



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

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GENERAL GOVERNMENT
DIVISION

FEB 24 1976

Mr. Vincent Reed
Acting Superintendent
D. C. Public Schools
District of Columbia Government

Dear Mr. Reed:

The General Accounting Office (GAO) has been studying District supply management operations to determine (1) if benefits would accrue from a more centrally managed supply system and (2) how effectively and economically materials are provided to City departments. We selected four major departments for review, including the District of Columbia Public Schools (DCPS). We reviewed the policies, procedures, records, and management controls used by DCPS in its supply operations.

This report discusses the problems we observed during our study and corrective actions proposed or initiated by your staff.

CENTRALIZING CITY-WIDE SUPPLY MANAGEMENT

GAO and other groups, since 1912, have recommended that the District establish city-wide inventory control and centralize its supply management staff. The Nelsen Commission^{1/} in 1972, was the most recent group to make such recommendations. The Commission estimated that consolidation and centralization of the District procurement and supply management systems could save over \$23 million, with annual recurring savings of over \$12 million.

The District's supply system is organizationally decentralized. Each department has its own supply management procedures.

Before the benefits of centralization can be realized, each department must keep current, complete and accurate records showing inventory

^{1/} "Report on the Procurement and Supply System for the Government of the District of Columbia," issued August 1972.

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balances and usage data for each item in stock. Uniform criteria and procedures are also needed, for example, to identify what and how much should be stocked to meet operating needs.

We will discuss the centralization question in more detail in a later report. Problems we identified in DCPS that are within your authority to correct are as follows:

DCPS SUPPLY MANAGEMENT OPERATIONS

Supply management objectives are to (1) provide materials to operating units as needed, (2) limit investment in inventory, (3) identify and quickly dispose of stocks exceeding expected needs, and (4) safeguard inventories. DCPS' supply system did not effectively and economically meet these objectives.

Supply personnel estimated that about 50 percent of the items, ordered by individual schools to support educational programs, were not delivered by September 1975. There appear to be several reasons for this situation. Purchases for stock were often made on the basis of unreliable and incomplete information (p. 2). Frequently, too much stock was purchased--estimated to be \$700,000 of the warehouses' \$1.4 million inventory for May 1975, leaving less money available for items in short-supply--estimated to be \$780,000. As much as 30 percent of stock in the warehouse, supplied by the General Services Administration (GSA), could have been delivered directly to individual schools. Many of these items could have been delivered in a more timely manner because direct delivery would have lessened seasonally high summer workloads of school warehouse and delivery personnel. In addition, costs for warehousing and rehandling would have been reduced (p. 4). Also, procurement personnel were hindered in ordering and getting supplies delivered when needed because (1) the catalog for warehoused stocks was not updated on a timely basis (p. 5) and (2) DCPS repeatedly froze supply funds needed to replenish warehouse stocks on a continuous basis (p. 4).

We also observed weaknesses in physical security and control over issues from warehouse stocks (p. 8).

These conditions and corrective actions proposed by your staff are discussed below.

Purchases made on the basis of unreliable and incomplete information

Data that should be used to estimate how much stock to maintain and to determine when and how much to purchase are: current inventory, including undelivered orders; item use over selected time periods; and procurement lead-time, which is the time period between ordering and receiving an item. Other data to be considered include: costs associated

with warehousing and redistribution versus direct delivery to the user; supply and delivery personnel workloads; and, other matters, such as, opportunities to take advantage of price discounts or bulk shipments.

Inventory data

In calendar year 1975, about 60 percent of the 2,475 items inventoried showed discrepancies between actual counts and balances recorded on stock cards. There was \$24,000 more on-hand than stock cards showed and, for other items, \$58,000 less on-hand. A supply official told us these discrepancies were due primarily to many stock card posting errors and improper or careless inventory-taking practices.

