

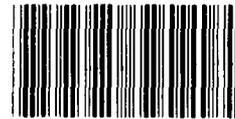
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BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Secretary Of Defense

Expanded Use Of An Improved Defense Automated Small Purchase System Would Yield Big Savings

The Defense Logistics Agency has automated about half of its small purchase procurements using the Standard Automated Small Purchase System. Automating most of the remaining procurements at the hardware centers is feasible with system modifications and would save at least \$4.5 million annually in administrative costs.



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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION

B-200410

The Honorable Harold Brown
The Secretary of Defense

Attention: Assistant for Audit Reports

Dear Mr. Secretary:

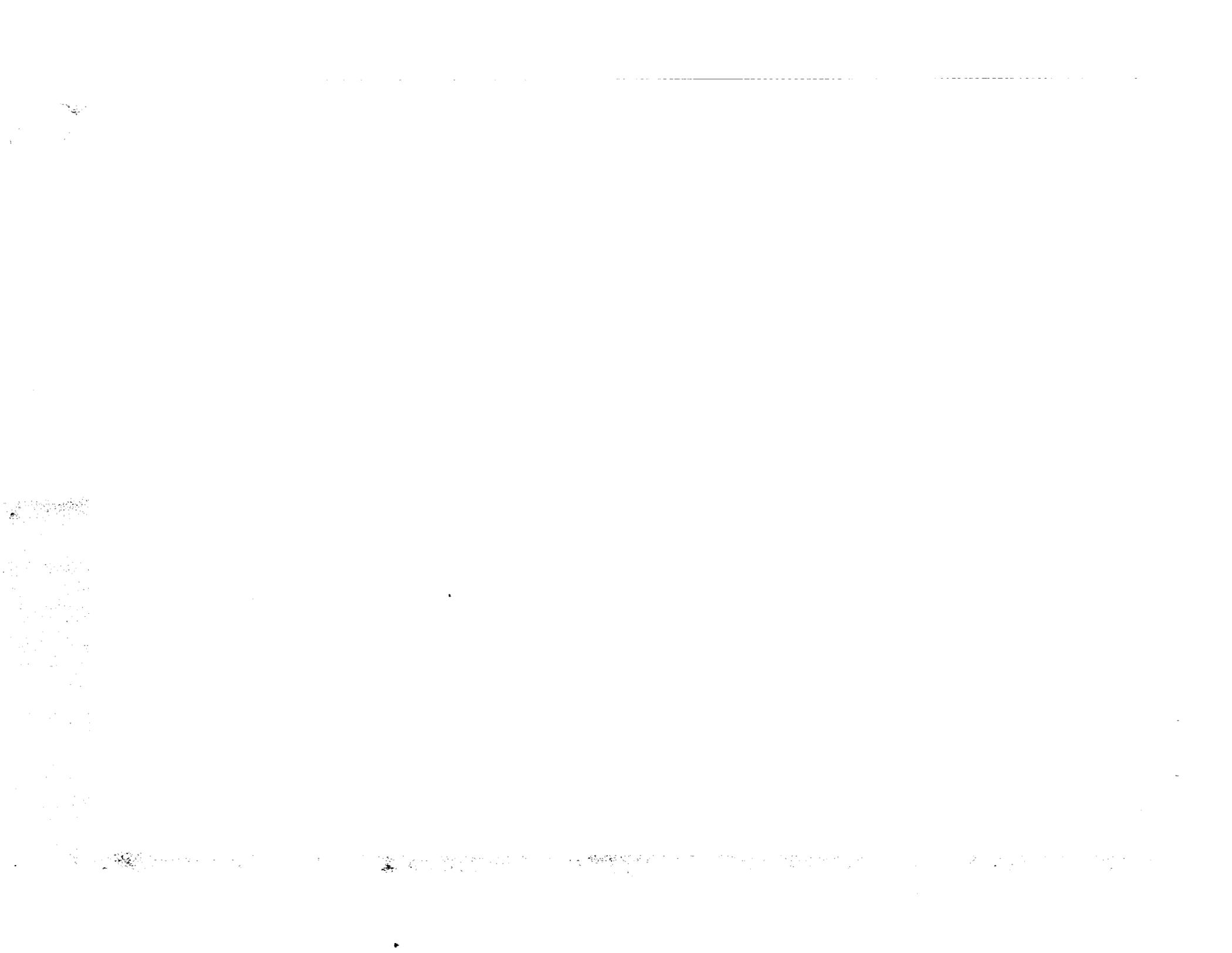
This report discusses the need to expand and improve the Standard Automated Small Purchase System used at four of the Defense Logistics Agency's supply centers. Expanding the system to include items now purchased manually would save an estimated \$4.5 million annually in administrative costs. Improvements in the system would make it more effective and result in greater competition and better prices.

This report contains recommendations to you on pages 23 and 24. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Administrator, Office of Federal Procurement Policy; the House and Senate Committees on Appropriations; the Senate Committee on Governmental Affairs; and the House Committee on Government Operations.

Sincerely yours,


W. H. Sheley, Jr.
Acting Director



D I G E S T

The Standard Automated Small Purchase System at the Defense Logistics Agency is an advanced computerized system for procuring supplies, such as hardware, appliances, electronic components, and construction materials for the military. The system expedites awards under \$10,000 by reducing manual effort and cutting administrative costs while insuring fair and reasonable prices for goods.

The Defense Logistics Agency purchased about \$7.8 billion worth of supplies in fiscal year 1979, representing about 1.1 million procurement actions. Over 95 percent of these actions were small purchases which represented about 12 percent of total procurement dollars. Currently, the system is operating at the agency's four hardware centers where total small purchases were approximately \$651 million, or 43 percent, of the centers' expenditures in fiscal year 1979.

GAO found the Standard Automated Small Purchase System works reasonably well. Its quality compares favorably with manual buys, but it is less costly to administer. About 50 percent of the centers' awards are automated. Items are excluded from the system when closer manual management is required. Methods are available for increasing automation by creating additional data bases and computer programs. GAO believes that these techniques will enable most buys at the hardware centers to be automated.

GAO also found that improvements are needed to increase the efficiency of the system and broaden its scope. For example:

--No formal long-range management plan exists to guide the orderly development, modification, and expansion of the system. (See p. 13.)

- Minimal effort is made to consolidate purchases of the same item made over several days or weeks because the system cycles only on a daily basis. (See p. 14.)
- System data such as base price and standard price was not always reliable and, in some cases, had a negative effect on procurements. (See p. 8.)
- Opportunities for obtaining quantity price breaks are not always identified. (See p. 11.)
- The success rate of a part of the system, which makes noncompetitive buys, is low and its role as currently conceived is questionable. (See p. 12.)
- Cost accounting data is not accumulated for measuring the cost effectiveness of automated versus manual procurement. (See p. 13.)
- Documentation of price reasonableness determinations is not always available as required by regulation. (See p. 13.)

GAO believes that automated purchasing should be expanded to include most of the small purchase items, which the Defense Logistics Agency buys manually at the hardware centers. GAO estimates a resulting annual savings in administrative costs of at least \$4.5 million at the hardware centers. Additional savings could be achieved by automating other commodities. (See ch. 4.)

