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UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D.C. 20548

GENERAL GOVERNMENT
DIVISION

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Mr. Douglas N. Schneider, Jr.
Director
Department of Transportation D.427
District of Columbia Government

Dear Mr. Schneider:

The General Accounting Office (GAO) has been studying the District's 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 former Department of Highways and Traffic (DH&T)--now merged into the new Department of Transportation (DOT). We reviewed the policies, procedures, records, and management controls used by DH&T in its supply operations.

This report discusses the problems we observed during our study and suggests corrective actions which have been generally concurred in by your staff. Comments of your staff also have been considered in the preparation of this report.

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. 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 system could save over $23 million, with annual recurring savings of over $12 million.

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

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The District's supply system is still organizationally decentralized. Each department has its own supply management procedures. Frequently, as is the case in DH&T, each operating unit in the department has its own procedures, stocks, catalogs, and ordering practices.

Before the benefits of centralization can be realized, we believe each department must keep current, complete, and accurate records showing inventory 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 further in a later report. Problems we identified in DH&T that are within your authority to correct are discussed below.

DH&T SUPPLY MANAGEMENT OPERATIONS

Each division--Bridge, Street, Tree, and Traffic and Electrical Services (Traffic)--essentially was operating without knowledge of what the others had in stock or on order. No policy-making body nor managerial control group (or individual) was responsible for all supply activities in the department. No staff was assigned to ensure supply activities were run effectively and economically. Some of the effects of such inadequacies follow.

Supply management objectives

Fundamental supply management objectives are to (1) provide materials to operating units as needed, (2) limit investment in inventory, and (3) identify and quickly dispose of stocks exceeding expected needs. DH&T's supply system did not effectively and economically meet these objectives. Inventories included substantial quantities of stock in excess of operational requirements, or, infrequently or no-longer used. Consequently, funds were often not available to purchase items in short-supply.

Overinvestment in inventory

Fiscal 1974 year-end inventories for the Tree, Street, Bridge, and Traffic Divisions were valued at about $4 million. Inventories included about 6,800 line items. Eight locations with about 287,000 square feet of space were used to store these inventories.

In contrast, Milwaukee--a city fairly comparable in size and function, with regard to highways and traffic, to the District--had a December 31, 1974 total inventory value of about $2.4 million (exclusive of its public schools). Its highway and traffic inventory value was

about $1.3 million, which included about 4,300 line items. About 211,000 square feet of storage space was used. Milwaukee repairs and maintains 1,716 street-miles compared to 1,700 for the District.

Thus, a city responsible for about the same number of street-miles as the District has about 2,500 less line items in stock, uses about 76,000 square feet less for storage, and has about $2.7 million less invested in inventory. We recognize that reasonable differences between Milwaukee and the District may exist but believe that such a wide variance in inventory policy deserves attention.

Inventory turnover

Another indication of how effectively inventories are being managed is the number of times the inventory turns over in one year. For example, if 100 units are normally maintained in inventory at all times and 200 units are issued during the year, the annual turnover-rate for this item is two (2).

A report[1/] on District supply operations, issued in 1970, suggested that an optimum turnover-rate would be 5 to 7 times per year. DH&T, unlike many other departments, may have a more difficult time forecasting its requirements due to unforseen emergencies or construction project delays. Consequently, DH&T's optimal annual turnover-rate would probably be lower than five times. However, we believe an annual turnover-rate of less than one for this department is too low and further indicates overinvestment in inventory.

Turnover-rates can generally be increased by improving the accuracy of forecasting stock levels and reducing inventories of infrequently used or no longer used items. Savings are possible through reduction in warehouse space; administration; material handling; obsolescence risks; and in stock losses due to deterioration, damage and theft.

In FY 1974, the composite turnover-rate for the four divisions was 0.34 times a year. This indicates there could have been enough inventory to operate for about three years without additional purchases. The Tree Division, on the other hand, had an annual turnover-rate of almost two (2). The following table shows the inventory turnover-rate for each division.

1/ "Survey of Supply Operations in the District of Columbia," June 1970, The National Institute of Governmental Purchasing.

