

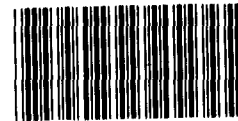
GAO

Report to the Chairwoman, Government  
Activities and Transportation  
Subcommittee, Committee on  
Government Operations, House of  
Representatives

December 1992

# GENERAL SERVICES ADMINISTRATION

## Increased Direct Delivery of Supplies Could Save Millions



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

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General Government Division

B-249780

December 28, 1992

The Honorable Barbara Boxer  
Chairwoman, Government Activities  
and Transportation Subcommittee,  
Committee on Government Operations  
House of Representatives

Dear Madam Chairwoman:

This report describes how millions could be saved annually if the General Services Administration (GSA) had more orders shipped directly to customer agencies from suppliers instead of from its depots. It makes several recommendations to the Administrator of GSA that are aimed at significantly reducing depot operations and making GSA more of a central management agency.

We are sending copies to the Administrator of the General Services Administration; Director, Office of Management and Budget; and other interested congressional committees and subcommittees. Copies of this report will be made available to others upon request.

If you have any questions or would like further information, please contact me at (202) 275-8676. Major contributors to this report are listed in appendix III.

Sincerely yours,

L. Nye Stevens  
Director, Government Business  
Operations Issues

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# Executive Summary

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## Purpose

The General Services Administration (GSA) continues to use a multimillion dollar depot distribution system to help meet federal supply needs. The Chairwoman, Government Activities and Transportation Subcommittee, House Committee on Government Operations, asked GAO to review GSA's depot-based supply distribution methods to assess if they could be made more effective and efficient.

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## Background

GSA's Federal Supply Service, through its stock program, purchases a wide variety of common-use products and makes them available to federal agency customers through a network of five depots. These depots receive, store, and ship nearly 18,000 different products to federal agencies. The 1991 year-end inventory of depot products was valued at over \$240 million. In fiscal year 1991, sales amounted to nearly \$1 billion, and the operating costs were about \$195 million. GSA recoups its operating costs by charging federal agencies a handling and processing fee. It charges federal agencies, on average, a 29-percent handling and processing fee for orders shipped from depots. For orders shipped directly from the suppliers, GSA charges federal agencies, on average, a 10-percent fee, since GSA's costs are less. GAO examined the pros and cons of increased direct delivery for a representative sample of 787 products by analyzing purchase and distribution records and interviewing suppliers, customers, and GSA officials.

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## Results in Brief

Millions could be saved annually if GSA had more orders shipped directly to customer agencies from suppliers. Customer agencies could save because GSA's processing fee for direct delivered orders is much less than for orders filled from its depots. Taxpayers could save if GSA reduced depot inventory and operations. GAO estimates that for a 1-year period ending February 1991, only 7 percent of GSA's nearly \$1 billion in projected total sales was direct delivered, even though 83 percent had potential to be direct delivered. If this 83 percent of sales had been direct delivered, agencies could have saved as much as an estimated \$107 million annually in addition to a one-time GSA saving of up to \$240 million, spread over time, through reduction in inventory investment. (See pp. 14-17.)

GAO's analysis also shows that if GSA were able to maximize direct delivery, depot operations could be significantly reduced because the remaining sales would not be enough to sustain current operations. Furthermore, GSA has additional opportunities to further streamline its operations since these remaining sales are for millions of low-value, low-quantity orders

that may be uneconomical and can be purchased locally. GAO's work raises questions about whether GSA should continue to operate its depots at current levels and suggests that GSA should reduce its operational role and become more of a central supply management agency that provides governmentwide leadership and sets policy. (See pp. 21-27.)

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## Principal Findings

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### Customer Agencies Could Achieve Significant Savings

GAO's analysis of depot sales showed that for the period February 15, 1990, through February 14, 1991, GSA direct delivered an estimated \$68 million of the \$800 million in sales that had the potential for direct delivery. GAO estimates that for \$573 million of these sales, either the terms in existing contracts allowed for more direct delivery or suppliers said they were willing to direct deliver smaller amounts than stated in the contracts, at no extra cost. Also, had GSA worked with agencies to get them to consolidate their orders to meet minimum order amounts, another estimated \$159 million in sales may have been direct delivered. In total, an estimated 83 percent of the nearly \$1 billion in total sales had opportunities for direct delivery. (See pp. 14-17.)

Federal agencies pay, on average, nearly three times as much in processing costs for orders filled from GSA's depots compared to those filled directly from suppliers. If all of the 83 percent of the sales had been direct delivered, federal agencies could have saved as much as an estimated \$107 million in reduced GSA processing costs.

GSA's rationale for not emphasizing more direct delivery centers on its philosophy of using the depots to meet customer needs and the belief that orders from depots take less time to fill and cost less than direct delivery. However, GAO's interviews with about 300 suppliers indicate that timeliness is not a serious problem for many products. GAO found that many of these suppliers said they could deliver sooner than GSA's contracts required and that they could direct deliver routine orders in, on average, just 2 days more than GSA's 29-day limit for delivering routine orders. Routine orders represent an estimated 74 percent of the nearly 5 million total orders for the 1-year period. (See pp. 15 and 18.)

Suppliers did say that they could not deliver priority orders, which require delivery in 7 to 11 days, without charging more. This is understandable

and, in fact, raises questions about GSA's priority ordering policy, which is to charge the same fees for both priority and routine orders. Since GSA does not monitor or assess all agency priority designations, abuse and misuse can go undetected. GAO's discussions with 50 customer agencies and analysis of orders show that customers have used the high priority designations process unnecessarily. For example, two customers in GAO's sample routinely designated all their orders as priority. (See pp. 19-21.)

### GSA Could Achieve Significant Savings

Increased use of direct delivery would allow GSA to achieve significant savings for taxpayers by streamlining depot operations to reflect reduced depot activity. GAO's analysis shows that if GSA were able to maximize direct delivery, the remaining sales would be an estimated \$161 million of the nearly \$1 billion in projected sales—not sufficient sales to recover the \$195 million in depot operating costs. These sales, an estimated 2.7 million of the nearly 5 million orders, were generally low-value and low-quantity orders. Furthermore, 2.5 million of the 2.7 million orders may have been uneconomical—the product cost and GSA handling costs may have been more than the customer agency paid. GSA was able to fill these uneconomical orders because revenues obtained from orders filled by the depots that could have been direct delivered have been subsidizing their cost. (See pp. 21-23.)

In addition to more direct delivery, GSA could further streamline depot operations by considering other supply alternatives for filling low-value uneconomical orders. For example, GSA could encourage customer agencies to expand their use of local purchases to fill many of these orders. Currently, agencies can routinely purchase products valued at under \$100 from the private market. GAO's analysis shows that an estimated 2.4 million orders were valued at under \$100. Also, GAO's interviews with 50 customers showed that many had already purchased products locally. (See pp. 22-23.)

If GSA maximized use of direct delivery and encouraged agencies to purchase low-value, low-quantity orders locally, it could significantly reduce depot operations and enhance its role as the government's central supply agency. GSA could substantially reduce its inventory investment by increasing its use of direct delivery and achieve a savings over time of up to \$240 million because GSA would no longer maintain affected products in inventory. (See pp. 23-24.)

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## Role Change Is Warranted

GSA can and should continue to use its enormous cumulative buying power for the government to obtain advantageous prices for goods and services. But it does not have to continue its existing level of reliance on operating depots to do this. GAO's work raises questions as to whether GSA should continue to operate its depots at current levels and suggests that GSA reduce its operational role and become more of a central management supply agency. GSA could provide governmentwide leadership, set policy guidance, and manage operations to ensure that agency supply needs are filled at the lowest cost to the government. If GSA makes the transition from a major supplier of products to a central management supply agency, then the federal government will spend less for the products it buys. (See pp. 24-25.)

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## Recommendations

GAO recommends that the GSA Administrator (1) develop a plan with timetables to maximize the use of direct delivery, which would reduce existing depot operations; and (2) establish effective networks between GSA and customer agencies to develop the most cost-effective supply system, which may include the elimination of GSA distribution operations. GSA should also (1) identify and explore cost-effective supply sources to fill those orders that do not meet direct delivery requirements, (2) monitor and assess agencies' use of priority designations and consider charging them for these extra services, and (3) reduce its operational role and become more of a central management supply agency. (See pp. 26-27.)

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## Agency Comments

GSA agreed with the thrust of the report and the recommendations with the exception that it reduce its operational role. GSA's written comments and GAO's evaluation are presented in chapter 2 and appendix II. (See pp. 27-28 and 36-44.)

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**Contents**

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**Abbreviations**

|     |                                 |
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| CSC | Customer Supply Center          |
| FSS | Federal Supply Service          |
| GSA | General Services Administration |
| NSN | National Stock Number           |

# GSA Depot Operations: an Overview

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The General Services Administration (GSA) was established in 1949 to bring central direction to the government's essential housekeeping functions. The mission of GSA's Federal Supply Service (FSS) is to help establish policy and operate programs to ensure that the service and supply needs of federal agencies are efficiently and effectively met at the least cost to the taxpayer. FSS policies direct how federal agencies purchase products from a variety of sources. The policies governing products stocked by GSA permit agencies to purchase products for \$100 or less from any source without written justification. On the other hand, to buy products that cost between \$100 to \$5,000 from a source other than GSA, agencies are required to prepare written statements to certify that the purchase is in the best interest of the government in terms of quality, cost, and timeliness.<sup>1</sup>

In addition to establishing policies, FSS manages three programs to provide products to federal agencies—special order, schedules, and stock. This report focuses on the stock program in which FSS purchases about 18,000 common-use products and sells them to federal agencies—its customers. These products include, for example, tools, paints, batteries, photocopy paper, pens, pencils, and cleaning products.