RECOMMENDATIONS TO THE SECRETARY OF DEFENSE

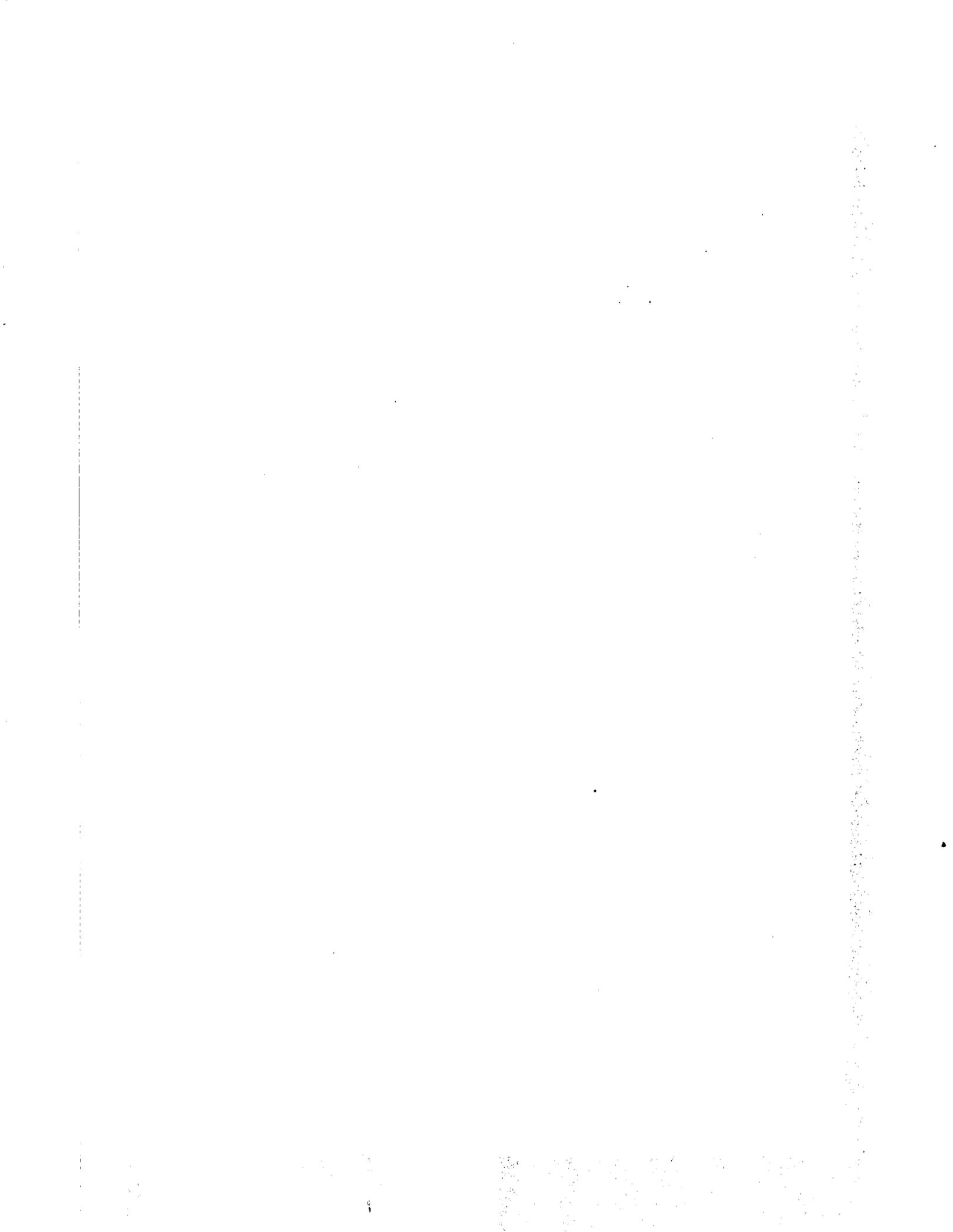
GAO recommends that the Secretary of Defense require the Defense Logistics Agency to immediately establish and implement a time-phased action plan to expedite implementation of system improvements already identified and to expand automation of small purchases to items now processed manually. The plan should provide for:

- automating the processing of most of the remaining manual small purchases at the hardware centers and justifying instances of continued manual purchasing,
- increasing consolidation of procurements to effect maximum economies through reduced prices, quantity price breaks, and lower administrative costs,
- improving the reliability of base and standard prices and documentation of award decisions,
- reducing processing time for automated buys,
- reassessing the role of the automated noncompetitive system, and
- developing cost data that can be used to better evaluate the effectiveness and efficiency of the automated system.

GAO also recommends that the Secretary of Defense require the Defense Logistics Agency to periodically report to him on the activities undertaken and the progress achieved in improving and expanding the Standard Automated Small Purchase System.

AGENCY COMMENTS

Defense Logistics Agency officials informally commented on a draft of this report. They agreed with the report except for our cost savings estimate which they thought was too high. However, they offered no alternative estimate. They believe the report will be useful in improving and expanding the use of the Standard Automated Small Purchase System.



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ABBREVIATIONS

DCSC	Defense Construction Supply Center
DESC	Defense Electronics Supply Center
DGSC	Defense General Supply Center
DISC	Defense Industrial Supply Center
DLA	Defense Logistics Agency
DPSC	Defense Personnel Support Center
GAO	General Accounting Office
SAMMS	Standard Automated Material Management System
SASPS	Standard Automated Small Purchase System

CHAPTER 1

INTRODUCTION

The Defense Logistics Agency (DLA) provides supply, logistics, and contract administration support to the military. For procuring supplies, such as hardware, appliances, electronic components, and construction materials, it uses the Standard Automated Small Purchase System (SASPS), an advanced computerized system which is part of DLA's Standard Automated Material Management System (SAMMS). SASPS expedites contract awards under \$10,000 (small purchases) by reducing both manual effort and administrative costs. It also helps to insure that the prices paid for goods are fair and reasonable.

In fiscal year 1979, DLA purchased about \$7.8 billion in supplies representing about 1.1 million procurement actions. Over 95 percent of these actions were small purchases and they represented about 12 percent of the total procurement dollars. The centers we audited had small purchases totaling about \$651 million and representing about 43 percent of DLA's purchases. Of the line items represented by these actions, about 50 percent were attempted through the automated system and the remainder were done manually.

Currently the system is operational at DLA's four hardware centers--Defense Construction Supply Center (DCSC), Columbus, Ohio; Defense Electronics Supply Center (DESC), Dayton, Ohio; Defense General Supply Center (DGSC), Richmond, Virginia; and Defense Industrial Supply Center (DISC), Philadelphia, Pennsylvania. However, not all supply classes are automated at these centers because some items require closer manual management. DLA is currently considering ways to extend use of automation at the hardware centers and to include medical supplies managed by the Defense Personnel Support Center (DPSC), Philadelphia, Pennsylvania.

We reviewed the operation of SASPS at DISC in 1975 and found that the use of automation (1) significantly reduced administrative costs for processing small purchases and (2) facilitated competition and lower prices for many small purchases. The study identified opportunities for additional savings through expanding the use of the automated system.

