed equipment can be maintained in a ready-for-issue condition.



Location of General Reserve Equipment  
As of December 1983

<u>Location</u>	<u>No. of Items</u>	<u>Acquisition Cost</u>
DLA Defense Depot, Mechanicsburg, Pennsylvania	4,100	\$116,292,079
DLA Defense Construction Supply Center, Columbus, Ohio	3,291	75,523,498
DLA Defense Depot, Tracy, California	2,424	74,388,541
DLA Atchison Storage Facility, Atchison, Kansas	1,894	42,471,689
Seneca Army Depot, Romulus, New York	1,037	30,586,356
U.S. Army Ammo Plant, Ravenna, Ohio	571	11,990,128
U.S. Army Storage Facility, Pontiac, Michigan	<u>542</u>	<u>10,636,264</u>
	13,859	\$361,888,555
Items in transit or stored on site	<u>641</u>	<u>21,706,791</u>
Totals	<u>14,500</u>	<u>\$383,595,346</u>

FINDINGS AND RECOMMENDATIONS  
FROM PREVIOUS REPORTS ON DIPEC AND  
GENERAL RESERVE EQUIPMENT

REPORT: "Improving Industrial Plant Equipment Decisions," Logistics  
Management Institute, November 1983

FINDINGS

- 1. DIPEC's general reserve retention decisions, both for mobilization and reuse, are arbitrary, lacking in credibility, and biased toward retention.
- 2. Neither the services nor OSD provide DIPEC with mobilization requirements for equipment.

RECOMMENDATIONS

- 1. That DLA redetermine DIPEC's mobilization and peacetime requirements.
- 2. That DIPEC base peacetime requirements on an independent appraiser's comparison of the cost to repair an item and the fair market value of the repaired item.
- 3. That DIPEC charge the services for preparing reserve items for reuse during peacetime to better reflect the true cost to DOD.

REPORT: "President's Private Sector Survey on Cost Control," Grace  
Commission, July 1983

FINDINGS

1. General reserve equipment is very old and has been rendered obsolete by more modern automated machine tools.
2. The general reserve is better suited to the needs of job shops than to volume-production.
3. Over half the items in the general reserve need repair, and 55 percent of the metal-cutting tools, which make up 70 percent of the reserve, have been in storage 6 years or longer.
4. DIPEC's repair/rebuild leadtime has increased to about 14 months after an item is requisitioned.
5. The time to screen DIPEC and to receive a response is lengthy.
6. Funding the storage and repair costs for reserve items distorts the economic analyses the user performs in deciding whether to take a used or new piece of equipment.

RECOMMENDATIONS

1. That DLA require users to fund storage and repair costs for items obtained from DIPEC.
2. That DLA evaluate items in the reserve to determine which can be used and which should be scrapped or sold.
3. That DLA review the criteria DIPEC uses for admitting items into the reserve.
4. That DIPEC permit users to submit requests directly to DIPEC and allow users to base their decisions about whether to use new or used equipment on which has the lowest life-cycle cost.

REPORT: "Management of Special Test and Plant Equipment," Joint  
DARCOM/NMC/AFLC/AFSC Commanders Ad Hoc Group, June 1982

FINDINGS

1. Much of the general reserve equipment is either obsolete or cannot hold tolerances.
2. When equipment is requisitioned from DIPEC, repair occasions a 6-9 month delay.
3. The cost threshold for reporting equipment to DIPEC needs to be increased in order to eliminate expensive administrative paperwork.
4. The need to report active equipment in contractors' plants to DIPEC is questionable because many items are nonserviceable and will never be available for redistribution.
5. Requiring users to screen DIPEC for equipment is time-consuming and costly, and usually results in certificates of nonavailability.

RECOMMENDATIONS

1. That DLA increase the cost threshold for record keeping and reporting to DIPEC to \$10,000.
2. That DLA examine the reporting of equipment at contractors' plants to DIPEC for cost benefits.
3. That DIPEC provide DOD contracts with a listing of general reserve equipment.
4. That DLA analyze DIPEC's screening process.
5. That DIPEC develop procedures for automating lists of equipment in the reserve.

REPORT: "Headquarters DLA Review of IPE Management and Operations,"  
January-November 1981

FINDINGS

1. The services have not provided DLA or DIPEC with their mobilization production planning requirements for equipment.
2. Equipment held by DIPEC in the reserve is worthless and should be eliminated.
3. In time of mobilization, it will take a minimum of 3-5 years to repair and deliver reserve equipment to customers.
4. Neither the Public Law nor DOD provides specific guidance relative to the composition and management of the reserve.
5. DIPEC's program administration and prescribed procedures to be followed by other DOD components are costly and of questionable effectiveness.

RECOMMENDATIONS

1. That DLA more accurately fulfill the intent of the Public Law.
2. That DLA require the services to identify equipment needed in the reserve.
3. That DLA reduce overall cost and end strength.
4. That DLA clarify the intent of the reserve.
5. That DLA reduce the administrative burden to DOD components.
6. That DLA eliminate equipment classes with extremely low demand.

## GAO REPORT: "Management of DOD Industrial Plant Equipment Can Be Improved,"

LCD-76-407, October 5, 1976

FINDINGSRECOMMENDATIONS

1. The services' need of equipment should be based on their total peacetime and mobilization requirements less those requirements which private industry will meet.
  2. The services do not have practical systems for translating mobilization end-item requirements into equipment needs.
  3. DIPEC's selection of items to be retained in the reserve is based on past experience and bears no relationship to the services' mobilization production planning requirements.
  4. The services were not accurately reporting their idle equipment to DIPEC.
1. That DOD should establish criteria and instructions for planning and meeting equipment needs to enable the services to establish more valid requirements to meet their mobilization requirements.
  2. That DOD centralize equipment management.