GSA operates five depots located in Burlington, New Jersey; Palmetto, Georgia; Fort Worth, Texas; Stockton, California; and Franconia, Virginia, that receive, store, and ship products. The 1991 year-end inventory was valued at over \$240 million, and depot sales of products totaled nearly \$1 billion for the year. FSS spent about \$195 million to operate these depots. FSS is to recoup its operating costs by adding a markup to the products' sale prices.

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## Role of the Commodity Management Centers

While the depots receive, store, and ship products for FSS' stock program, the purchasing and delivery decisions for these products are made at commodity management centers. FSS personnel at seven commodity management centers—located in Fort Worth, Texas; Kansas City, Missouri; Auburn, Washington; New York, New York; and three in Washington, D.C.—buy and manage these products. FSS procurement officers at the commodity management centers buy the products stocked at the depots. These officers conduct market surveys by contacting suppliers to obtain information on the quality and price of products. They

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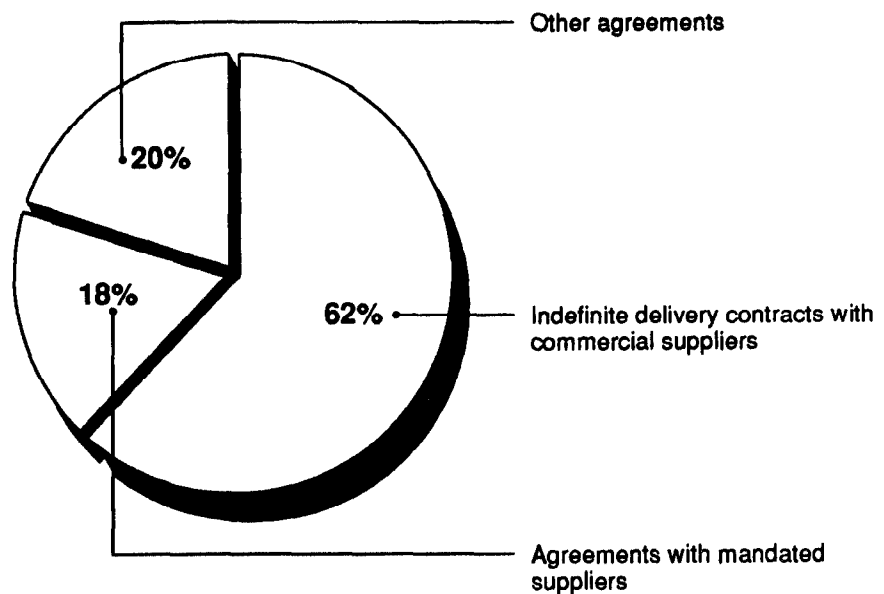
<sup>1</sup>The dollar thresholds do not apply to standard and optional forms, items produced by the Federal Prison Industries, Inc., or items on the procurement list published by the Committee for Purchase from the Blind and Other Severely Handicapped.

are also responsible for soliciting suppliers, setting the terms of solicitations, and awarding contracts.

FSS contracts with many commercial suppliers, including large companies and small and disadvantaged firms, as well as legislatively mandated sources. Many contracts with commercial suppliers do not have a specified time of delivery. These contracts provide for delivery of the products either to FSS depots or directly to federal agencies. They establish minimum order amounts for shipments to depots as well as to customers. For small purchases, GSA procures supplies from commercial suppliers using other agreements that are less formal.

FSS also procures products from the Federal Prison Industries, Inc.; National Industries for the Blind and the Severely Handicapped; and the Government Printing Office. These entities were mandated as sources of supply by Congress to support various social and public goals. GSA's agreements with these organizations neither prohibit nor specifically provide for direct delivery. Figure 1.1 shows each of these different types of procurement methods as an estimated percentage of total FSS stock program procurements.

Figure 1.1: GSA Procurement Methods



Note: Percentages are estimates based on GAO analysis.

Inventory managers at the commodity management centers make decisions on the amounts of products stocked at the depots and how orders are delivered. Their primary responsibility is to monitor the stock levels at the depot. For each product, inventory managers set a maximum amount that can be shipped at one time from the depot without their prior approval. As orders are processed, FSS' automated system first determines product availability and then analyzes the quantity ordered. If the order does not exceed the maximum amount it is then automatically routed to the depot closest to the customer for processing and shipping. If the order exceeds this amount, the inventory manager decides whether the order will be shipped from the depot or directly from the supplier. For any order that meets or exceeds the minimum order amount established in the contract, the inventory manager can have that order direct delivered.

The cost to FSS is the same for orders directly delivered as for orders delivered to its depots. However, the cost to the customer for orders that are direct delivered is less than for orders from the depots because the fee FSS charges is different. For those orders shipped from a depot, FSS charges

federal agencies, on average, a 29-percent fee to cover its handling and processing costs. FSS charges federal agencies, on average, a 10-percent fee for orders that are direct delivered since its handling costs are less.<sup>2</sup> In addition to its stock program, GSA fills small quantity orders for products through its network of 12 Customer Supply Centers (CSC). CSCs maintain only some of the products stored in the depots but deliver orders in 2 days. GSA charges, on average, a 38-percent fee for the expedited service.

## Depot Operations Have Changed Over the Years

Even though GSA has consolidated its depot operations, GSA's stock program has relied on depots for distributing products for many years. Generally, GSA's philosophy has been to ensure that adequate inventories of products are stocked in the depots to meet its customers' needs. This philosophy is sustained in various ways. One of the key performance indicators for the stock program is the "fill rate" that measures the percent of orders filled as they are received. Additionally, inventory managers are held accountable for ensuring that sufficient stock of products is available to fill orders.

The philosophy of inventory management in the private sector began to change in the 1970s and continued through the 1980s. Companies adopted the view that inventory should be maintained at the lowest possible levels to reduce carrying costs and potential write-offs for obsolescence and damages. In support of this view, the private sector began to use a variety of distribution systems depending on modern transportation networks and electronic order processing. One of these systems, the direct distribution system, reduces the need to stock products at depots and reduces excessive product handling costs by increasing the number of direct deliveries.

Not only did the private sector begin to use different distribution systems, but because of significant changes in technology and increased competition, customer satisfaction became a primary concern. Changes in computer technology meant that orders could be processed quicker, and increased competition meant that products were available from more sources. According to a study prepared by the Michigan State University for the Council of Logistic Management, leading logistics organizations "exhibit an overriding commitment to customers."<sup>3</sup> Leading firms

<sup>2</sup>In commenting on a draft of this report, the FSS Commissioner said that these charges have been recently updated and that for fiscal year 1993, the GSA processing fees have changed to 30 percent for depot shipments and 15 percent for direct deliveries.

<sup>3</sup>Leading Edge Logistics Competitive Positioning for the 1990's 1989, Council of Logistics Management, Oak Brook, Illinois.

understand their customers' needs and the costs associated with meeting these needs. These firms integrate the management of all inventory-related activities in order to operate at the lowest possible total cost and achieve customer satisfaction. As a result, leading industrial producers have adapted to these revised concepts to earn the business and loyalty of their customers, many of whom buy the same products that the government does.

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## Objective, Scope, and Methodology

The Chairwoman, Government Activities and Transportation Subcommittee, House Committee on Government Operations, asked us to review GSA's depot-based supply distribution methods to assess if they could be made more effective and efficient. To meet this objective, from FSS' Consummated Requisition History File covering the period February 15, 1990, through February 14, 1991, we selected a representative sample of 869 products that FSS provided to federal agencies through its depots.<sup>4</sup> We dropped 82 products from the initial sample primarily because FSS was unable to verify the product stock number or FSS determined that the product was no longer being provided through the stock program. We analyzed the contract files on the remaining 787 products to develop information on FSS' contractual arrangements with suppliers, including minimum order requirements and delivery time.

For the 787 products in our sample, we also analyzed all customer orders to determine how many (1) were direct delivered from the supplier, (2) could have been direct delivered based on FSS' contractual terms, and (3) could have been direct delivered based upon information suppliers provided us. Applying GSA's dual fee schedule of an average 29-percent markup to depot shipments and an average 10-percent markup for direct deliveries, we calculated the savings in product costs to customer agencies that would occur by increasing direct deliveries and then projected our findings to the universe of products managed by FSS in its depots. For further information regarding how the sample was selected and the confidence intervals for our projections, see appendix I.

We interviewed FSS management officials, inventory managers, and procurement contracting officers at FSS' headquarters and 7 commodity management centers to identify FSS' procurement and inventory management practices for each of the 787 products and to determine why FSS did not direct deliver more orders.

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<sup>4</sup>We did not verify information in the FSS Consummated Requisition History File because the individual orders were not available.

We interviewed 287 suppliers of 577 products, or 73 percent of our sample products, to determine their (1) minimum order amounts, (2) delivery time requirements—length of time from receiving the order to shipment received by the customer, and (3) willingness to direct deliver quantities below their contractual requirements to federal agencies at no increase in price. Of the remainder, we were unable to contact the supplier for 52 products; for 158 products, we were unable to identify a primary supplier from the available data.