In May 1979 we examined small purchases made by DLA and the procedures followed to insure that reasonable prices were being negotiated. We concluded that the agency was generally following prescribed procurement procedures to insure reasonable prices. Some deficiencies were noted, however, such as

inadequately documenting the basis for price reasonableness determination, inaccurate data available to buyers, unrealistic standard prices, insufficient consolidation of buys, and inadequate solicitation of available sources of supply. Also in May 1979 DLA published a study titled "FOCUS" which addressed overpricing of items purchased by DLA centers using both automated and manual procedures. FOCUS concluded that overpricing was occurring in both automated and manual systems and recommended procedural refinements to the automated system as well as improved technical data files and an expanded vendor base.

DESCRIPTION OF SASPS

SASPS is a network of computer programs and automated data files which is used to place orders to specific vendors or to solicit and evaluate quotations from vendors. The system includes a noncompetitive subsystem called SASPS 1 and a competitive subsystem called SASPS 2 which are fully integrated with the contracting subsystem of SAMMS.

Each center has its own automated system, but they are centrally designed and maintained by DLA headquarters and the Defense Systems Automation Center. Each center has some discretion in determining system parameters such as the dollar ceiling for using SASPS 1 (up to \$500 maximum), base price variance parameters, and items to be excepted from the system. Any changes to the operating procedures affecting all centers must be approved by headquarters and tested by the Defense Systems Automation Center before implementation. A description of the operation of the system follows.

SASPS 1 (noncompetitive)

SASPS 1 processes noncompetitive awards by issuing unpriced "calls" up to \$500 against blanket purchase agreements with approved suppliers on a rotating basis. These agreements set conditions for filling repetitive buys for small quantities of supplies, and vendors warrant that their prices are no higher than those charged to their most favored customers. Manufacturers are identified by their assigned Federal supply code for manufacturers in the agreement. Suppliers may agree to furnish only certain Federal supply classes produced by one or more manufacturers.

Purchase requirements processed at the supply centers are screened by SASPS 1 to determine availability of a supplier to fill the requirement. Then an automated shipping instruction sheet is generated and forwarded to the supplier who, within 17 days, returns a vendor response card to the

center indicating his intention to fill the order and stipulating the price. SASPS maintains pricing data and checks prices against a system base price. Prices which exceed an established tolerance are flagged for review by DLA buyers.

SASPS 2 (competitive)

SASPS 2 attempts to competitively solicit industry for small purchases up to \$10,000 by using the computer to generate requests for quotation to qualified sources of supply. The computer then evaluates price quotations received from the vendors, selects the best offer, and generates the award documents to complete the purchase action. Normally a 28-day waiting period is allowed for receipt and input of quotes. Vendors have 21 days to respond, and buyers have 7 days to enter vendor response data into the automated system. If at the end of the waiting period, the automated system cannot make the award, it is referred for manual review. Most awards receive some manual review before signature.

SASPS 2 can solicit a maximum of 12 sources, but the actual number is established by each supply center. Normally the supplier who received the last award is included. If the number of suppliers available exceeds 12, the system selects them in a rotation. Likewise, the system had coded small, minority, and large businesses so that they will be solicited as required by regulation.

ROLES OF THE DLA HARDWARE CENTERS

Each of the four hardware centers is responsible for managing and procuring specific commodities. A description of each center follows.

DCSC

DCSC, in Columbus, Ohio, is DLA's largest field installation and manages about 350,000 different items in 74 Federal supply classes. DCSC manages construction materials, automotive and construction equipment components, and repair parts. Supplies include lumber, automotive equipment and parts, and some weapon system parts. During fiscal year 1979, DCSC made 308,286 awards totaling \$440.2 million. About 98 percent, or 301,260, of these awards totaling \$162.5 million were for \$10,000 or less and about 56 percent of the buys were automated and 44 percent manual.

The only commodity at DCSC that is totally excluded from the automated system is wood products--because DLA management

believes industry price fluctuations are too frequent and the market generally too turbulent for automated buying.

DESC

DESC, in Dayton, Ohio, is responsible for managing 764,000 electronics items in 27 Federal supply classes. DESC's items include resistors, connectors, transformers, and semiconductors. During fiscal year 1979, DESC made 136,569 awards totaling \$371.7 million. About 97 percent, or 131,907, of these awards totaling \$168.7 million were for \$10,000 or less. About 42 percent of these buys were automated and 58 percent manual. DESC has 26 of their 27 Federal supply classes in the automated system. Electronic tubes are excluded because diminishing competition and increasing prices require closer manual management of these items.

DGSC

DGSC, in Richmond, Virginia, has management responsibility for over 200,000 items in nearly 150 Federal supply classes. The general supplies managed by the center include electrical hardware and supplies, materials handling equipment, kitchen and laundry equipment, photographic supplies, and metal and woodmaking equipment. In addition to these supplies, DGSC also purchases all the educational supplies, including textbooks for 270 Department of Defense dependent schools. Educational supplies are currently excluded from the automated system.

During fiscal year 1979, DGSC made over 136,000 purchases having a total value of \$379 million. Small purchases accounted for about 96 percent of these purchases and totaled \$125.8 million--about 33 percent of the total dollars awarded. Of these about 43 percent were automated awards and 57 percent manual.

DISC

DISC, in Philadelphia, Pennsylvania, has management responsibility for over 790,000 items in 38 Federal supply classes. Supplies managed by DISC include bearings, chain, wire, iron and steel products, fasteners and springs, and rings. Items managed by the center are used in the repair and maintenance of key weapon systems. During fiscal year 1979, DISC made about 174,000 awards totaling around \$314.2 million. Small purchases accounted for \$193.9 million, or about 98 percent, of the awards and about 62 percent of the dollars expended. About 41 percent of DISC's awards were made using SASPS and 59 percent are awarded manually.

OBJECTIVE, SCOPE, AND
METHODOLOGY

The purpose of our audit was to evaluate the performance of SASPS in terms of the extent of its implementation at the supply centers, reasonableness of prices paid for goods, adequacy of competition, efficiency of operation, completeness and accuracy of the data base, operating procedures followed, conformity with Federal procurement policies, and overall system management.

Our audit was conducted at DLA headquarters, in Alexandria, Virginia, and at the four supply centers mentioned above. We also discussed our work with representatives of DPSC, in Philadelphia, Pennsylvania; and the Defense Audit Service.

Our review centered on a random sample of 511 procurements awarded by the four hardware centers using SASPS for the period March 1, 1979, through February 29, 1980. Using generally accepted statistical practices, we drew an unstratified sample from a universe of 1,340,380 buys, including both active and closed awards. We selected both automated and manual awards so we could compare the two methods. Our sample consisted of 206 (40 percent) automated awards and 305 (60 percent) manual awards.

The overall sample size of about 125 buys per center was sufficiently large to fairly represent the overall system. We chose an unstratified random sample because it permitted analysis of the whole system in a reasonable time period. We selected awards from the active and closed files to insure examining a maximum cross section of the agency's procurements. We selected a nonstandard fiscal year period, with a closing date near the start date of our audit, to allow examination of recent buys and observation of how any recent system changes were affecting performance.