We were told that no one periodically checks stock cards to assure that transactions were recorded properly. No one supervised inventory-taking practices and verified the accuracy and completeness of counts. For these reasons, we do not know how accurate or reliable inventory balances and usage data recorded on stock cards were. There could have actually been more and larger, or, less and smaller differences than those reported during physical inventories.

Higher level DCPS management did not review and approve adjustments. Also, the Office of Municipal Audit and Inspection does not review DCPS' inventory procedures, observe inventory-taking practices, investigate nor verify adjustments on a routine basis, at least annually. This practice could improve the reliability of inventory records and give management greater assurance that adjustments were properly investigated and reported. We found that in other cities either internal auditors or personnel from the finance department supervise or conduct physical inventories, investigate discrepancies, and make adjustments.

For example, the City of Baltimore had teams, including inventory control and internal audit staff, conduct physical inventories of supplies. Items are recounted when the difference is over \$50 per item. The auditors investigate in depth any difference over \$200 per line item. In the City of Milwaukee, the comptroller's office supervises all physical inventories of supplies charged to city departments. All differences or adjustments are made by the comptroller's staff, regardless of dollar value.

Establishing stock levels

Supply personnel stated that maximum stock retention levels were computed on the basis of prior actual usage for one year (demand). Six-months usage was arbitrarily used to establish the reorder points.

In 29 of 30 cases we examined, stock levels were improperly computed. Consequently, improper inventory levels were maintained and incorrect quantities purchased. Maximum supply levels were overstated on 22 items

by about \$14,000, and understated on 7 items by about \$30,000. One maximum level was understated by \$24,000 because the correct figure was not posted to a new stock card. DCPS accumulated significant amounts of unneeded stock (estimated to be \$700,000) because retention levels were either not computed properly, or not considered when orders were placed.

In addition, stock retention levels did not reflect actual procurement lead-times. In 19 of the 30 cases examined, the lead-time was actually three months or less compared to six months used by supply personnel. Therefore, orders were placed prematurely, too much ordered, and more stock maintained than needed to support operations.

Supply personnel stated that often they were not given enough money to replenish stocks. As a result, items were not delivered when needed. We suggested they minimize their inventory investment by (1) improving the accuracy of inventory balances and estimates of usage, and (2) using actual, rather than estimates, of procurement lead-time. They agreed that as a result, more funds would be available to replenish stocks in short-supply.

Opportunities to deliver more items directly to the schools

Supply personnel told us that vendors deliver about 85 percent of supplies ordered directly to individual schools. This is commendable. However, we noted that about 30 percent of warehoused items (valued at about \$400,000) were purchased from the General Services Administration. A GSA official told us that, upon request, GSA would deliver most items now supplied to the DCPS warehouse, directly to each school. By requesting GSA to deliver these items directly, DCPS officials agreed that they should be able to have more items delivered by September because school warehouse and delivery workloads would be lessened during peak summer months. In addition, costs associated with warehousing and redistributing these items should be reduced.

The effect of DCPS funding freezes on supply operations

Even if accurate usage data and realistic estimates were made of how much and when to order, supplies could not be delivered when needed if the ordering cycle is interfered with. We were told that repeated DCPS supply funding freezes have had this effect. Recently, supply funds were frozen from October 1974 through May 1975. Because DCPS supply personnel were precluded from continuously replenishing stock that fell below minimum retention levels, an unusually large number of purchase orders had to be processed during the peak summer workload period. Procurement and supply personnel told us they were unable to process all of these orders in time to get deliveries by September. Recognizing that inventory and usage data was to some extent unreliable, nevertheless, for illustration purposes, we estimated \$780,000 of stock (involving 1,300 line items) was needed at the end of May 1975 to meet required supply levels.

Supply catalog should be updated on a timely and routine basis

The educational supply catalog, which lists about 2,500 items of warehoused stock, is supposed to be updated yearly on the basis of information to be provided by individual school and program organizations. The catalog has not been updated for two years. The purposes of the update is to add or delete items from the catalog to reflect, for example, plans for adding new educational programs or shifting the emphasis of existing programs. In June of each year, individual schools were requested to submit orders, including items available in the catalog, for delivery by September.