We analyzed FSS' Consummated Requisition History File to determine customers' ordering patterns and identified three groups of customers. These included customers that generally (1) received direct deliveries from suppliers, (2) ordered sufficient quantities to meet the supplier minimum order amounts but did not receive direct deliveries, and (3) never requisitioned the minimum amounts required for direct delivery. We interviewed 50 FSS customers to ensure coverage of the three groups, including military services and civilian agencies. We judgmentally selected these customers because appropriate agency officials were easily accessible. During these interviews, we asked the customers about their (1) supply needs, (2) ability to purchase supplies from local sources, and (3) willingness to pay more for priority orders.

We reviewed and analyzed earlier GAO and GSA contractor reports on FSS depot operations to identify related issues and determine if and how well FSS had addressed any concerns raised. We also reviewed published articles on the changing business environment and inventory management issues. Additionally, we met with a private sector organization specializing in logistics management to discuss current industry practices and procedures and to determine whether such practices were applicable to FSS.

We did our audit work between April 1991 and June 1992, in accordance with generally accepted government auditing standards. We have included GSA's written comments in appendix II and summarized them at the end of chapter 2 and appendix II.

# More Direct Delivery of Customer Orders Could Save Millions

Millions could be saved annually if GSA had more orders shipped directly to customer agencies from suppliers instead of from its depots. Customer agencies could save because the GSA processing fee for direct delivered orders is about two-thirds less than for orders filled from its depots. Taxpayers could save if GSA no longer had to store and ship these products or maintain the capability to do so. Our work raised questions about the cost effectiveness of current depot operations and suggests that GSA should seek to reduce its operational role and become more of a central management supply agency that provides governmentwide leadership and sets policy.

## Customer Agencies Could Achieve Significant Savings

If GSA increased its use of direct delivery, when cost effective, the government could save millions. We analyzed a sample of products sold during a 1-year period—February 15, 1990, through February 14, 1991—to identify opportunities for direct delivery and projected these results to the universe of depot products. Our analysis showed that GSA direct delivered only an estimated \$68 million out of an estimated \$800 million in sales that had potential for direct delivery. To determine the potential savings due to increased direct delivery of depot products, we took this universe of depot sales and applied GSA's fee schedule for depot shipments versus direct deliveries. If GSA had arranged direct delivery of all \$800 million, or 83 percent, of the nearly \$1 billion in total sales, we estimate that customer agencies would have saved as much as \$107 million. This \$107 million in potential savings results from federal agencies no longer having to pay, on average, 29 percent in GSA processing fees for orders filled from depots compared to 10 percent, on average, for those shipped from suppliers. GSA would no longer incur the cost to store and ship these products.

Our analysis showed that GSA could have increased direct delivery if it had (1) made more use of the direct delivery provisions in existing contracts; (2) worked with suppliers to reduce the minimum order amounts in contracts; and (3) helped agencies consolidate their multiple, small, low-value orders to meet direct delivery requirements.

GSA has not used more direct delivery because of its management philosophy of using the depots to meet customer needs and the belief that orders, especially priority orders, take less time to fill and cost less from the depots than through direct delivery. GSA inventory managers said that their primary duty is to appropriately maintain depot inventory. This means that even when an order meets the minimum order amounts in existing contracts for direct delivery, the inventory managers' first



response is to have the order shipped from the depot. According to inventory managers, direct delivery is used when an order would lower inventory levels to a point that other orders could not be filled from remaining depot inventory.

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### Use of Direct Delivery Provisions Limited

Even though most of GSA's supply contracts to procure products contained direct delivery provisions, these provisions were seldom used. For example, the contract for 5-quart pails allows direct delivery of orders exceeding \$500 in value. Customer agencies placed 60 orders that met or exceeded this limit but only 3 of these orders were direct delivered. Our analysis shows that if GSA could routinely use the direct delivery provisions contained in existing supply contracts, in addition to the estimated \$68 million that was direct delivered, an estimated \$259 million more of the nearly \$1 billion in total sales could have been direct delivered, and customer agencies could have saved \$38 million in GSA processing costs.<sup>1</sup> Despite these contractual arrangements, GSA chose not to have these orders direct delivered to customers.

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### Smaller Quantities Can Be Direct Delivered

In addition to not taking full advantage of direct delivery provisions in existing contracts, GSA has failed to establish terms in its contracts with suppliers that ensured the lowest quantities they would be willing to direct deliver with the shortest possible lead times. Our interviews with over 287 suppliers of 577 products showed that they said they would be willing to direct deliver amounts smaller than those established in their contracts, at no increase in price. As an example, GSA set a contract minimum order quantity of \$100,000 for a collapsible shovel. However, the supplier told us that orders for \$300 or more could be direct delivered to federal agencies at the same price. Had GSA set this lower minimum order amount and direct delivered the 1,005 orders in our sample that met this requirement, customer agencies would have saved about \$500,000.

On the basis of interviews with GSA suppliers, we determined that the average minimum order value they would be willing to direct deliver to customer agencies was about \$472 per order compared to an average GSA contract minimum order value of \$1,463. By comparing customer orders to the lowest quantities suppliers said they were willing to direct deliver, we projected that an additional \$314 million of GSA's nearly \$1 billion in total sales may have been direct delivered at a savings to customer agencies of \$46 million in GSA processing costs.

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<sup>1</sup>Future savings from increased direct delivery would depend on whether supplier prices change.

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### Consolidating Small Orders Can Increase Direct Delivery

Millions more could be saved by customer agencies if GSA worked with them to consolidate their small orders, when cost effective, so that they qualify for direct delivery. Our analysis shows that agencies have many low-value, small-quantity orders that could meet the direct delivery criteria if they were consolidated. For example, one customer placed 17 individual orders each for 10 to 35 rolls of aluminum foil. By consolidating the 17 orders into 4 or 5, the customer would have met the contract's minimum order quantity of 69 rolls and saved \$844 by having these orders direct delivered. If agencies had consolidated their small orders, we projected that an additional \$159 million of GSA's nearly \$1 billion in total sales could have been direct delivered, and customer agencies could have saved as much as \$23 million in GSA processing costs.

Customer agencies said that they placed small quantity orders because it was easy and convenient, and there is no economic penalty in doing so. However, many said they would be willing to consolidate orders if it meant a cost savings. The customer agencies also said that they had not considered consolidating orders because they were unaware of the cost savings associated with direct delivery. GSA does not encourage agencies to consolidate orders for direct delivery due to its focus on providing customer service itself and its preference for meeting customer agencies' needs through its distribution system.

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### Vast Majority of Sales Qualify for Direct Delivery

In summary, we determined that in addition to the estimated \$68 million that was direct delivered, an estimated \$732 million more of the nearly \$1 billion in total sales had opportunity for direct delivery.<sup>2</sup> In addition to the estimated 7 percent that was direct delivered, we also estimate on the basis of GSA's nearly \$1 billion in sales that direct delivery might have been increased by

- 27 percent (\$259 million) if GSA had used existing contract provisions,
- 33 percent (\$314 million) if GSA had set contract terms at the lowest quantities suppliers were willing to ship, and
- 17 percent (\$159 million) if GSA had worked with agencies to have them consolidate their orders.

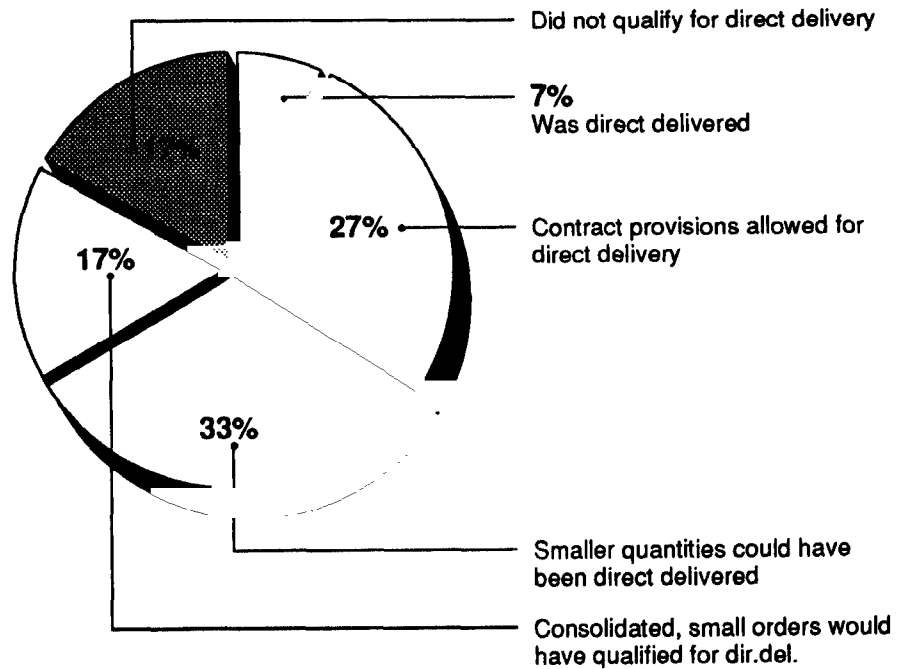
These additional direct deliveries could have saved customer agencies as much as an estimated \$107 million. Realized agency savings depend on whether increased direct delivery affects supplier prices and agency

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<sup>2</sup>See table I.4 in appendix I for further details on our estimates.

processing and storage costs. Figure 2.1 shows that all but 17 percent of the projected sales could have been direct delivered.

Figure 2.1: Direct Delivery of GSA Depot Sales



Note: Percentages based on projected total sales for the 1-year period from GSA's depots. Does not add to 100 percent due to rounding.

