



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

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PROCUREMENT, LOGISTICS,  
AND READINESS DIVISION

B-208024

AUGUST 16, 1982

The Honorable Gerald P. Carmen  
Administrator of General Services



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Dear Mr. Carmen:

Subject: Consolidation of GSA's Depot Function  
Can Save Millions in Space Costs and  
Improve the Use of Depot Resources  
(GAO/PLRD-82-109)

We have reviewed the General Services Administration's (GSA's) depot system for storing and distributing commonly used supply items. Although the system has improved in recent years, further improvement is needed.

Over the past 10 years, the system has been reduced from 25 to 15 depots. However, we believe the system can be reduced more. We estimate that consolidating the 15 depots into 8 can save nearly \$7 million annually in space costs and reduce the inventory by \$25 million. In addition, we believe the consolidation can improve supply performance by more effectively using depot personnel.

BACKGROUND

From its beginning in 1949 until about 1972, GSA's annual sales of stocked materials grew from \$26 million to \$522 million. During 1972, it stocked about 30,000 different items in 25 depots.

Although annual sales have risen to more than \$700 million since 1972, both the number of items stocked and the number of depots have been reduced. In 1981 GSA stocked less than 18,000 supply items in 15 depots.

Before 1976 the GSA supply system was operated on a regional basis. Each region had near complete autonomy and managed, purchased, and stocked supply items to meet its customers' needs.

In 1976 the inventory management and procurement functions were reorganized to eliminate duplication among the regions. While the inventory managers and procurement staff were left

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in the regions, each region was assigned worldwide management responsibility for specific supply items. Inventory managers were responsible for determining requirements and positioning stock to meet worldwide demand. At the same time, a centralized routing system was established in Washington, D.C., to direct requisitions to the stock points which could fill the orders at least cost. At present, the inventory management and procurement functions are spread between 10 of the 11 GSA regions and 2 commodity centers, and each region operates at least one depot.

OBJECTIVE, SCOPE, AND METHODOLOGY

We reviewed GSA's depot system to see if it could operate more efficiently and economically. We interviewed agency personnel and reviewed and analyzed data pertinent to depot operation. We made analyses on all data or on statistical samples of data, depending on the complexity of analyses and the availability of information. The specific techniques used are identified in the report sections discussing our findings.

As a part of the review, we considered the advantages and disadvantages of transferring depot functions from GSA to the Defense Logistics Agency (DLA).

We made our review at GSA and DLA headquarters and GSA regional offices and 11 depots listed below:

Hingham, Mass.	Chicago, Ill.	Denver, Colo.
Belle Meade, N.J.	Shelby, Ohio	Stockton, Calif.
Franconia, Va.	Kansas City, Mo.	Auburn, Wash.
Duluth, Ga.	Fort Worth, Tex.	

We did not visit the depots at Raritan, N.J.; Norfolk, Va.; Savannah, Ga.; and Honolulu, Hawaii.

POTENTIAL FOR SAVINGS  
THROUGH DEPOT CONSOLIDATION

We believe GSA's depot function can be handled by eight depots based on analyses of demand patterns for stocked items, workload, inventory makeup, and space utilization at each depot. We estimate that reducing the system to eight depots can save nearly \$7 million annually in space costs. It would also reduce the number of overhead positions, thus more effectively using available personnel. Due to the high degree of commonality of supply items among the depots, inventory investment could be reduced.

Analysis of demand and workload

During fiscal year 1980, GSA's depots shipped 6.7 million line items weighing about 500,000 tons. This demand was concentrated along the east coast below New England and in the southwestern and Pacific coast states. (See enc. I.)

More than 68 percent of both line items and tonnage was shipped from the following eight depots:

<u>Depot</u>	<u>Line items issued</u>	<u>Tonnage shipped</u>
	(Percent)	
Belle Meade	11.2	6.8
Raritan	1.8	7.5
Franconia	7.9	9.0
Duluth	10.0	8.7
Chicago	4.9	3.0
Fort Worth	12.0	11.3
Denver	6.6	6.0
Stockton	<u>13.7</u>	<u>16.6</u>
Total	<u>68.1</u>	<u>68.9</u>

Although total fiscal year 1981 figures were not available when our fieldwork was completed, analyses of 1981 figures through August showed essentially the same pattern.

Analysis of items stocked  
and space utilization

Our analysis of items stocked and the storage space available and occupied in each depot indicated that the eight depots, given the required staff, could handle the entire workload.