We obtained a computer tape from each center containing data on the buys made during the time of our audit and selected the sample using tables of random numbers. Using a data collection instrument, we gathered and analyzed comprehensive information from contract files and computer printouts for each sample item. Data derived from the sample were analyzed and discussed with headquarters and center personnel at all levels, including personnel from the Directorates of Procurement and Production, Directorates of Supply Operations, Directorates of Technical Operations, Office of Planning and Management, Offices of Data Systems, and the Offices of the Comptroller. Assessments were made whenever sufficient data

was available; however, in some cases, data was not sufficient to assess areas such as price reasonableness and competition.

We developed estimates of the administrative cost savings attributable to increased automation. They are based on cost data previously developed by us and on discussions with agency personnel. (See p. 20.)

CHAPTER 2

ASSESSMENT OF SASPS

Evaluation of the sample procurements showed that SASPS generally works well. No significant difference between the quality of automated and manual awards was found in terms of prices paid and compliance with procurement laws and regulations. We did find that the automated system could be improved by making changes related to decreasing processing time, increasing reliability of pricing data, and requiring increased consideration of quantity price breaks. Further, the role of the noncompetitive subsystem (SASPS 1) should be reevaluated.

RESULTS OF AUTOMATED SAMPLE REVIEW

Overall System Performance

<u>Category</u>	<u>SASPS 1 percent yes</u>	<u>SASPS 2 percent yes</u>
Was price paid reasonable? (note a)	84	95
Were prescribed procedures followed?	96	92
Was award processed timely?	100	55
Was system price data sufficiently accurate and complete?	68	89

a/Data for auditing price reasonableness decisions was available for only 69 percent of the awards.

Prices paid were generally reasonable

Our analysis showed prices were reasonable on most procurements made by the automated system. Determination of price reasonableness is a judgment based on evaluation of a given set of factors. In evaluating the determination of reasonableness, we compared the current price paid with prices previously paid to see if the price was within a reasonable range. We noted other system pricing data, vendor bids, and evidence that price analysis had been performed. We also noted the number of vendors available for SASPS 1 buys and the extent of competition for SASPS 2 buys. In most cases, we discussed prices on individual items with buyers.

We did not verify price reasonableness on SASPS 1 and 29 SASPS 2 buys. Generally, there were either no prior buys or the last buy was so long ago that there was no longer any assurance that past information could be used for comparison.

Prescribed procedures were followed

In most cases, we found system procedures as documented in DLA guidance were followed. In some instances, we noted procedures and system operations were not clearly understood by agency personnel, such as in the case of base price criteria discussed on page 11 and quantity price breaks discussed on page 14.

Processing time for SASPS 2 needs to be reduced

Processing time for SASPS 2 awards varied from center to center. Conceivably, processing times for SASPS 2 awards could be approximately 28 days, but average processing time ranged from 35 to 45 days. Increased processing time was usually caused by manual efforts needed to complete processing. Buyers had heavy backloads of awards to review because of condition coding of bids, late vendor quotes, or need for technical and pricing reviews.

SASPS price data not always accurate or complete

In numerous cases, data needed to determine price reasonableness was not available. In other cases, this data was not meaningful. Further, the standard price used to determine system applicability and customer charges was not always accurate. Having an accurate base price is important to making a good procurement. In SASPS 1, for example, calls against blanket purchase agreements are unpriced and usually paid by fast pay procedures. As a result, vendors who overcharge the agency will most likely have been paid before DLA has a chance to be aware of the overcharge. The agency must then follow up to recover any significant amounts. In the SASPS 2 system, base price also serves as a reasonableness check. If a quote exceeds the predetermined tolerance, the buy action can be kicked out for manual review before the award is finalized. Inaccurate base prices can cause the system to reject buys for manual review unnecessarily and, thus, add to administrative costs. Also, base prices are a form of deterrent to vendors who might attempt to overcharge the Government.

Base price is often missing

Generally, each item procured should carry a base price in SASPS against which the vendor's unit price offered is compared to determine price reasonableness. As shown below, the base price was missing in about half of the automated procurements in our sample.

<u>Center</u>	<u>Percent of time the base price was missing</u>
DCSC	38
DESC	51
DGSC	42
DISC	55

Base price data not always meaningful

Although the base price is computed by SASPS, in many cases, center personnel could not explain how specific base prices were derived. While they knew that the criteria for deriving them had changed, neither the old or new criteria seemed operative.

Before January 1980, the base price was established as the lowest unit price paid for a direct delivery buy within the previous 2 years. Currently, base prices are established and updated as the lowest unit price paid within 1 year for stock or direct delivery. If a buy has not been made in the last year, the base price is dropped from the system. However, the system is not entirely uniform. We found that the base price may or may not reflect transportation costs because vendors differ in their billing practices. Also, base prices may be established from either a quantity buy or a single item buy.

As a result of base price deficiencies, in many cases there had been no reasonableness checks. However, most of the buys in our sample were reasonably priced even though the base price was unreliable. But unreliable data could lead to overpricing. For example, in February 1979, a pressure gage was purchased for \$69.19 on a SASPS 1 buy. This buy was listed on a postaward price variance report because it was less than the established base price of \$72.85. However, according to criteria in existence at the time, the correct base price should have been \$46.25--the unit price paid for a quantity of four in September 1978. In this case, the unit price of \$69.19 would have exceeded the base price by 50 percent, and the buy would have appeared on the variance report because it exceeded

the base price variance limits. The SASPS 1 supervisor agreed that the item was overpriced.

Base price variance reports

We also found that only minimal effort had been made to review and followup on base price variance reports. When no base price is available for comparison or the quoted price exceeds the base price variance limits, SASPS generates a price variance report for review by the buyer. Agency officials said that review of the reports has not proven cost effective because of the administrative costs involved and the low dollar recovery from vendors who have overcharged. For example, at DGSC the volume of buys printed on price variance reports is more than one person can handle effectively. Consequently, less than 20 percent of these buys are reviewed.

During the period October 1979 through May 1980, DGSC received 3,850 reports of SASPS 1 buys which exceeded base price variance limits and 9,345 reports of buys made without benefit of base prices. However, the clerk reviewed only 2,230 (17 percent) of these reports. He reviewed the ones that exceeded base price variance limits because, in his opinion, they offered the greatest opportunity for pricing adjustments. Records the clerk maintained for the 8-month period indicated that he obtained price adjustments totaling \$8,068, suspended or deleted 176 vendors, and reinstated 21 vendors.

Standard price not realistic

We found that standard prices in the system were not always accurate and in at least 3 cases may have resulted in inappropriate decisions on handling the procurement. Furthermore, where standard prices were grossly divergent from unit prices, customers were probably charged too much or too little for the item.