GSA voiced concern that agencies may have to increase storage space to accommodate more direct delivery, and the cost for this additional increased space could offset any savings made possible by direct delivery. However, our discussions with 25 customer agencies indicated that most would not need additional storage space. In fact, 18 of the 25 said that their current storage space is sufficient to accommodate the larger quantities they would be ordering. Furthermore, GSA does not routinely provide agencies information regarding direct delivery prices and savings, quantities, and lead times so that they can make informed supply management decisions and develop plans that consider their storage capacity, budget limitations, and urgency of need.

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**Customer Timeliness**  
**Needs Unaffected by**  
**Direct Delivery**

GSA officials' rationale for not emphasizing more direct delivery centers, in part, on their belief that orders filled by direct delivery take more time and cost more than orders filled from depots. We found from our discussions with suppliers and analysis of shipping times that most suppliers said they could deliver sooner than GSA's contracts required and that they could direct deliver routine orders, on average, in nearly the same time it takes GSA. On average, the contracts require that suppliers deliver products in 78 days. Our interviews with 287 suppliers of 577 products showed that 292 products could have been delivered in an average of 31 days. This is just 2 days, on average, more than GSA's 29-day limit for delivering routine orders. As shown by figure 2.2, the suppliers' estimates of delivery time averaged considerably less than the contractual requirements and only 2 more days than GSA's limit for providing agencies with products that are shipped from the depots. Supplier's prices may depend on the expected delivery time. In commenting on a draft of this report, GSA said it plans to investigate whether changed delivery times affect prices.

Figure 2.2: Comparison of Supplier and GSA Delivery Times

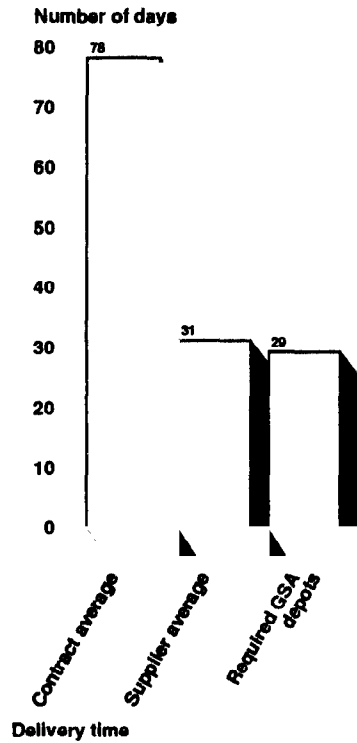


Figure 2.2 also shows that the difference in time between when suppliers and GSA deliver products is negligible for shipment of goods under routine delivery conditions. Nearly 74 percent of all GSA orders are processed for routine delivery, indicating that for a large majority of customer orders, priority delivery time is not critical. In view of the substantial savings that can be realized through direct delivery, a slightly longer supplier direct delivery time should be considered insignificant.

### Priority Orders Could Be Reduced

In discussing with GSA officials the pros and cons of the direct delivery concept, one concern they raised was that customer agencies' priority orders may not be met under such a concept. We believe this issue could be alleviated if GSA more closely monitored the need for priority orders. A reduction in the number of unnecessary priority designations could significantly reduce shipping costs and allow these orders to be direct delivered, which would result in an additional cost savings.

Although nearly 74 percent of GSA orders were for routine delivery in 29 days, the remaining 26 percent of customer orders had high-priority designations, requiring delivery between 7 and 11 days. These orders require GSA to expedite handling and to ship the order within 1 to 3 days after receipt. Suppliers we contacted said that they would not be able to deliver priority orders without increasing their prices. This is understandable and, in fact, draws attention to GSA's priority ordering policy under which the same processing fees are charged for both priority and routine orders.

GSA contends that because it is a service organization it does not challenge all priority code designations assigned by their customers. GSA officials did say, however, that they have ordering procedures that prohibit customers using high-priority designations solely for obtaining shorter delivery times. However, GSA does not review all agency priority designations, so abuse and misuse of GSA's policy can go undetected. Our discussions with GSA customers and analysis of orders show that customers have used the high-priority designations process unnecessarily. This is understandable because there is no practical disincentive to discourage the practice. For example, two GSA customers in our sample routinely designated all of their orders as priority.

We recognize that some priority orders are legitimate, but we believe that these can be filled by alternative means. For example, GSA customers can make local purchases or purchase certain products through GSA's Customer Supply Centers, which are supposed to routinely deliver orders in 48 hours. Considering the savings that direct delivery provides to GSA's customer agencies, the occasional need for priority orders should not stand in the way of implementing such a distribution concept.

It is important to note that this report is not the first to point out the benefits of GSA changing its depot operations and increasing direct delivery. GAO and outside consultants have issued previous reports that highlighted the potential savings associated with direct delivery. A January 1978 GAO report said that GSA could save from \$1.1 to \$3 million in annual transportation costs if more products were shipped directly from suppliers to the customers.<sup>3</sup> More recently, an outside consultant hired by GSA concluded that the government could save approximately \$26 million annually if GSA direct delivered high-quantity orders. Further, studies have shown that throughout the 1980s, leading firms used improved distribution techniques, such as direct delivery, to reduce their overall inventory levels

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<sup>3</sup>Economies Available Through Improved Inventory Management (GAO/LCD-78-212, Jan. 18, 1978).

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and therefore achieve significant savings. However, GSA continues to focus on providing products from its depots rather than developing a system that encourages direct delivery.

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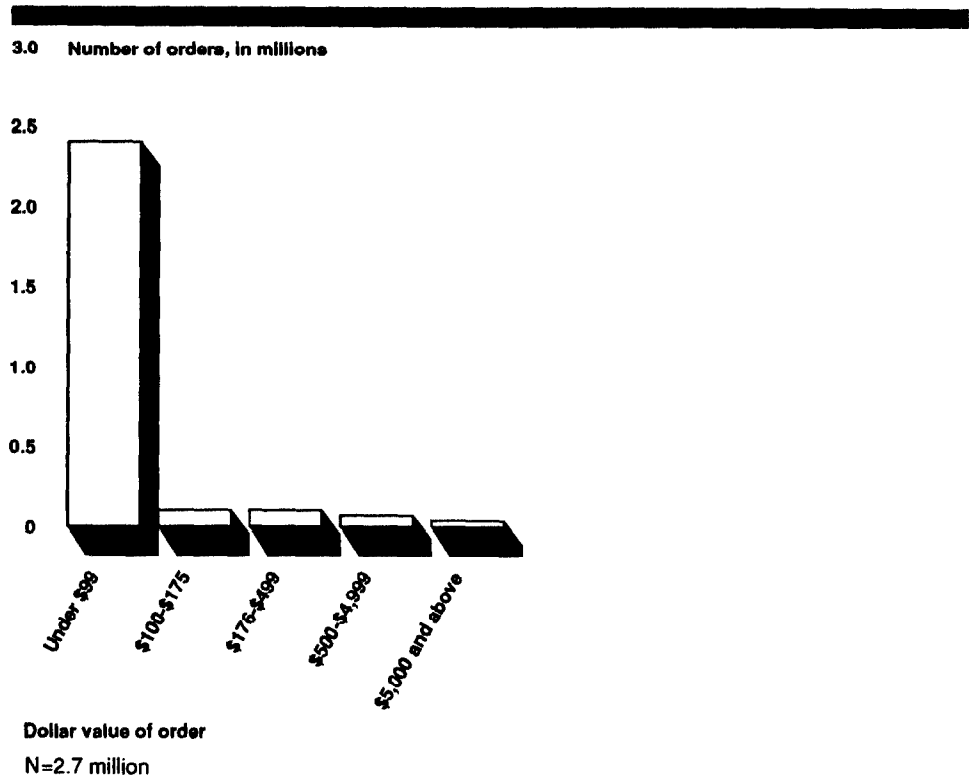
## GSA Could Achieve Significant Savings for Taxpayers

Increased use of direct delivery would allow GSA to achieve significant savings for taxpayers by streamlining operations to reflect reduced depot activity. For example, our analysis shows that if GSA were able to maximize direct delivery, GSA's remaining stock sales would only be an estimated \$161 million of the nearly \$1 billion in projected sales—not sufficient sales to recover the \$195 million depot operating costs. These remaining sales, an estimated 2.7 million of the nearly 5 million orders, were mostly low-value, low-quantity orders. Furthermore, we estimated that 2.5 million of these 2.7 million orders may have been uneconomical—the product cost and GSA handling costs were more than the customer agency paid.<sup>4</sup> We estimate that it cost GSA \$88 million more for these orders than the customers paid. GSA was able to fill these uneconomical orders because its costs were subsidized by revenues from orders filled by the depots, orders that could have been direct delivered. Figure 2.3 shows the dollar values for these 2.7 million orders that did not appear to qualify for direct delivery.

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<sup>4</sup>We define uneconomical orders as those below a break-even point—the level at which the dollar value of an order offsets GSA's costs of filling it from a depot. Although GSA had not developed break-even estimates, it did provide information that permitted us to approximate an average break-even point. From this data, we estimate an overall average break-even point of about \$177. We caution against interpreting this value too literally because in developing this figure, we had to make various assumptions that do not allow for greater precision.

Figure 2.3: Projected Number of Orders That Did Not Appear to Qualify for Direct Delivery



For these low-value, low-quantity orders GSA could also further streamline depot operations by encouraging agencies to purchase them from other cost-effective supply sources. As shown in figure 2.3, most of the 2.7 million orders were valued under \$5,000; more importantly, the vast majority—2.4 million of the 2.7 million orders—were valued at \$99 or less.