DH&T INVENTORY TURNOVER-
RATE DURING FISCAL YEAR 1974

Name of DH&T Organization	On-Hand Inventory	Value of Issues for One Year	Annual Turn-Over Rate	Line Items of Stock
Traffic and Electrical Services Division	$3,790,987	$1,180,836	0.31	3,275
Bridge Division	139,284	39,474	0.28	2,450
Street Division	56,528	34,360	0.61	973
Tree Division	62,000	121,000	1.95	150
Total	$4,048,799	$1,375,670	0.34	6,848

Applying the criteria of one annual inventory turnover to the above data, the possible excess inventory value is about $2.6 million. We believe this low turnover-rate indicates a need for DH&T to review the size and composition of its inventories.

Obsolete inventory

Usefulness of inventories is degraded by technological advances and changing aesthetic requirements, which are often difficult to predict. Accumulating such stock is, to some degree, unavoidable. However, stocks should be kept at minimal levels to lessen the risks. The following examples indicate DH&T may not be minimizing these risks.

The District has changed the types of street lights it installs twice over the last 15 years due to technological advances. In 1960, mercury vapor lights (also referred to as luminaires or light bulbs) were used to replace incandescent lights. In 1969, mercury vapor lights were replaced by sodium vapor. A recent DH&T report showed that incandescent and mercury vapor street lights were issued five or less times during a year. However, DH&T had 2,386 incandescent (valued at about $59,400) and 421 mercury vapor lights (valued at about $16,700) in stock.

As of October 10, 1975, there were 1,247 sodium vapor lights in stock (valued at about $97,000), which represented about a 3-year supply. If sodium vapor lights become obsolete, DH&T will be left with another costly oversupply situation.

Purchases frequently made on the basis of incomplete and unreliable data

Data normally used to estimate how much stock to maintain, and to determine when and how much to order are: current inventory, including undelivered orders; item use over selected time periods; and procurement lead time (time between ordering and delivery). Such data are usually recorded on stock cards for each item in inventory.

Although Bridge, Street, and Tree Division personnel recorded issues from stock, these data were not used to estimate how much to stock and when to order. Instead, supply personnel often relied on their own judgment to make such decisions--e.g., based upon visual observations of how much stock was on-hand.

Traffic Division personnel considered issue data in computing stock retention levels for most items. However, this information was not furnished to personnel (design engineers, division heads) who did most of the ordering. There were no procedures which routinely required that ordering personnel be given current stock balances and usage trends. Also, stock for capital improvement projects was frequently overordered because a 20 percent factor was arbitrarily added for "contingencies." We were also told that the Traffic Division later stopped posting issues to stock cards. Physical inventory counts did not agree with balances recorded on cards. Unreliable inventory data negates the value of establishing reorder points.

We found significant differences between physical inventory counts and stock card balances at the Traffic Division. For example, differences on five selected items ranged from $2,600 to $28,000 per item.

COMPARISON OF SELECTED TRAFFIC DIVISION STOCK CARD BALANCES AND PHYSICAL INVENTORY COUNTS DURING FISCAL YEAR 1975

Item	Stock Card Balances	Actual Counts	Value of Differences
Single light pole (#2-30)	174	73	$17,428
Twin light pole (#2-25)	84	72	2,668
Conversion kit (400W, 120V)	700	362	28,044
Street light (400W, 120V)	346	220	3,281
Street light (175W)	1,262	1,114	3,034
	2,566	1,841	$54,455

Supervisory personnel did not review cards to assure they were properly and accurately filled-out. DH&T officials told us they would investigate the reasons for these differences.

Physical inventory practices

The same personnel who post stock card information frequently take physical inventories and adjust stock cards to correct differences between recorded and actual balances. Sound internal management controls require separating these functions because it is too easy to conceal actual stock shortages. We also noted adjustments were not brought to the attention of departmental officials outside the supply activity. The Office of Municipal Audit and Inspection does not review departmental inventory procedures, observe inventory-taking practices, nor verify adjustments on a routine basis, at least annually.