SAMMS maintains a standard price for stock numbered items procured. The standard price plus a surcharge for transportation and handling is what DLA charges its customers for an item. While standard price is not integral to the success of SASPS, it does play a part in the process. The computer multiplies standard price by the quantity to be purchased to determine the estimated dollar value of the buy. Using this amount, the computer can determine whether the buy is a small or large purchase. If it is a small purchase, the system queries either SASPS 1 or SASPS 2 subsystems, depending on the dollar threshold between systems at that center. Inaccurate standard prices can cause a

small purchase to be processed manually or a SASPS 1 candidate buy to be processed as a SASPS 2 buy or manually at additional administrative cost. For example, an item had a \$0.72 standard price. SASPS 1 sent a proposed award for a quantity of 100 to a vendor whose price of \$391 (\$3.91 each) exceeded the \$250 price limit in effect at the time. The buy was resolicited manually and total leadtime was 58 days. Available procurement history showed two buys made during the previous fiscal year at unit prices of \$6.42 and \$4.27, but the standard price did not reflect them.

We also found items in our sample where the cost to the center was more than the price to be charged to the customer. We identified five cases where the standard price was not realistic. In one example, the standard price was \$56.53 and the item cost the center \$3,110. In this example, the standard price was less than 2 percent of the unit cost. The following table shows some of the variations in standard unit price and unit cost.

<u>Item</u>	<u>Standard unit price</u>	<u>Unit cost</u>	<u>Unit cost as a percent of unit price</u>
Bronze tube	\$ 1.45	\$ 2.06	142
Valve check	10.84	39.10	361
Filter element	9.98	64.74	649

QUANTITY PRICE BREAKS
ARE NOT ALWAYS TAKEN

Sometimes it is in the best interest of the Government to increase the quantity to take advantage of the quantity break price. A "quantity break" is a reduction in unit price for a specified larger quantity.

We found some instances where potential quantity price breaks on SASPS 2 buys were not reviewed because of an apparent oversight on the part of the center personnel. At DISC buyers failed to consider price breaks on larger quantities offered by vendors for 4 of 43 awards. On two occasions, buyers neglected to enter a code on the vendor response card indicating that quantity price breaks were being offered. Without the code, the automated system could not highlight the procurement information for manual review. In the other cases, the price break information had been properly coded and printed out for review, but the buyers had not followed up with the user or the vendors.

NEED FOR SASPS 1
IS QUESTIONABLE

In March 1980, DISC suspended the use of SASPS 1. The suspension was due to several interrelated deficiencies in the SASPS 1. These problems include: (1) the risk of paying higher prices on noncompetitive awards, (2) a low-success rate in making SASPS 1 calls, and (3) higher administrative costs in awarding those failures manually.

DISC has experienced a steadily declining success rate for SASPS 1. This rate declined from 64.5 percent to 50.5 percent by the time DISC suspended its use in March 1980; conversely, the SASPS 2 success rate rose from 63 percent to 92 percent during the same period. DISC estimated savings of \$186,000 in administrative costs annually by using only SASPS 2 because of its higher success rate.

SASPS 1 failures also adversely affect procurement lead-times. Successful SASPS 1 buys have an arbitrary assumed leadtime of 1 day, since the shipping instruction sheets sent to the vendors are dated 1 day later than the purchase request. However, our sample at DISC included 12 failed SASPS 1 buys, which subsequently required an average of 70 days to process manually.

In general the success rate of SASPS 1 is lower than SASPS 2 at all of the centers. Furthermore, SASPS 1 lacks the capability to detect vendors who "game" the system and overprice items by increasing their prices to the maximum within the base price variance limits. Although the problems of SASPS 1 are applicable to all centers, DLA has not required the others to discontinue use of SASPS 1 since that system handles a large volume of small dollar buys at the other centers.

CHAPTER 3

MANAGEMENT AND TECHNICAL CHANGES

WOULD IMPROVE THE AUTOMATED SYSTEM

Management and technical changes in the system would improve performance and efficiency. These changes include establishing a long-range plan, consolidating more buys, improving cost accounting data, and better documenting of procurement decisions.

MANAGEMENT IMPROVEMENTS ARE NEEDED

Overall management and control of SASPS comes from DLA headquarters in coordination with the Defense Systems Automation Center. We found three areas of management that need additional attention if the system is to expand and improve in a timely, efficient way.

A SASPS long-range plan is needed

SASPS is evolving without the benefit of a formal long-range plan setting goals and milestones. Over the years, the system has grown from a single noncompetitive system to a dual system with modifications being made as conditions warranted. While annual planning meetings are held to discuss overall SAMMS operations, no formal long-range plan for SASPS has been developed. Such a plan is needed to set goals, priorities, and time frames for expediting needed changes and insuring that proper resources to support the system are provided.

Improvements are needed in cost accounting data

During our review, we requested data on the administrative costs of automated and manual buys, including labor, overhead, and computer costs. However, the data we received, which generally had been prepared for some ad hoc purpose, was not all calculated in the same way. Moreover, the computer time for processing automated buys was not known, and there was no breakout for time spent on manual and automated buys because SAMMS does not differentiate between the cost of SASPS and other system costs.

Better documentation of procurement decisions is needed

The Defense Acquisition Regulation Small Purchase Manual requires that every file must contain the necessary

documentation to support an award. However, we found many instances where documentation on buys was not available or was insufficient to permit analysis. In some cases, files for buys which closed in the last year could not be found at all. The absence of this data affected our ability to analyze sample procurements, especially price reasonableness determinations.

OPPORTUNITIES EXIST FOR
CONSOLIDATING PURCHASES

DLA's procurement function does not routinely consolidate purchase actions to take advantage of quantity price breaks, avoid minimum quantity charges, reduce the volume of small purchases, and reduce administrative costs of processing individual requisitions. This is true of both the automated and manual systems.

SASPS 1 does not provide for any consolidation since each line item is a separate purchase request and a separate award. SASPS 2 permits consolidating the same stock item on the same day into a single request for quotation. It will also consolidate several requests for quotation to one vendor on the same day into one award.

Our review disclosed numerous opportunities for consolidation. For example, at DGSC we reviewed the purchase histories of items in our sample of SASPS 1 and SASPS 2 awards. Our review was limited to purchases which occurred after, or up to 1 year before, sample item award dates. We identified 25 instances where 2 or more purchases of the same item were made within periods of 30 days or less. Consolidation in many of these instances would have resulted in procurement and administrative costs savings.

Additional examples of opportunities for consolidation were also noted:

- DISC made seven buys in 18 days for the same item from three different vendors. Quantities ranged from 1 to 100 and unit prices varied widely.
- DISC made 2 buys on 2 consecutive days to the same vendor for quantities of 20 and 121. The vendor charged the same unit price on both calls.
- DCSC made 2 buys, 3 days apart, for quantities of 29 and 11 items. Consolidation of these two orders, totaling about \$3,400, would have resulted in a price break of \$945.

At DESC we identified one instance where the center had the opportunity to consolidate over 200 individual small purchases made in a 4-day period and realize procurement cost savings of about \$3,300. We estimated that additional savings in administrative costs through consolidation in this case could be at least \$1,000.

DLA has already developed program changes for consolidating procurements for the same item. DISC recently implemented a program to consolidate noncritical manual direct delivery buys for either a 1- or 2-week period. Under this system, buys for the same item are handled on one purchase request rather than several different purchase requests of one item each. During the 3 months DISC has been using the program, the center has reduced the number of purchase requests issued for consolidated items by 3,347 (18.90 percent of the total held). DISC has not calculated administrative cost savings, but we estimate the savings to be at least \$293,000. These savings resulted from issuing fewer purchase requests, evaluating fewer vendor quotes, and writing fewer award documents.