Orders for most products valued under \$5,000 can be purchased locally without going through GSA.<sup>5</sup> Under applicable regulations, single products that cost between \$100 and \$5,000 can be purchased from sources other than GSA if a written justification is prepared stating that the purchase is in the best interest of the government in terms of quality, cost, and timeliness. Agencies are not required to prepare justifications when buying products from sources other than GSA that cost less than \$100. This means that potentially 2.4 million of the 2.7 million orders could have been purchased by GSA's customer agencies from local sources without written

<sup>5</sup>41 C.F.R. 101-26.301. Special rules apply to standard and optional forms and to products produced by the Federal Prison Industries, Inc., or listed on the procurement list published by the Committee for Purchase from the Blind and Other Severely Handicapped.



justifications. Of the 50 customers we interviewed, 39 said they were already buying some supplies from local sources.

We estimate that only about 1,300 orders were for \$5,000 or more, which required GSA involvement. However, since \$472 was the average minimum order value suppliers were willing to direct deliver at no increase in price, we believe that had GSA worked more closely with its suppliers and established lower minimum order amounts, a high potential exists that orders of \$5,000 or more could have been direct delivered.

We recognize there are some products that agencies cannot purchase locally or their orders do not meet direct delivery requirements. These products include items manufactured to certain government specifications, such as those for the military. Products with specifications are those manufactured to meet special needs of the customer agency. For example, metal surface dent filler is manufactured to military specifications, and a garden hose is manufactured to Forest Service specifications.

In addition, several laws require that certain products be purchased only from designated sources. For example, the government must buy all its retractable ball point pens from the National Industries for the Blind and all its stacking desk trays from the Federal Prison Industries. While many of the workshops and work centers of these organizations expressed a willingness to direct deliver their products, a uniform, nationwide agreement has not been established. In these cases, GSA could work with customer agencies and suppliers to find alternative means of obtaining these small-quantity items. Another option could be for GSA to supply these common products from its Customer Supply Centers.

In sum, direct delivery could possibly account for about 83 percent of sales. In addition to the estimated \$68 million that was direct delivered, an estimated \$732 million more of the nearly \$1 billion in total sales had opportunity for direct delivery. Once these sales were removed from the system, GSA would be supplying only an estimated \$161 million in sales—not sufficient sales to recover the \$195 million in depot operating costs. If GSA increased direct delivery and encouraged agencies to purchase low-value, small-quantity orders locally, it could significantly reduce depot operations and restructure its role as the government's central supply agency. By reducing depot operations, the government could realize a one-time savings, spread over time, of up to \$240 million in

inventory investment because GSA would no longer maintain affected products in inventory.

## Role Change Is Warranted

GSA can and should continue to use its enormous cumulative buying power for the government to obtain advantageous prices for goods and services. But it does not have to continue its existing level of reliance on depot operations to do this. Our work raises questions as to whether GSA should continue to operate its depots at current levels and suggests that GSA should reduce its operational role and become more of a central management supply agency. As such, GSA should provide governmentwide leadership, set policy guidance, and manage operations to ensure that agency supply needs are filled at the lowest cost to the government.

In doing this, GSA could build strong partnerships among suppliers and customers to meet their needs and develop the most cost-effective supply system. GSA could (1) provide agencies with information to help them purchase supplies from the best source and at the lowest costs, (2) help agencies develop ordering patterns to maximize direct delivery by consolidating their orders, and (3) work with suppliers to obtain the lowest minimum order quantities and shortest possible delivery times so that more orders qualify for direct delivery.

GSA has already demonstrated its ability to work with suppliers and increase direct delivery. After Operation Desert Shield began, the inventory of many products needed to supply the war effort was quickly depleted. GSA officials began to work with suppliers to shorten delivery times in order to accelerate direct deliveries. When these suppliers could no longer meet the customer needs, GSA identified other suppliers located in the United States as well as in other countries and worked with them to get supplies delivered directly to support the war effort. In total, approximately 50 percent of orders to support Operation Desert Shield were filled directly from suppliers to the customers. Since GSA was able to manage the supply needs in this case, it should be able to apply the same principle to meeting the government's supply needs on a regular basis.

GSA must change its role if it is to effectively and efficiently manage the government's supply needs. Legislative changes affecting GSA's role, coupled with changes in how private sector companies distribute products, have given agencies greater accessibility to a wide variety of products. In fiscal year 1988, legislation was enacted that reduced the dependency on appropriations and replaced it with an industrial funding

method for achieving full cost recovery through appropriate pricing of products. This resulted in GSA being allowed to charge customers a mark-up for products in order to recoup its operating costs. Under industrial funding, agencies are allowed greater latitude to purchase products valued under \$5,000 from the sources that are lowest in price. As a result, GSA must make its operations efficient and its service levels high to keep costs down and prices competitive with the private sector.

By establishing better working relationships with customer agencies and suppliers, increasing direct delivery, and eliminating uneconomical orders, GSA has a unique opportunity to reduce its operational involvement and assume a more central management role. If GSA strengthens its position as a central supply system manager, rather than a major supplier of products, then the federal government will spend less for the products it needs. GSA should focus its efforts on developing and managing an effective supply system that saves the government millions of dollars and is also responsive to customer needs.

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## GSA Initiatives to Improve Depot Operations

GSA has made major changes to depot operations over the past decade and has other initiatives underway to improve operations. According to a GSA official, GSA has significantly reduced the cost of depot operations by cutting back the number of depots from 16 in 1981 to 5 in 1992 and also by decreasing the number of depot staff by 567, from 1,464 full-time equivalents in 1981 to 897 in 1992.

GSA has recently reviewed the direct delivery aspect of depot operations. In a June 1992 study, GSA assessed the viability of shipping smaller orders from GSA depots and routing larger orders to suppliers for direct delivery to customer agencies. The study concluded that direct delivery of larger orders for most bulky type products would, in part, reduce GSA depot space and fulfill customer needs. According to the Deputy Assistant Commissioner for Commodity Management, after the study was circulated to regional officials, consensus was reached that direct delivery could be increased and that use of more direct delivery will be evaluated as current contracts expire.

GSA has also changed its process for filling priority orders submitted by customers due to a Department of Defense initiative to reduce priority ordering. As of May 1, 1992, GSA began processing all orders on a routine basis except for those orders with a special project code or a required delivery date. The FSS Commissioner said that this change has reduced

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transportation costs by about \$500,000 per month. According to the FSS Commissioner, this change has been applied to certain civilian agency orders, but it has not been made to reduce the highest priority orders placed from all civilian agencies.

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## Conclusions

GSA continues to operate a costly supply system and has not aggressively pursued adoption of more modern, businesslike approaches to managing the federal supply system. It has not optimized its use of direct delivery, which would save GSA customers millions annually, and continues to process millions of costly uneconomical orders. Also, GSA's priority ordering policy does not require GSA to recoup the extra costs associated with filling priority orders or monitor and assess federal agencies' priority ordering practices to identify potential abuses.

The government could achieve as much as \$107 million in savings in reduced operating costs annually and as much as \$240 million in one-time savings, spread over time, if GSA reduced its operational role and became more of a central management supply agency. Realized savings depend on whether a reduced operational role for GSA affects supplier prices and agency processing and storage costs. As a central management agency, GSA could develop an effective network between customer and supplier and adopt an aggressive, pro-active approach to developing the most cost-effective supply system. Increased use of direct delivery, elimination of uneconomical orders, and overall better management of the supply system would go a long way toward achieving this goal. If GSA does not meet this challenge, then the current supply system will remain obsolete and inefficient.

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## Recommendations

We recommend that the GSA Administrator (1) develop a plan with timetables to maximize the use of direct delivery, which would reduce existing depot operations; and (2) establish effective networks between GSA and customer agencies to develop the most cost-effective supply system, which may include the elimination of GSA distribution operations. GSA should also

- identify and explore cost-effective supply sources to fill those orders that do not meet direct delivery requirements, such as orders that are uneconomical to supply and those orders for products manufactured to specifications and purchased from mandatory source suppliers;

- 
- monitor and assess agencies' use of priority designations and consider charging them for these extra services; and
  - reduce its operational role and become more of a central management supply agency that develops effective partnerships between customers and suppliers and works with them to develop the most cost-effective supply system.

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## Agency Comments and Our Evaluation

In its written comments dated November 19, 1992, GSA agreed with the thrust of the report and most of our recommendations. GSA recognized the potential for increasing direct delivery and said it will establish a plan with timetables to test our recommendation in the marketplace. In addition, GSA said it will establish an interagency council of senior logisticians to evaluate current depot operations and participate in the development of the most cost-effective supply system. However, in commenting on the report and in subsequent discussions, GSA officials took exception to part of our recommendation that GSA reduce its operational role. Officials agreed that GSA could become more of a central management agency that develops effective partnerships between customers and suppliers and works with them to develop the most cost-effective supply system. GSA said it will use the interagency council as a platform to strengthen its central management role.

GSA's commitment to establish an interagency council is a good first step in the development of the most cost-effective supply system. It will be especially important for the council to work with suppliers to develop effective customer, GSA, and supplier partnerships and, when cost effective, promote direct delivery as the first-choice method of supply. It is also important to recognize that a council is only an aid to help GSA strengthen its ability to set effective supply policy and provide central management of the federal supply system.