Comparison of random samples of supply items selected from depots which we considered candidates for closure to the stock in depots to be retained showed that there was a high degree of commonality of stock. The degree of commonality ranged from 28.9 percent at Kansas City to 96 percent at Auburn and, excluding Kansas City, averaged 80.6 percent. (See enc. II.)

Our analysis of storage space available and space required showed that there is sufficient space available in the eight depots proposed for retention to meet total storage requirements. The consolidation would result in a space utilization factor of 75.4 percent overall. (See enc. III.)

Benefits from consolidation

By closing the following seven depots, GSA can save nearly \$7 million in space costs.

<u>Depot</u>	Fiscal year 1980 <u>space costs</u>
Hingham	\$ 684,537
Norfolk	936,695
Savannah	468,943
Shelby	921,607
Kansas City	1,553,602
Honolulu	340,847
Auburn	<u>2,041,257</u>
Total	<u>\$6,947,488</u>

Additional benefits could be realized through lease or sale of the vacated facilities.

Studies have shown that consolidation of depots reduces staffing requirements. Not only is the total requirement for overhead personnel reduced, but since GSA uses an economic order quantity formula to manage common supply items, the number of receipts and the receipt processing workload is reduced as well. (See note a of enc. III.) Due to the rather austere staffing of GSA depots, we are not proposing that overall staffing be reduced after consolidation. It may be appropriate to retain all available staff resources and direct them toward achieving and sustaining improved depot performance.

When depots using economic order quantity formulas are consolidated, the value of inventory of common items is substantially reduced. The degree to which inventory levels are reduced varies depending on the ratio of demand for items experienced by the depots involved. We estimate that the proposed consolidation would result in a one-time inventory reduction of nearly \$25 million. (See enc. IV.)

Offsetting cost of consolidationRecurring costs

Because some customers will be served by depots more distant than those from which they were served before consolidation, transportation costs will be increased. However, the

depots proposed for closure accounted for only 31 percent of the tonnage shipped in 1980. Also, the increases in transportation costs will be partially offset by savings resulting from fewer total shipments from suppliers.

#### One-time costs

We estimate the one-time personnel costs will be about \$3 million. Nonpersonnel costs will vary, depending on how the consolidation is accomplished.

In estimating personnel costs, we used a "worst case" assumption that none of the personnel would transfer with the workload, that "early out" retirements would be approved, and that all employees eligible for an immediate annuity would retire. We assumed that severance pay and unemployment benefits would be paid to all employees not eligible for retirement.

Our estimates of the cost of severance pay and unemployment benefits are as follows:

<u>Depot</u>	<u>No. eligible employees</u>	<u>Severance pay</u>	<u>Unemployment benefits</u>
Hingham	24	\$ 210,624	\$112,320
Norfolk	33	289,608	118,404
Savannah	28	245,728	83,720
Shelby	16	140,416	61,152
Kansas City	89	781,064	344,786
Honolulu	4	35,104	17,576
Auburn	<u>49</u>	<u>430,024</u>	<u>239,610</u>
Total	<u>243</u>	<u>\$2,132,568</u>	<u>\$977,568</u>

If consolidation is accomplished over an extended period, such as a year, nonpersonnel costs can be minimized. For example, attrition of stock in place can reduce handling and transportation costs and allow a more gradual assumption of increased workload by the gaining depot. Any residual stock on hand after a year can be considered for disposal.

We believe the most significant nonpersonnel cost of the proposed consolidation will be to replace the cold storage facilities at the Kansas City depot. However, this cost could be offset, depending on how the depot is used after it is vacated.

For example, a contractor utilizing Government-owned facilities colocated with the depot has planned a \$26 million construction project at the site to provide additional needed space. If this project could be avoided through use of existing space, resulting savings should far exceed the cost of providing replacement cold storage facilities.

#### Alternatives considered

As an alternative to consolidating the GSA depot system, we considered the potential benefits of transferring the depot function to DLA. However, due to higher staffing requirements at the DLA depots to handle the workload, we believe that greater savings can be achieved by retaining the function within GSA and consolidating the GSA depot system.

By applying DLA's depot staffing standards to the workload accomplished by GSA's depots during fiscal year 1980, we estimate that DLA staffing would increase by about \$47.5 million annually if the GSA workload were transferred. By comparison, GSA's total cost of depot operation was about \$51.2 million. When DLA's other incremental costs are considered, potential annual savings are less than \$3.7 million compared to the \$7 million possible through consolidation of GSA's depots.