Likewise, DESC has recognized the benefits of consolidation and in April 1979 began developing a proposal for adding a consolidation capability to the system. In April 1980, DESC completed a cost study which estimated annual cost savings of about \$280,000 to \$550,000 from consolidating on a weekly basis.

DLA representatives generally agreed that more procurements should be consolidated. They are cautious, however, about the approaches to be taken with the automated system, especially regarding changes to SASPS 1. This system is based on a single line-item per award for the sake of speed and simplicity. Also, because SASPS 1 procurements are of small dollar value and involve small quantities they believe that changing the system to permit consolidation would not be cost effective.

CHAPTER 4

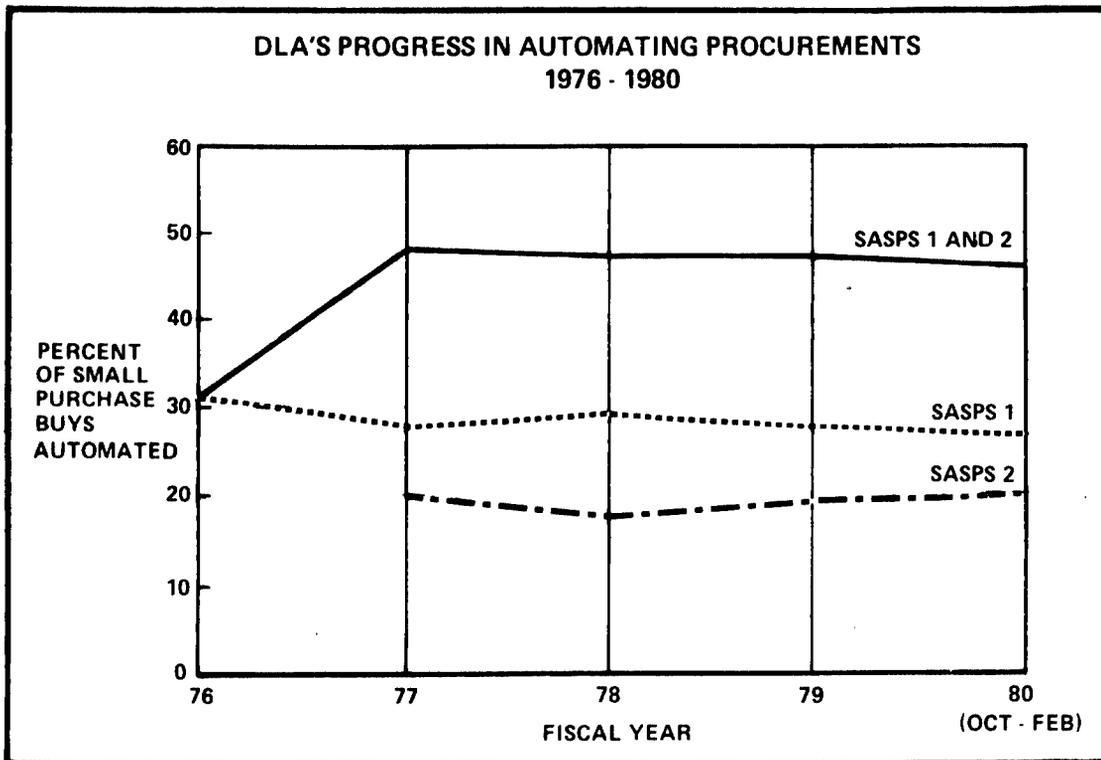
SAVINGS AVAILABLE BY INCREASED AUTOMATION

Greater use can be made of SASPS. Modifications will permit automation of most items procured manually by the hardware centers. These actions could save DLA about \$4.5 million annually in administrative costs. Additional savings are possible if the system can be expanded to other commodities.

SYSTEM MODIFICATIONS WOULD INCREASE AUTOMATED BUYS

As shown in the following illustration, DLA has used the automated system to process only about 50 percent of the items it procured over the last 4 years.

Based on discussions with agency personnel, a large percentage of those items now excluded could be automated using expanded data processing techniques. Many of them could be handled through just two changes--the "buyer directed request for quotation" process and automating preparation of solicitations which require sending drawings to suppliers.



DLA has already authorized the buyer-directed request for quotation which allows buyers currently making manual procurements to use the automated request for quotation preparation, quote evaluation, and purchase order preparation. With this approach, the buyer prepares a list of vendors for an individual item, along with codes for special contracting provisions. When this information is entered into SASPS, the system can automatically complete the award processing. Additionally, the data remains in the system so that subsequent purchases can be processed automatically. DLA has not established a date for implementing this technique because of conflicting priorities.

Another opportunity to automate additional purchases involves cases where drawings must be sent to each supplier solicited. Presently, these are excluded from SASPS because requests for quotation must go to the Directorate of Technical Operations to be matched with the drawings. Delays occur because (1) the requests are arranged in vendor number sequence while the drawings list request is in stock number sequence, thus complicating the matching process and (2) there is nothing on the drawings list to indicate when the request needs priority attention. SASPS could be programed, however, to recognize by code in the technical data file that procurements are for "drawings-required" items. The system would group these requests for quotation and indicate whether priority handling is needed. Once the requests and drawings are matched with and mailed to suppliers, the automated system would evaluate quotes and prepare award documents.

DLA officials do not know precisely how many manual procurements could be processed through SASPS if this change were implemented. These manual procurements are part of a larger file of items excluded from automated processing because of technical reasons. We believe that the number of items involved is substantial. However, DLA has not yet completed studying the use of this technique.

POTENTIAL TO APPLY AUTOMATED
PURCHASING TO ADDITIONAL COMMODITIES

Several other commodity areas such as medicinal supplies, subsistence, clothing, textiles, and educational supplies are excluded from SAMMS and therefore from SASPS. These commodities have potential for future automation. We have not attempted to estimate the administrative cost savings related to automating these commodities.

Medical supplies

DPSC has responsibility for the management of DLA's medical supplies and equipment. Generally, the center purchases only those medical items standardized by the Defense Medical Material Board and fills Army and Air Force overseas requirements for nonstandard items. In fiscal year 1979, DPSC awarded 141,106 medical line items valued at \$285.6 million. About 124,000 awards were small purchases.

DPSC implemented SAMMS for medical supplies in October 1974, but elected not to use SASPS. Instead it chose to use the direct vendor delivery special purchase system. This system generates an automated purchase request, but afterwards the system is entirely manual. Purchases are awarded by phone and over 50 percent are calls against blanket purchase agreements. Since 1978 DPSC has been evaluating the feasibility of adopting SASPS for medical supplies. DLA representatives believe that the automated system used at the hardware centers would require modification before it would be suitable for medical supplies. However, no decision on system design has been made.

Subsistence

DPSC manages subsistence through its worldwide field activities, with support from other Defense elements. In fiscal year 1979, DPSC awarded 1,514,787 lines valued at \$1.4 billion. Of these approximately 92 percent were small purchases representing 16 percent of the total dollars awarded. These awards were made manually, but DLA uses numerous automated information systems to support the supply and procurement function. To improve the process, in 1983 DLA plans to implement a Defense Integrated Subsistence Management System to encompass the many independent automated information systems now used.