As described in our report, GSA should be able to reduce its operational role and become more of a central management agency. There are significant opportunities to increase direct delivery and reduce, if not eventually eliminate, depot operations—a move that could save the government millions of dollars annually. GSA needs to change its operational mindset and become more of a leader in formulating effective supply policy and developing and managing a more cost-effective and efficient supply system. If it does not, the government will continue to spend more than necessary to buy products.

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**Chapter 2**  
**More Direct Delivery of Customer Orders**  
**Could Save Millions**

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GSA also provided some other specific comments on issues in the report. These comments and our evaluation are presented in appendix II.



# Methodology for Sampling Products

To assess whether GSA can increase its use of direct delivery and reduce or eliminate depot operations, we obtained, developed, and analyzed data on a stratified random sample of products sold. This sample of the total universe of products sold was needed to ensure randomness and representativeness.

GSA provided us with 11 computer tapes that contained data referred to as the "Consummated Requisition History File." These tapes contained a total of 5,007,517 records covering the time period February 15, 1990, through February 14, 1991. Each record in the file represents a different line item, which is a customer order for a single product in any quantity. Each product is identified by a National Stock Number (NSN). For example, if a customer placed an order for 25 hammers and 4 ladders, this would be recorded on the database as 2 line items—one for the 25 hammers and another line for the 4 ladders.

As a first step in sample design, we selected a systematic sample by choosing every 20th record from each of the 11 computer tapes. This resulted in a sample of 250,375 records from the original database. From the systematic sample of 250,375 records, we obtained counts of the total number of products ordered. We wanted to ensure that our final sample of products (NSNs) was representative of all types of products, particularly because we knew that a relatively small number of products accounted for a very high percentage of the sales. The sum from our count was 13,813 products. We arrayed these products by NSN according to the quantity ordered during the time period. After examining this list, we created two strata because a simple random sample would have resulted in the selection of a large number of low-value products since they represent the largest number of records in the database. The high-volume (high-quantity) strata included NSNs for which the quantity ordered was 10,000 or more. Those with fewer than 10,000 were placed in the low-volume, or second, strata. A total of 334 NSNs were in the high-volume strata and 13,479 NSNs fell into the low-volume strata.

We wanted the results of our in-depth analysis to be reliable at the 95-percent confidence level with an error rate of no more than 5 percent, and we expected that we would not be able to locate information for some NSNs. Therefore, we selected a sample size that would yield the desired level of confidence even after anticipated losses. A sample of 201 NSNs were randomly selected from the 334 high-volume products, and a sample of 668 NSNs were randomly selected from the 13,479 low-volume products. In total, 869 products were included in our original sample. From the



sample, we can project our findings to the total universe of products maintained at GSA depots with a 95-percent degree of confidence.<sup>1</sup>

As we anticipated, during the review process we could not locate detailed information for 82 NSNs—80 from the low-volume strata and 2 from the high-volume strata. This reduced the sample size from 869 to 787. Because we had anticipated some reduction when we determined the original sample size, this reduction of 82 products did not affect the reliability of our findings.

**Table I.1: Distribution of Sample of NSNs**

| <b>Strata</b> | <b>Number of NSNs from 5% sample</b> | <b>Sample of NSNs selected</b> | <b>NSNs in final sample</b> |
|---------------|--------------------------------------|--------------------------------|-----------------------------|
| High-volume   | 334                                  | 201                            | 199                         |
| Low-volume    | 13,479                               | 668                            | 588                         |
| <b>Total</b>  | <b>13,813</b>                        | <b>869</b>                     | <b>787</b>                  |

Our next step was to segregate the sampled NSNs into groups on the basis of whether they were direct delivered or could have been direct delivered. We were able to identify from the database those line items that were direct delivered. To obtain information on the other line items, we reviewed the contracts and actual orders to obtain information and determine whether they could have been direct delivered. We reviewed the contracts and determined that more orders could have been direct delivered.

We identified categories for those orders that could have been direct delivered. The definitions for each of these categories are as follows:

- **Contract minimum order:** Those line items for which the quantity ordered met or exceeded the minimum amount established in contracts and thus could have been direct delivered.
- **Supplier minimum order:** Those line items for which the quantity ordered met or exceeded the minimum amount the supplier was willing to direct deliver at no increase in price.
- **Direct delivery:** Those line items for which GSA did direct deliver the quantity ordered.
- **Rollup:** Those line items for which the quantity ordered by a single customer during our 1-year period, if consolidated into one or more

<sup>1</sup>At this level of confidence, we can be 95-percent certain that our findings are an accurate representation of the universe of all products. If we were to take repeated random samples of the same size from this database, the results would be within plus or minus 5 percent of the computed value for the 95-percent samples.

orders, would have met or exceeded the amount the supplier was willing to direct deliver at no increase in price.

We also identified categories for those orders that did not appear to qualify for direct delivery during our 1-year period. These definitions are as follows:

- **No Term:** As used in the tables, those line items for products that GSA obtained under less formal agreements with commercial suppliers. These include supplies obtained from commercial suppliers through imprest funds, blanket purchase agreements, and purchase orders. For convenience, we have grouped these various agreements under this one category.
- **Other:** Those line items for which the quantity ordered was too small to meet the supplier minimum amount and therefore did not qualify for direct delivery even if a customer consolidated its orders during our 1-year period.
- **Miscellaneous:** Those line items (1) for which the quantities ordered were less than the minimum amount established in contracts to qualify for direct delivery and (2) for which we were unable to contact suppliers to determine their minimum amounts. For this category, we identified the minimum amounts from the contracts and included this in our analysis in the "Contract Minimum Order" category. We did not obtain information we could use for the "Supplier Minimum Order" category since we were unable to contact the suppliers.

Table I.2 shows the number of records for the sample NSNs that were direct delivered, the number that could have been direct delivered, and the number that could not be direct delivered, by category.

**Table I.2: Total Sample Records by Category**

| <b>Mode of Delivery</b> | <b>Low volume</b> | <b>High volume</b> | <b>Total</b>   | <b>Percent of the total</b> |
|-------------------------|-------------------|--------------------|----------------|-----------------------------|
| Contract minimum order  | 13,675            | 26,709             | 40,384         | 4.6                         |
| Supplier minimum order  | 27,316            | 124,192            | 151,508        | 17.4                        |
| Direct delivery         | 481               | 1,101              | 1,582          | 0.2                         |
| Rollup                  | 25,434            | 149,200            | 174,634        | 20.1                        |
| No term                 | 22,089            | 24,272             | 46,361         | 5.3                         |
| Other                   | 101,572           | 317,779            | 419,351        | 48.2                        |
| Miscellaneous           | 12,689            | 24,118             | 36,807         | 4.2                         |
| <b>Total</b>            | <b>203,256</b>    | <b>667,371</b>     | <b>870,627</b> |                             |

This table shows that our sample included almost 871,000 orders during the February 15, 1990, through February 14, 1991, time period. Fewer than 1 percent of these were direct delivered. In order to measure the true impact, projections were made that equated the data shown in the table above to the total universe of orders for products shipped during the time period. The resultant data are shown in table I.3. As previously stated, all confidence limits are based upon 95 percent, plus or minus 5 percent.

Table I.3: Total Records (Sample and Projected Universe)

|                        | Sample         | Estimated Universe | Upper level of confidence | Lower level of confidence |
|------------------------|----------------|--------------------|---------------------------|---------------------------|
| Contract minimum order | 40,384         | 220,338            | 222,437                   | 218,239                   |
| Supplier minimum order | 151,508        | 827,113            | 830,899                   | 823,328                   |
| Direct delivery        | 1,582          | 8,637              | 9,062                     | 8,212                     |
| Rollup                 | 174,634        | 954,109            | 958,108                   | 950,109                   |
| No term                | 46,361         | 252,949            | 255,190                   | 250,708                   |
| Other                  | 419,351        | 2,289,477          | 2,294,466                 | 2,284,488                 |
| Miscellaneous          | 36,807         | 200,822            | 202,830                   | 198,813                   |
| <b>Total</b>           | <b>870,627</b> | <b>4,753,445</b>   | <b>4,772,993</b>          | <b>4,733,897</b>          |

In order to approximate the universe more accurately, we then deleted 254,072 records from the original database of 5,007,517 records. These records were deleted because (1) shipping dates were not within our time period, (2) records did not identify quantities shipped, (3) records did not include selling price, and (4) contracts could not be located. The total number of records that were included in the universe after we deleted the 254,072 records was 4,753,445. We matched the NSNs for the sample to this final database and created an analysis data file. This data file included all records from the initial database where the NSN matched one in our sample. This analysis data file was used for all analyses described below.

Tables I.4 through I.7 show the results of our analyses, projected to the universe. For tables I.5, I.6, and I.7, we calculated total dollar values by multiplying the total quantity by the selling prices for the respective items. The information presented in the tables that follow provides the basis for the analytical portions of the report. It should be noted that the totals shown in the different tables may vary slightly due to rounding.