#### CONCLUSIONS AND RECOMMENDATIONS

Although GSA has made considerable progress in streamlining its depot system in recent years, further consolidation would result in cost savings and facilitate improved supply performance. To achieve these goals, we recommend that you direct the Commissioner of the Federal Supply Service to immediately begin action to consolidate its system.

Although our review was limited to the depot function, it is likely that additional savings through improved efficiency can be realized if the widely dispersed inventory management and procurement functions also were consolidated. Therefore, we recommend that you direct the Commissioner to assess the benefits of consolidating these functions along with the depot consolidation.

#### AGENCY COMMENTS

On June 30, 1982, we met with officials of the Federal Supply Service to obtain GSA's official oral comments on our draft report. The officials generally agreed with our report

and its recommendations. They provided us with a copy of a tentative plan for facility closures, which if implemented, will result in an eight-depot system by the end of fiscal year 1983.

They agreed that consolidation of the depots would reduce inventory levels, but questioned whether the potential savings from the reduction would be as high as \$25 million. They pointed out that, in some instances, the workload of a closing depot would be divided between two or more remaining depots, which would tend to reduce the potential for inventory reduction.

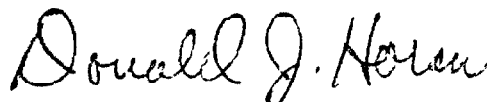
We agree that the workload from three of the seven depots we proposed for closure could be spread between two or more of the remaining depots and that this could reduce somewhat the potential for inventory reduction. However, we believe that our original estimate is conservative and that \$25 million is a reasonable estimate of the potential savings from inventory reduction.

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As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement of actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget, and to the Chairmen of the above-mentioned committees.