Clothing and textiles

DPSC is also responsible for supplying the services' needs for clothing, textiles, and footwear. In fiscal year 1979, DPSC awarded 15,705 lines valued at \$492 million. Of these small purchases accounted for 14,499 lines, or 92 percent of total lines, and \$7.5 million, or 1.5 percent of total dollars. Clothing and textiles are scheduled for SAMMS implementation in fiscal year 1981.

Educational supplies

DGSC is responsible for buying educational supplies for overseas dependent schools and base libraries. In fiscal year 1979, DGSC awarded 351,027 lines worth \$19.5 million. This accounts for 63 percent of DGSC's total lines awarded and about 5 percent of total dollar obligations. Almost 100 percent of the 351,027 lines were small purchases and were awarded manually. Eighty-one percent were made for the Department of Defense Office of Dependent Schools, which is responsible for operating dependent schools overseas.

Defense is currently revising its approach to managing educational supplies. In February 1979, the Office of the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics issued a report stating the supply support system was inadequate and often unresponsive. It recommended that DLA and DGSC initiate immediate action to design, develop, and implement an automated requisition processing and procurement system. The revised system should, to the maximum extent possible, allow for direct requisitioning between the schools and DGSC and direct shipment of materials from vendors to schools. The study made other recommendations, all aimed at updating the school supply support system.

In September 1979, a task group was formed to determine if the Office of the Assistant Secretary of Defense study recommendations could be carried out using existing DLA and Defense automated systems and what modifications would be necessary. In March 1980, the task group recommended that SAMMS be used and identified changes that would have to be made to SAMMS to accommodate school supplies.

Recently, several changes were made which would substantially expand the workload at DGSC. The Office of Dependent Schools has been in the process of reorganizing and had expanded from three to six regions. It has eliminated its central depot in Europe so supplies can no longer be consolidated into one bulk shipment. Individual schools' requisitions were formerly consolidated and then sent to DGSC. Now individual requisitions will be sent directly to DGSC. In addition, the number of schools being serviced will increase due to the Office of Dependent Schools assuming responsibility for Panama Canal Zone Schools in October 1980. These changes are expected to increase the number of requisition lines by 68 percent and the number of purchase instruments is expected to increase 179 percent.

DLA representatives said that converting educational supplies to SAMMS would require additional personnel support and that the earliest it could be done would be fiscal year 1981. However, consideration is also being given to transferring the Office of Dependent Schools to the Department of Education by fiscal year 1982.

BASIS FOR ESTIMATED COST SAVINGS

Using estimated administrative costs of processing automated and manual buys, we compared the total costs of processing existing manual buys by automation and manual methods. We used only SASPS 2 in our estimates because of SASPS 1's lower success rate, higher probability of overpricing, and likelihood of higher overall costs to process because of the need to followup manually after system failures. SASPS 1 was also excluded because its role in the automated system is currently questionable and has been discontinued on an experimental basis at DISC.

The administrative costs for processing a SASPS 2 and a manual buy were estimated based on cost figures developed by us in 1975 during a previous audit. These figures were escalated for the 6-year period 1975-80 based on annual economic escalation rates for goods and services. We tested our assumptions and assured ourselves that these estimates were reasonable and conservative through review of available cost data from each of the centers and by discussion with agency personnel at the centers and at headquarters. During this process, we learned that DLA has not developed complete cost data for processing automated and manual buys. However, DLA's Integrated Management Engineering System established time standards for each work unit in the procurement process. We reviewed these standards to further assure ourselves that the cost estimates used were reasonable and conservative. As a result of our analysis, we developed the following estimates for processing an award.

Administrative Cost Per Award

(Estimated)

	<u>1975</u>	<u>Escalation</u>	<u>1980</u>
SASPS 2	\$ 3.11	\$2.08	\$ 5.19
Manual	13.12	8.77	21.89

We applied the cost to process line items awarded to the universe of manual buys completed at the hardware centers for the 1-year period of our audit. The volume of manual buys completed per center was:

DCSC	125,255
DESC	107,964
DGSC	70,893
DISC	<u>91,302</u>

Total 395,414

We calculated the cost to process these lines manually versus the cost to process them by automation. The following table below shows the savings for three levels or degrees of automation.

Savings Achieved Through Increased Automation
at Various Levels at Hardware Centers

(Estimated)

<u>Level</u> (percent)	<u>Manual buys</u>	<u>Savings</u> (note a) (millions)
100	395,414	\$5.35
85	336,101	4.54
75	296,560	4.01

a/Based on current system success rate.

Based on our analysis of categories of items currently excluded from the system and on discussions with agency representatives concerning proposed system changes, we concluded that most items now being purchased manually eventually can be automated. Most of them qualify for the buyer-directed request for quotation and automated drawings techniques already discussed. Accordingly, we believe an estimated 85 percent of items now excluded is a reasonable target for expanded automation at the current system success rate.

CHAPTER 5

CONCLUSIONS, RECOMMENDATIONS, AND

AGENCY COMMENTS

CONCLUSIONS

DLA's SASPS generally functions well and has saved millions of dollars in overhead costs in recent years. However, at the centers we reviewed, the system is used to purchase less than 50 percent of DLA's small purchases. We believe this can be improved and that DLA can automate most of the small purchase items it now buys manually. Also, other changes are needed now to correct system weaknesses before the system can serve DLA to its best advantage.

We estimate that DLA could save at least \$4.5 million annually by expanding the system to include most items currently purchased manually at the hardware centers. Additional saving could be achieved if the system could be expanded to other commodities. Because these savings are significant, we believe DLA should expedite increased automation.

We believe a long-range plan is needed for SASPS to assist in expanding the system to other commodities and to expedite system improvements and modifications, such as those described in this report. We believe these changes are needed now to increase the efficiency of the system and to provide a sound basis for its future growth. System modifications are needed to improve the the accuracy and reliability of the data base, including pricing and technical data; permit greater consolidation of awards; permit automation of more items; and reduce automated award processing time. Other improvements needed include maintaining better cost accounting data and insuring adequate documentation of procurement decisions.

We believe that base prices are an important price reasonableness check and should be accurate and reliable. They also serve to deter vendors who might seek to overcharge the Government. A base price should be on record for each item purchased, even if the item was not bought in the last year. Old prices could be automatically adjusted by an annual inflation factor to provide a basis for reasonableness determination. The alternative, which DLA now uses, is to make the current unit price the base price for items not purchased in the last year. The disadvantage of this method

is that the adequacy of this price is not known unless followup analysis is done. All new items having no previous buy history from which to establish a base price should be identified by a variance report and reviewed manually for reasonableness. Likewise, standard prices and other technical data, which have a part in automated procurements, should be reliable.

To improve consolidations, DLA should hold requisitions longer than 1 day. For example, direct ship requisitions, when appropriate, could be held for about 5 to 7 days. Exceptions to this policy would be needed for high priority items. Considering the administrative cost to process a line-item award and the number of line items processed annually, the savings in administrative costs alone would be significant, but additional savings would likely accrue through lower prices attributable to higher volume purchases.