DISPOSAL PROGRAM TO ELIMINATE UNNEEDED STOCK

Costs to store stock can include the following: acquiring or leasing land and warehouse space; materials handling; interest on borrowed money; providing security; administrative expenses to account for stock and supply personnel; and inventory losses due to shelf-deterioration, theft, damage, or obsolescence. An opportunity exists to realize significant monetary savings by implementing a surplus stock disposal program. For example, assuming the District paid 7 percent interest to finance the acquisition of the $2.6 million excess inventory value, there would be an annual saving in interest expense alone of $182,000 by selling or disposing of such inventories. At the same time DH&T was unnecessarily incurring these costs, we were told purchase orders were frequently cancelled or reduced in quantity because funds were unavailable.

Our physical inspections of storage facilities revealed many items were infrequently used or had not been used in years. Some examples are:

--Street Division had about 2,100 snow shovels (valued at about $2,700) purchased in 1962, that had never been used.

--Tree Division had 45 new fifty-foot lengths of fire hose (valued at about $1,900), which we were told will probably never be used. There was about 4,000 yards of tan bark (valued at about $2,400), which may take 7-years to use.

--Traffic Division had about 230 light poles (#20 twin), valued at about $80,000, which may take 5-years to use.

Three divisions did not have any criteria for identifying , or any active program for disposing of such stock. The Traffic Division adopted criteria used by the General Services Administration--i.e., if an item

is issued five or less times annually, dispose of it. Supply personnel identified about $100,000 of inventory, representing about 80 percent of the line items in stock, that met this criteria. However, no steps had been taken to dispose of these items.

CONCLUSIONS AND RECOMMENDATIONS

DH&T does not have an effective and economical supply management operation. Unreliable and incomplete data were often used to make procurement decisions. Available data were not routinely used by ordering personnel. There was no supply management authority responsible for providing guidance, monitoring activities, and correcting deficiencies. As a result, stock which was little-used, unusable, or in excess of current needs had been accumulated. An opportunity exists to realize significant monetary savings by implementing economic ordering and effective supply management practices, including a surplus stock disposal program.

Authority to manage supply operations for the department should be centralized. Duties assigned should include, but not be limited to, the following:

--Establishing supply policies, procedures and departmental goals, for example, on inventory turnover-rates;

--ensuring stock cards are properly and accurately prepared, and stock status information is reported and used by ordering personnel;

--reducing inventories through the sale or disposal of stock which is no longer used, slow-moving, or in excess of current requirements;

--consolidating the number of storage points (eight) and space required to maintain inventories; and,

--monitoring supply activities to assure plans and policies are being implemented.

The following detailed recommendations should also be implemented:

1. Instruct supply personnel on how to maintain current, complete, and accurate stock cards.

2. Review stock cards periodically to ensure all data recorded is current, complete, and accurate.

3. On future requisitions, require ordering personnel to show how quantitative requirements were computed. This should include showing what stock is on-hand and past usage.

4. Stop ordering practices which add arbitrary "contingency" amounts to purchases.

5. Separate the functions of taking physical inventories from recording and approving adjustments to stock card balances.

6. Have all significant inventory adjustments reviewed by management levels above the supply manager.

7. Request an impartial party, such as the Office of Municipal Audit and Inspection, to review inventory procedures, observe inventory-taking practices, and verify adjustments on a routine basis, at least annually.

8. Develop criteria for what and how much to stock, including consideration of such factors as: direct delivery, expected demand, procurement lead-time, turnover goals and inventory investment limits.

9. Develop procedures for identifying and disposing of excess or unusable stock.

10. Minimize, to the extent possible, investment in stock which has a high risk of technological or aesthetic obsolescense.

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To allow smooth transition to any future city-wide supply management system, policies and procedures developed should be coordinated with the Department of General Services, which has overall 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 for improving your supply management operations.

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

Please let us know the actions you plan to take to correct the problems discussed in this report within 60 days. If you have any questions, please call me on Extension 3123 or 3124.

Sincerely yours,

Fmedico

Frank Medico
Assistant Director