**Appendix I  
Methodology for Sampling Products**

**Table I.4: Projected Value By Category**

|                        | <b>Sampled<br/>NSNs</b> | <b>Universe<br/>estimate</b> | <b>Upper<br/>limit</b> | <b>Lower<br/>limit</b> |
|------------------------|-------------------------|------------------------------|------------------------|------------------------|
| Contract minimum order | \$56,319,569            | \$259,045,131                | \$259,102,895          | \$258,987,368          |
| Supplier minimum order | 67,952,789              | 313,591,590                  | 313,652,623            | 313,530,558            |
| Direct delivery        | 14,585,230              | 67,501,280                   | 67,534,552             | 67,468,008             |
| Rollup                 | 34,524,437              | 159,321,233                  | 159,369,649            | 159,272,817            |
| No term                | 8,892,021               | 40,899,367                   | 40,925,649             | 40,873,085             |
| Other                  | 22,647,420              | 104,377,897                  | 104,418,407            | 104,337,387            |
| Miscellaneous          | 4,155,703               | 15,330,419                   | 15,346,732             | 15,314,106             |
| <b>Total</b>           | <b>\$209,077,169</b>    | <b>\$960,066,918</b>         | <b>\$960,350,507</b>   | <b>\$959,783,329</b>   |

**Table I.5: Number of Records by Value  
(Sample and Projected Universe)**

| <b>Dollar value of order<sup>a</sup></b> | <b>Sample</b>  | <b>Universe</b>  | <b>Upper level<br/>of confidence</b> | <b>Lower level<br/>of confidence</b> |
|--|----------------|------------------|--------------------------------------|--------------------------------------|
| Less than \$1                            | 25,019         | 136,442          | 138,108                              | 134,776                              |
| \$1 to \$9                               | 226,629        | 1,235,928        | 1,240,306                            | 1,231,551                            |
| \$10-\$26                                | 174,370        | 950,932          | 954,924                              | 946,940                              |
| \$27-\$99                                | 213,902        | 1,166,521        | 1,170,816                            | 1,162,227                            |
| \$100-\$175                              | 62,965         | 342,248          | 344,828                              | 339,669                              |
| \$176-\$499                              | 92,828         | 503,865          | 506,937                              | 500,793                              |
| \$500-\$4,999                            | 69,669         | 379,942          | 382,648                              | 377,236                              |
| \$5,000 or more                          | 5,245          | 34,057           | 34,899                               | 33,216                               |
| <b>Total</b>                             | <b>870,627</b> | <b>4,749,936</b> | <b>4,773,466</b>                     | <b>4,726,407</b>                     |

<sup>a</sup>Dollar values are rounded; therefore, cents are not shown in row labels.

**Table I.6: Value of Records by Dollar  
Amounts (Sample and Projected  
Universe)**

| <b>Dollar value of order<sup>a</sup></b> | <b>Sample</b>        | <b>Universe</b>      | <b>Upper level<br/>of confidence</b> | <b>Lower level<br/>of confidence</b> |
|--|----------------------|----------------------|--------------------------------------|--------------------------------------|
| Less than \$1                            | \$16,758             | \$72,874             | \$74,008                             | \$71,740                             |
| \$1-\$9                                  | 1,123,781            | 4,886,895            | 4,896,156                            | 4,877,633                            |
| \$10-\$26                                | 3,001,907            | 13,440,937           | 13,456,227                           | 13,425,647                           |
| \$27-\$99                                | 11,253,846           | 51,843,614           | 51,873,027                           | 51,814,200                           |
| \$100-\$175                              | 8,469,163            | 39,362,744           | 39,388,549                           | 39,336,939                           |
| \$176-\$499                              | 28,047,844           | 128,648,967          | 128,693,299                          | 128,604,635                          |
| \$500-\$4,999                            | 92,822,441           | 426,269,712          | 426,334,371                          | 426,205,052                          |
| \$5,000 or more                          | 64,341,430           | 295,700,611          | 295,760,691                          | 295,640,530                          |
| <b>Total</b>                             | <b>\$209,077,170</b> | <b>\$960,226,352</b> | <b>\$960,476,327</b>                 | <b>\$959,976,377</b>                 |

<sup>a</sup>Dollar values are rounded; therefore, cents are not shown in row labels.

**Appendix I  
Methodology for Sampling Products**

**Table I.7: Number and Size of Records That Cannot Be Direct Delivered**

| Dollar value of order <sup>a</sup> | Sample         | Estimate of universe | Upper level of confidence | Lower level of confidence |
|------------------------------------|----------------|----------------------|---------------------------|---------------------------|
| \$99 and under                     | 438,431        | 2,393,392            | 2,395,922                 | 2,390,862                 |
| \$100-\$175                        | 23,531         | 128,456              | 130,058                   | 126,853                   |
| \$176-\$499                        | 28,124         | 153,529              | 155,272                   | 151,785                   |
| \$500-\$4,999                      | 12,196         | 66,578               | 67,745                    | 65,411                    |
| \$5,000 plus                       | 237            | 1,294                | 1,458                     | 1,129                     |
| <b>Total</b>                       | <b>502,519</b> | <b>2,743,249</b>     | <b>2,750,456</b>          | <b>2,736,040</b>          |

<sup>a</sup>Dollar values are rounded, therefore, cents are not shown in row labels.

**Table I.8: Value and Size of Records That Cannot Be Direct Delivered**

| Dollar value of order <sup>a</sup> | Sample              | Estimate of universe | Upper level of confidence | Lower level of confidence |
|------------------------------------|---------------------|----------------------|---------------------------|---------------------------|
| \$99 and under                     | \$8,884,684         | \$39,753,247         | \$39,775,922              | \$39,730,571              |
| \$100-\$175                        | 3,162,651           | 14,150,829           | 14,165,722                | 14,135,936                |
| \$176-\$499                        | 8,237,703           | 36,858,423           | 36,880,517                | 36,836,329                |
| \$500-\$4,999                      | 13,634,462          | 61,005,449           | 61,030,950                | 60,979,948                |
| \$5,000 plus                       | 1,975,644           | 8,839,736            | 8,851,719                 | 8,827,754                 |
| <b>Total</b>                       | <b>\$35,895,144</b> | <b>\$160,607,684</b> | <b>\$160,704,830</b>      | <b>\$160,510,538</b>      |

<sup>a</sup>Dollar values are rounded; therefore, cents are not shown in row labels.

We used the following assumptions to approximate the \$177 break-even point to identify uneconomical orders.

First, we assumed that GSA's paperwork processing cost does not vary by the dollar value of orders. Second, we assumed that the total depot operating expenses, including rent, personnel, and the costs for security, quality assurance, and equipment, apply evenly to all products stocked. Third, we assumed that transportation costs are constant over all orders because every product price GSA charges contains some amount of transportation cost. As a result of these assumptions, the break-even point we calculated assumes that for all products, GSA's processing costs are constant across all orders regardless of their dollar values.

# Comments From the General Services Administration

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



Administrator  
General Services Administration  
Washington, DC 20405

November 19, 1992

The Honorable Charles A. Bowsher  
Comptroller General  
of the United States  
General Accounting Office  
Washington, DC 20548

Dear Mr. Bowsher:

Thank you for the opportunity to review and comment on the General Accounting Office (GAO) draft report, "General Services Administration: Increased Direct Delivery of Supplies Could Save Millions (GAO/GGD-93-XX)."

GSA agrees with the thrust of the audit report's analysis citing the need for GSA to intensify its efforts in investigating the potential for increasing direct deliveries. To this end, GSA will develop a plan with timetables to test in the marketplace the audit proposals for increasing direct deliveries. With factual marketplace data, GSA will increase direct deliveries when such action is consistent with customer delivery requirements, represents the most cost-effective alternative, and does not adversely affect congressionally mandated socio-economic programs.

GSA must note that its past and current attempts to increase direct deliveries display mixed results. GSA routinely uses its econometric method of supply computer model to determine the most cost-effective supply alternative, i.e., stock or one of our direct delivery programs which include special order and Federal Supply Schedules. Frequently, the contract price differential for direct delivery significantly exceeds the margin necessary to justify the change on an economic basis. Usually, the reason GSA's distribution system is less costly is the same for the Government as it is for the private sector. For consumable items, our model demonstrates that the economies of large quantity purchases delivered to a small number of distribution locations is generally less expensive than having a large number of vendors making many shipments to a large number of customer locations.

Additionally, your report is particularly perceptive in recommending that GSA establish effective networks between GSA and customer agencies to develop the most cost-effective supply system. In this regard, GSA will establish an interagency council of senior logisticians to evaluate the current system and participate in development of the most cost-effective system.



See ch. 2.

See comment 1.

See ch. 2.

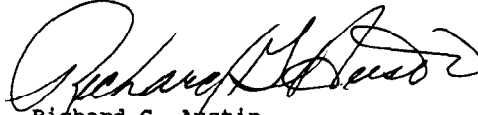
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This council will provide the proper forum to consider the least cost system from the standpoint of product cost and total processing cost, i.e., customer agency processing costs as well as GSA processing costs.

Additional comments are enclosed.

Sincerely,



Richard G. Austin  
Administrator

Enclosure

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Administration

GENERAL SERVICES ADMINISTRATION (GSA) COMMENTS ON  
THE GAO DRAFT REPORT, "GENERAL SERVICES ADMINISTRATION:  
INCREASED DIRECT DELIVERY OF SUPPLIES COULD  
SAVE MILLIONS (GAO/GGD-93-XX), DATED OCTOBER 7, 1992

General Audit Finding:

If all of the 83 percent of the (depot) sales had been direct delivered, federal agencies could have saved as much as an estimated \$107 million in reduced GSA processing costs.

GSA Comments:

Based on GSA's mixed results during its ongoing efforts to explore direct delivery options, the actual opportunity for increased direct deliveries will be, in all likelihood, less than the potential indicated in the report. Nevertheless, GSA is committed to a renewed emphasis to maximize cost-effective direct delivery as determined by actual bid prices and the additional processing costs customer agencies may incur.

Audit Finding:

The audit report estimates that for \$573 million of these (depot) sales, either the term in existing contracts allowed for more direct delivery or suppliers said they were willing to direct deliver smaller amounts than stated in the contracts, at no extra cost.