DLA has already taken steps to increase the number of manual buys eligible for automation by developing new data processing procedures. We believe implementation of these procedures should be expedited. We also believe DLA should improve the processing time required for SASPS 2 awards by analyzing the reasons for delays at each center and seeking solutions.

Management needs to critically study and assess the value of SASPS 1 at each center. In view of its limitations, we believe use of this system is questionable at most centers, but DLA must ultimately determine whether it has a role or should be replaced by SASPS 2. Establishing a SASPS long-range plan would promote growth and modification of the system over the years and guide the expansion of automated procurements to commodity areas, such as clothing, medical supplies, subsistence, textiles, and educational supplies. We believe that management should also improve cost accounting data for SASPS so that the benefits of the system can be analyzed precisely. Finally, better documentation of procurement decisions is required to permit postaward evaluation and audit.

RECOMMENDATIONS

We recommend that the Secretary of Defense require DLA to immediately establish a time-phased action plan to expedite implementation of system improvements already identified and to expand automation of small purchases to items now processed manually. The plan should provide for

- automating the processing of most of the remaining manual small purchases at the hardware centers justifying instances of continued manual purchasing,
- increasing consolidation of procurements to effect maximum economies through reduced prices, quantity price breaks, and lower administrative costs,
- improving the reliability of base and standard prices and documentation of award decisions,
- reducing processing time for automated buys,
- reassessing the role of the automated noncompetitive system, and
- developing cost data that can be used to better evaluate the effectiveness and efficiency of the automated system.

We also recommend that the Secretary of Defense require DLA to periodically report to him on the activities undertaken and the progress achieved in improving and expanding SASPS.

AGENCY COMMENTS

DLA officials informally commented on a draft of this report. They agreed with the report except for our cost savings estimate which they thought was too high. However, they offered no alternative estimate. They believe the report will be useful in improving and expanding the use of SASPS.

DLA SMALL PURCHASE PROCUREMENTS,FISCAL YEAR 1979

<u>Center</u>	<u>Procurements</u>		<u>Percent of total procurements</u>	
	<u>Dollars</u>	<u>Actions</u> <u>(note a)</u>	<u>Dollars</u>	<u>Actions</u> <u>(note a)</u>
	(millions)			
DCSC	162.5	301,260	36.9	97.7
DESC	168.7	131,907	45.4	96.6
DGSC	125.8	131,011	33.2	96.2
DISC	<u>193.9</u>	<u>170,006</u>	61.7	97.7
Total	<u>650.9</u>	<u>734,184</u>		

a/Includes single- and multiple-line awards.

COMPOSITION OF OUR AUDIT SAMPLE

<u>Center</u>	<u>Line items awarded</u>						
	<u>Automated</u>				<u>Manual</u>		
	<u>Phase 1</u>	<u>Phase 2</u>	<u>Total</u>	<u>Percent</u>	<u>Total</u>	<u>Percent</u>	<u>Total</u>
DCSC	27	21	48	38	80	62	128
DESC	17	28	45	36	80	64	125
DGSC	28	29	57	46	68	54	125
DISC	<u>13</u>	<u>43</u>	<u>56</u>	<u>42</u>	<u>77</u>	<u>58</u>	<u>133</u>
Total	<u>85</u>	<u>121</u>	<u>206</u>		<u>305</u>		<u>511</u>
Percent				40		60	

DOLLAR VALUE RANGES OF AUTOMATED AWARDSBY CENTER (note a)

		<u>DCSC</u>	<u>DESC</u>	<u>DGSC</u>	<u>DISC</u>
\$	0 - 250	75.9	56.4	67.7	57.9
	250 - 500	9.1	13.1	10.8	10.5
	500 - 2,500	9.9	21.6	13.7	25.0
	2,500 - 5,000	3.3	6.0	4.7	5.0
	5,000 - 10,000	1.9	2.8	3.0	1.6

a/Period: March 1979 to February 1980.

EXAMPLES OF SYSTEM PROBLEMS

<u>Item</u>	<u>Quantity</u>	<u>Value</u>	<u>Problem</u>	<u>Cause</u>	<u>Effect</u>
Nut	2	\$ 9.50	Only one source solicited when others available. Several SASPS 1 failures.	Inadequate purchasing data in files.	It took 98 days to process this award.
Coupling shaft	1	3,110.00	SASPS 1 failure. Standard price was \$56.53. Had to be processed manually. Should have been automated.	Vendor could not identify part no. on SASPS 1 buy. Incomplete system data.	Increased administrative costs and delay in making award.
Pipe adapter	18	36.36	Automated failure. Should have been reissued as automated buy.	Automated failure went manual.	Took 115 days to process this award.
Valve check	2	78.20	Standard price inaccurate and SASPS 1 failure went manual.	Standard price not updated.	Customer not charged enough. Took 84 days to award contract.
Filter element	1	64.74	Standard price inaccurate.	Standard price not updated.	Customer charged much less than part cost.
Connector	36	324.00	Standard unit prices not accurate.	Inconsistencies in the way standard prices are computed.	DESC paid \$9 @ and charged customer only \$3.76 @.
Switch	10	292.60	No base price in the system—should have been.	Inconsistency in the way base prices are established.	No price reasonableness check was made.
Microcircuit	24	88.08	Manual buy—should have been automated	System foulup.	Higher administrative costs.
Electronic component	1	155.20	No base price, but should have been. No consolidation but it was appropriate.	Inconsistent way that base prices are computed. SASPS 1 does not consolidate.	Unable to determine price reasonableness. May have missed quantity price break.

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<u>Item</u>	<u>Quantity</u>	<u>Value</u>	<u>Problem</u>	<u>Cause</u>	<u>Effect</u>
Cord set	41	\$ 332.10	Award overpriced. Unit price exceeded base price by 166%.	Price variance report not followed up.	Overpricing of award by \$207.46.
Battery	6	102.02	Award overpriced.	Quantity price break not used.	Buy not advantageous to the Government. Bought 6 when could have bought 25 for the same amount. Overpriced by \$85.02.
Spray gun ring	84	235.00	Two separate buys made on the same day.	System not programed to consolidate.	Increased administrative costs.
Cable assembly	5	1,075.00	Two buys made within a week.	System not programed to consolidate.	Lost better price. Could have saved \$100.
Lens	264	1,478.40	Failed automated system.	Unable to determine.	Increased administrative costs.
Steel eye bolts	3	95.70	Bought using SASPS 1. Later, bought same item for less using SASPS 2 and another vendor.	Noncompetitive nature of SASPS 1. No prior buy history.	Unreasonable price paid.
Ball bearings	66	396.00	Seven buys for this item in 18 days from three different vendors.	Closely spaced buys are not held and consolidated.	Missed savings on administrative cost and possibly price.
Gaskets	7	3,346.00	Original manufacturer source not solicited, bought same item from that source later for less.	No provision in SASPS to insure soliciting original equipment manufacturers.	Unreasonable price. Paid \$1,176 more than necessary.

APPENDIX IV

APPENDIX IV



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