However, DCPS procedures did not specify how and by what date the catalog should be updated. We were told that all school and program organizations were either not providing this information or not doing it on a timely basis. Supply personnel took no steps to ensure the information was submitted. The procurement officer told us that he first becomes aware in May and June of most orders for new items not in the catalog. He said that this does not provide sufficient lead-time to order and get many of these items delivered by September.

If School program personnel plan for requirements sufficiently in advance this should provide procurement and supply personnel more lead-time to assure delivery by September. In Fairfax County, Virginia, for example, a teaching materials committee begins identifying educational supply requirements 13 months in advance of the school year. Fairfax County Public Schools use the following timetable to order both stock and nonstocked educational supplies:

<u>Month</u>	<u>Description of action</u>
August	Teaching materials committee identify requirements
October	A list of stocked items is prepared
November	Bids for stocked items are issued
January	Bids for stocked items are evaluated and contracts are awarded
February	Bids for nonstocked items are issued
May	Bids for nonstocked items are evaluated and contracts are awarded
	Requests for stocked items are received
June	Orders for stock and nonstocked items are prepared
July thru September	Materials are delivered to schools

As of August 12, 1975, Fairfax County Public School officials estimated that 79 percent of instructional materials ordered, were delivered to individual schools. No significant delivery problems were anticipated for the remaining items.

As discussed later, DCPS' current catalog also contained about 660 items (valued at about \$145,000) that were infrequently or no-longer used by the schools. The supply officer told us that if school and programming organizations would provide timely information on educational program changes, it is unlikely that so many infrequently or no-longer used items would have been accumulated.

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DCPS officials agreed to take the following steps to improve the economy and effectiveness of its supply operations:

1. The Office of Municipal Audit and Inspection will be requested to review DCPS' inventory procedures, observe physical inventory-taking practices, and investigate larger inventory adjustments (over \$1,000 per item). The DCPS Comptroller will also review adjustments from \$500 to \$1,000 per item. In this regard, we believe the dollar value per item--used for determining which discrepancies should be investigated by the auditors and reviewed by the Comptroller--are too high. We believe you should consider adopting the procedures and dollar limits used by the Cities of Baltimore and Milwaukee (p. 3).
2. Supervisory supply personnel will be required to periodically review stock cards, ensuring that all transactions are accurately recorded. In this regard, we suggest that supervisory supply personnel be required to report results of these reviews to the Deputy Superintendent--Office of Management Services--to ensure these reviews have been made.
3. Stock retention levels for each item will be recomputed to reflect such factors as actual procurement lead-times and usage patterns.
4. Criteria will be developed to assist supply personnel in determining whether an item should be stocked or not. Actual procurement lead-times, usage data, current inventory balances, costs of warehousing versus direct delivery, warehouse workloads and other factors described on page 2 will be considered in formulating these criteria. Emphasis will also be placed on having GSA deliver more items directly to the schools.
5. The supply catalog will be updated annually. School, curriculum and program operations personnel will be requested to advise the procurement and supply officers of their requirements by March of each year.

In this regard, DCPS officials may wish to consider the timetable followed by Fairfax County Public Schools.

In addition, procurement and supply officials have proposed two other administrative changes to improve supply operations. Consideration is being given to automating the requirements determination (e.g., what to stock and how much to order) and ordering process. Also, a proposal to finance supply operations under a revolving fund method is being studied by the DCPS-Comptroller.

Using a revolving stock fund could reduce the impact of funding freezes and foster a more economical and efficient supply system. Such a fund includes accounts for cash, accounts receivable, inventory, and accounts payable. The stock manager must be concerned with customer demands and maintaining a minimum inventory investment. If inventories increase and issues decrease, more of the supply fund is tied-up in inventory. Consequently, less cash is available for purchasing additional supplies.