GSA Comments:

With respect to the first point, GSA contracts set forth estimates of the number of orders and the average quantity for these orders. These average order quantities are significantly higher than the contract minimums and contractors base their price on delivery of the average order quantity to one or more of our four depots. GSA must be cautious in testing this proposal because direct delivery requirements were based on a good faith estimate of the needs of executive agencies. GSA will reevaluate the estimates of direct delivery of goods for future solicitations.

With respect to the second point, GSA must be careful to ensure that a direct delivery contract price increase does not exceed the 15 percentage point differential between direct delivery vs. depot shipment markup. Although GSA does not dispute what suppliers may have said when interviewed, our historical evidence suggests that the product cost of smaller quantities shipped to many locations may be significantly higher than the larger quantities shipped to one or more of GSA's four depots. For example, direct delivery contract prices for copy paper were 98 percent higher than contract prices for depot deliveries. The annual depot sales volume for this product line is \$60.6 million and overall product cost impact could be significant.

See comment 2.

See comment 3.

See comment 4.



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Audit Finding:

Also, had GSA worked with agencies to get them to consolidate their orders to meet minimum order amounts, another estimated \$159 million may have been direct delivered.

GSA Comments:

Because customer agencies may incur increased processing costs when consolidating orders over a lengthened period of time, GSA must ensure that net processing costs to the Government do not increase when converting to a direct delivery. Net costs are the sums of GSA and customer agency processing costs. In this regard, the customer agency trend GSA has been observing, particularly in the Department of Defense (DOD), is the generation of smaller orders directly from the end user to the primary supply point (GSA) thus reducing intermediary supply point operations. For example, the Department of Navy has been reducing intermediary supply point operations at two Naval Supply Centers during fiscal year 1992. The DOD Inspector General Report 91-INS-04 estimates that the Navy saved \$800,000 in its processing costs annually by implementing this test program. Navy has expanded this program beyond the two test centers.

Audit Finding:

GSA's rationale for not emphasizing more direct delivery centers on its philosophy of using the depot to meet customer needs and the belief that orders from depots take less time to fill than direct delivery. However, GAO's interviews with about 300 suppliers indicates that timeliness is not a serious problem for many products.

GSA Comments:

Equally important is GSA's belief that economy of scale advantages are obtained by using a supply distribution system. In this regard, examples exist where depot shipments have been shown to be more cost-effective. The audit report elaborates on delivery time by indicating its interview process revealed that suppliers of 292 of the 577 sample items said they could deliver in an average of 31 days. While we do not dispute what these suppliers said, our experience shows that the average delivery time for stock direct deliveries in fiscal year 1992 was 59 days. Additionally, our average delivery time for the special order program, another of our direct delivery distribution systems with annual sales in excess of \$350 million, is 58 days. In converting to a direct delivery, GSA must ensure that the overall delivery time does not exceed customer requirements and the overall total cost is the least cost to the Government.

See comment 5.

See comment 6.

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Audit Finding:

GSA could substantially reduce its inventory investment by increasing its use of direct delivery and achieve a savings over time of up to \$240 million because GSA would no longer maintain affected products in inventory.

GSA Comments:

GSA is uncertain what affect increased direct delivery will have on net Government inventory. Net inventory is the value of inventory held by GSA and customer agencies for a given item. In the Navy example cited earlier, the Naval Supply Center in Norfolk, VA, reduced its inventory approximately 30 percent while GSA experienced no increase in inventory.

Audit Finding:

Furthermore, a 2.5 million of the 2.7 million (low value) orders may have been uneconomical - the product cost and GSA handling costs may have been more than the customer agency paid.

GSA Comments:

The audit report defines uneconomical orders as those below a break-even point of about \$177. This figure assumes that GSA processing costs are applied evenly to all orders; this is not the case. GSA manages two distinct cost centers in each depot, a bin operation for small orders, and a bulk operation for larger orders. The break-even points for these two operations are \$26 and \$268, respectively. Furthermore, GSA must be careful to ensure that the increase in product price for a local purchase option does not exceed the margin represented by GSA's processing costs. In this regard, Comptroller General Report PSAD-75-32 acknowledged that the product cost of local purchase was 74.5 percent higher than the GSA depot product cost.

Recommendation:

We recommend that the Administrator develop a plan with timetables to maximize the use of direct delivery which would reduce existing depot operations, and establish effective networks between GSA and customer agencies to develop the most cost-effective supply system which may include the elimination of GSA distribution operations. GSA should also:

- a. Identify and explore cost-effective supply sources to fill those orders that do not meet direct delivery requirements, such as orders that are uneconomical to supply and those orders for products manufactured to specifications and purchased from mandatory source suppliers;

See comment 7.

See comment 8.

See ch. 2.

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- b. Monitor and assess agencies' use of priority designations and consider charging them for these services; and
- c. Reduce its operational role and become more of a central management supply agency that develops effective partnerships between customers and suppliers and works with them to develop the most cost-effective supply system.

Comment:

GSA agrees with this recommendation with the exception of item c. GSA will use the interagency council of senior logisticians, discussed in our cover letter, as a platform to strengthen its role as a central management supply agency.

## GAO Comments

1. GSA did not present information regarding its past and current attempts to increase direct delivery; therefore, we are not able to assess its efforts. GSA's reference to its econometric model is not directly related to the issues discussed in the report. As GSA mentioned, its econometric model is designed to determine which of its various supply programs—such as special order, federal supply schedules, or stock—is the most cost effective to supply individual products to customer agencies. The report focuses solely on the stock program and those products that the econometric model has already determined should be supplied from the depots. The report illustrates that there are significant opportunities to increase direct delivery and that GSA is shipping millions of low-value, uneconomical orders to a large number of customer locations.

2. The report shows that there are significant potential savings from increased direct delivery. The amount of these savings is directly related to the extent to which GSA is able to increase the amount of direct delivery in its stock program. We believe that it is critical that GSA optimize the use of direct delivery to maximize potential savings.

3. As part of developing the most cost-effective supply network, GSA should work closely with suppliers and customer agencies to determine the optimum minimum order quantity that is suitable to both.

4. GSA should always strive to keep contract price increases to a minimum. However, as pointed out in the report, prices do not necessarily have to increase. Suppliers said they would be willing to increase direct delivery, at no increase in prices. The cost of shipping small-quantity orders directly to customers at many locations could be significantly higher than shipping larger quantities to one or more locations. In fact, we point out that GSA ships millions of low-value, uneconomical orders to many customer locations, which is not cost effective. As mentioned in the report, GSA should work with agencies to consolidate these low-value orders so that direct delivery would be cost effective.

GSA's copy paper example is not relevant to the direct delivery of products within GSA's depot stock program. GSA's example involves two different supply programs—stock and schedules—and illustrates that it is cheaper to supply copy paper from the stock rather than the schedules program. It does not address the opportunities to direct deliver copy paper within the stock program itself.

5. GSA should strive to contain net processing costs to the government when converting to direct delivery. GSA and agency processing cost information are factors to be considered in developing the most cost-effective supply system. However, even if agency processing costs increase, the savings made possible by direct delivery could more than offset these increases. While GSA's Navy processing cost example illustrates savings to the Navy, it also raises questions as to whether it is truly a net savings for the government or a shifting of Navy's costs to GSA, since GSA now will be processing these orders differently.

6. There may be economies of scale associated with a supply distribution system and examples may exist where depot shipments are cost effective. However, this report raises questions about whether GSA needs to maintain its depot operations at current levels to achieve economies of scale.

GSA should ensure that delivery time does not exceed customer requirements and the overall total cost is the least cost to the government. GSA may be currently experiencing long delivery times from vendors, but this may be as a result of GSA not working effectively with them to reduce the time. As the report points out, suppliers said they are willing to reduce delivery times at no extra cost. As a central management supply agency, GSA should continuously strive to obtain the best possible delivery times and product costs.

7. GSA should ensure that in converting to more direct delivery, the net government inventory of products does not increase. In developing the most cost-effective supply system, GSA could begin to work with customer agencies to minimize inventory holdings and develop better ordering patterns to receive products only when needed. In fact, GSA's Navy example indicates that it is possible to actually reduce inventory as a result of a more streamlined distribution system.

8. During our audit work GSA said it was unable to provide break-even estimates for orders filled. However, GSA did provide information that permitted us to approximate an overall break-even point. The assumptions used to develop our break-even point are discussed in appendix I. Regardless of whose break-even points are used, GSA is filling millions of uneconomical orders. Using GSA's \$26 as a low break-even point, we estimate that over 2 million orders are uneconomical (see table I.5).

GSA should ensure that agencies obtain the best prices for the products they purchase regardless of the supply source. As the report points out,

local purchase is an alternative supply source and customer agencies are already using it. However, if GSA can show that the local purchase option is more expensive and is not critical to meeting customer needs, GSA should discourage agencies from using it. Our report—Management of Federal Supply Service Procurement Programs Can Be Improved (GAO/PSAD-75-32, Dec. 31, 1974)—did say that depot product cost was less than local purchases. However, that was 18 years ago and various factors, such as increased competition, technological advances, trucking deregulation, and more streamlined commercial supply sources, could make local purchases more competitive. Also, as pointed out in this report, GSA has been able to service low-value, low-quantity, uneconomical orders because revenues obtained from orders filled by the depots, orders that could have been direct delivered, have been subsidizing their cost. If GSA maximizes direct delivery, it will not be able to subsidize low-value orders, and the local marketplace may become the best alternative.

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