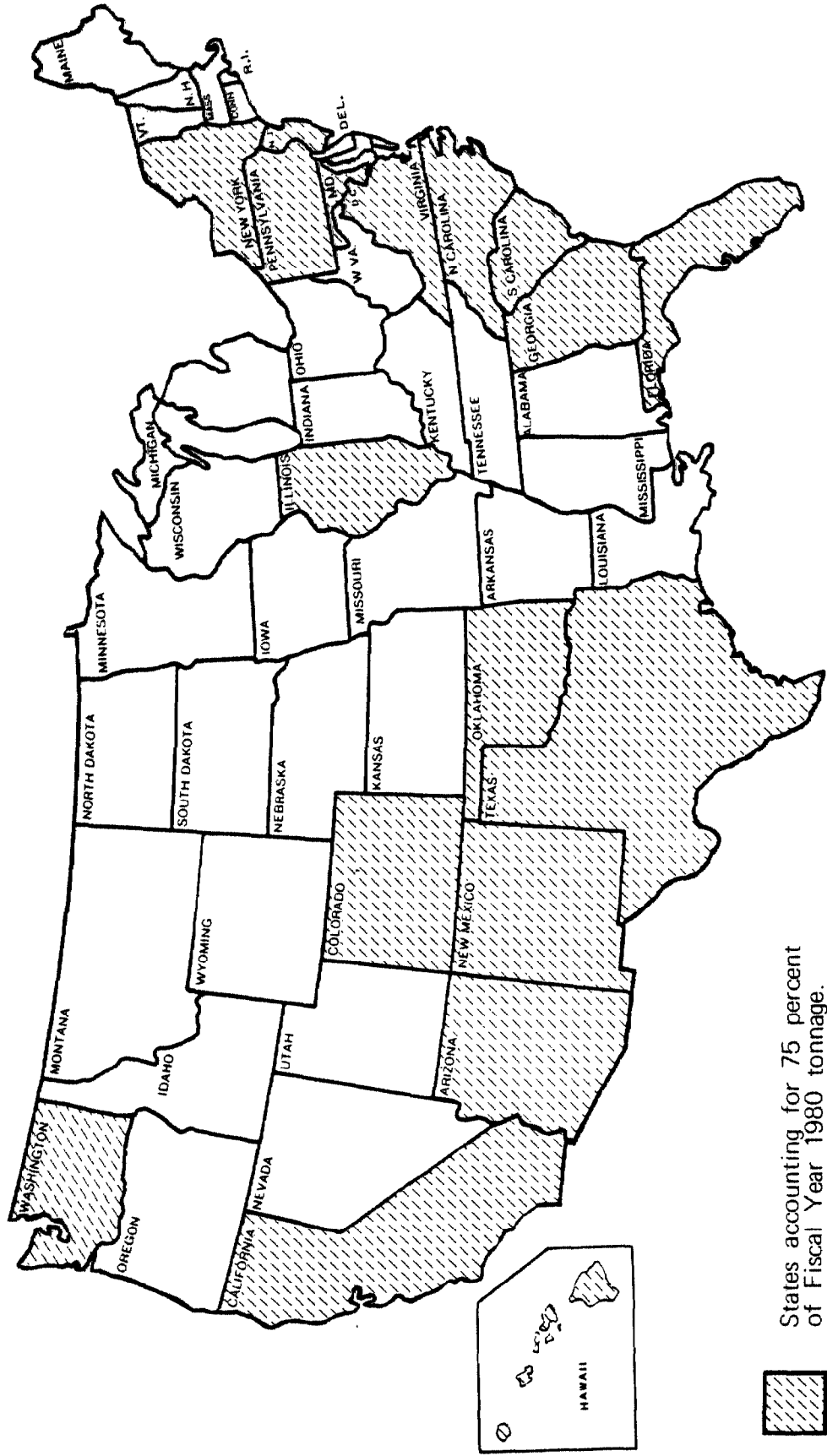
Sincerely yours,



Donald J. Horan  
Director

Enclosures - 4

DISTRIBUTION OF DEMAND FOR  
GSA STOCKED ITEMS  
FISCAL YEAR 1980



States accounting for 75 percent of Fiscal Year 1980 tonnage.



SUMMARY OF COMMONALITY OF ITEMSSTOCKED BY DEPOTS (note a)

	<u>Percentage of common items</u>
Hingham, Belle Meade, and Raritan	94.4
Norfolk and Franconia	65.7
Norfolk and Duluth	75.6
Savannah and Duluth	79.3
Shelby and Chicago	72.3
Kansas City and Fort Worth	28.9
Auburn and Stockton	96.0
Average (note b)	80.6

a/Commonality was estimated by comparing random samples of approximately 200 items stocked by the losing depots to items stocked by the gaining depots.

b/The average excluded Kansas City because it has a high percentage of unique items, primarily tools and items requiring cold storage.

ANALYSIS OF DEPOT SPACE--  
AVAILABLE, OCCUPIED, AND REQUIRED  
 (September 30, 1981)

	<u>Available</u>	<u>Occupied</u>
	(cubic feet)	
Belle Meade	4,612,837	3,072,272
Raritan	4,759,780	3,157,637
Franconia	4,595,520	3,070,321
Duluth	9,260,460	6,099,299
Chicago	4,869,360	2,320,752
Fort Worth	6,202,529	2,281,404
Denver	4,372,480	1,813,888
Stockton	<u>14,045,336</u>	9,311,285
Total available	<u><u>52,718,302</u></u>	
Hingham		1,280,945
Norfolk		2,277,980
Savannah		3,055,248
Shelby		1,319,848
Kansas City		2,312,504
Honolulu		630,203
Auburn		<u>3,590,528</u>
Total occupied		45,594,114
Adjustment (note a)		<u>-5,868,573</u>
Total space required		<u><u>39,725,541</u></u>
Percent utilization		75.4

a/When reporting on a similar consolidation proposal, the Logistics Management Institute demonstrated that consolidation of common items from two storage facilities using an economic order quantity formula into a single facility reduced the number of replenishment requisitions and inventory value by as much as 29 percent. The exact percentage of reduction varies, depending on the ratio of demand experienced by the two depots. By adjusting this percentage by the degree of commonality between depots, we estimate that the storage space required for the system could be reduced by about 5,868,573 cubic feet.

ESTIMATE OF POTENTIAL FOR  
INVENTORY REDUCTION

	<u>Inventory value</u> <u>as of 8/31/81</u>	<u>Possible</u> <u>reduction</u>
Hingham	\$ 4,786,338	\$ 2,163,425
Norfolk	8,490,517	3,837,714
Savannah	12,549,855	5,672,534
Shelby	6,173,513	2,790,428
Kansas City	21,743,146	3,522,390
Honolulu	2,327,947	1,052,232
Auburn	<u>12,667,457</u>	<u>5,725,691</u>
Total	<u>\$68,738,773</u>	<u>\$24,764,414</u>

NOTE: Where two activities using an economic order quantity formula are consolidated, the value of inventory of common items is substantially reduced. In a similar study, the Logistics Management Institute demonstrated that the reduction could be as high as 29 percent, depending on the ratio of demand between depots. Assuming that the ratio of demand between gaining and losing depots was 2 to 1, the reduction in inventory would be 28 percent. When adjusted to reflect the average commonality factor of 80.6 percent, potential reduction is reduced to 22.6 percent. Potential for reduction at Kansas City would be 8.1 percent due to the 28.9 percent commonality factor.