We are not suggesting that you adopt this method to finance and account for your supply operations. However, we would like to know if you consider use of a revolving fund desirable and feasible. We would also like to know how firm your plans are to automate your procurement and supply system.

PROGRAM TO DISPOSE OF UNNEEDED STOCK

Maintaining inventory is costly. A study of wholesale distributor firms, conducted by the National Association of Wholesalers, showed that it costs about 25 percent of the inventory value to account for, store, handle, and redistribute stocks (inventory carrying costs). The most significant cost elements identified were for obsolescence, interest on capital invested, handling and distribution, and item deterioration or theft. These costs are incurred by DCPS in the operation of its storage facilities.

One stock management objective is to maintain a minimum inventory value. Accumulating some excess stock is unavoidable because stock levels are only estimates, and assumptions made in forecasting requirements are subject to change. However, DCPS' inventory included a substantial number of items with on-hand balances far exceeding current requirements.

We noted two types of excess stock conditions. In one case, items were repeatedly issued, but more stock was carried than DCPS' one-year established maximum retention level. Stock in this category was valued at about \$700,000, or, about one-half the total (May 1975) inventory value. About \$320,000 of this excess stock consisted of 457 items with five or more years of supply on-hand. The table below shows the number of line items with excess years of supply on-hand.

DCPS ON-HAND STOCK EXCEEDING ITS
ONE-YEAR MAXIMUM RETENTION LEVEL

	<u>Number of line items</u>	<u>Percent of total</u>
Total inventory (May 1975 value: \$1.4 million)	<u>2,475</u>	<u>100</u>
Years of supply on-hand:		
1 to 4	566	23
5 to 9	282	11
10 to 19	125	5
20 to 99	45	2
100 to more	<u>5</u>	<u>--</u>
	<u>1,023</u>	<u>41</u>

The second case involved items in inventory which were infrequently issued. Twenty-five or more demands per year (one demand being equal to ordering one or more units) was arbitrarily established by the DCPS supply officer as a standard for stock retention. DCPS procedures require that unneeded stock be identified, reported, and disposed. However, these procedures were not followed. The May 1975 inventory included 660 items valued at about \$145,000 issued less than twenty-five times a year.

DCPS officials agreed to develop new stock retention standards, which will consider usage data and inventory carrying cost. Periodic item-by-item reviews will be conducted to identify, report and dispose of stocks not meeting these new retention standards.

WAREHOUSE SECURITY AND CONTROL OVER ISSUE DOCUMENTS

DCPS has one major warehouse facility at Adams Place, which is used to store educational supplies and food. Although guards were frequently present, we observed the following:

1. small packages, being carried out of the warehouse, were not inspected by guards,

2. a guard allowed a private car, loaded with boxes, to pass through the gate without requesting the driver for evidence of ownership, and
3. boxes of food and educational supplies were left near open windows, unlocked doors, and unguarded dock areas.

In addition, we noted that blank issue tickets were left in open office areas.

DCPS officials agreed to more closely supervise guards. They also agreed to periodically remind guards to inspect all vehicles and individuals leaving the warehouse grounds for supplies and evidence of ownership. In addition, blank issue tickets will be placed in secured areas.

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To allow smooth transition to any future city-wide supply management system, the policies and procedures developed by DCPS should be coordinated with the Department of General Services, which has over-all supply management responsibility for the City. In addition, the Office of Budget and Management Services should be consulted because it is working on a city-wide resource management system, which will include controls over all materials purchased and stored in the District. These two organizations should be able to provide advice and assistance to DCPS for improving your supply management operations.

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Copies of this report are being sent to the Mayor, City Council, School Board, Office of Budget and Management Systems, D. C. Auditor, Office of Municipal Audit and Inspection, and the Department of General Services.

Please advise us on your plans for automating the supply system and establishing a revolving fund. Please advise us of other actions taken to correct the problems discussed in this report. If you have questions, please call me on extension 3123 or 3124.

Sincerely yours,

Frank Medico
Frank Medico
Assistant Director