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POLICIES MANUAL - INVENTORIES POLICY

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Synopsis

1. Inventory is an asset account that includes materials and supplies held for future use.
2. An inventory control system is essential when materials are purchased in large quantities, have common usage in more than one department or function of the unit, are used for both maintenance and construction, or must be in stock to maintain the services provided by the unit.
3. Currently, inventory items may be reported as expenditures either when purchased or when consumed. GASB Statement No. 11 requires the use of the consumption method for years beginning after June 15, 1994.
4. The cost of inventory includes total expenditures to bring the inventory to its existing location and condition.
5. Local governments usually value inventory at cost.
6. Perpetual inventory records should be maintained to ensure that an adequate quantity of all items is always maintained.
7. Local governments usually follow the FIFO cost flow assumptions.
8. Control should be maintained for the receiving, storing, and issuing functions of all items.
9. Physical inventories should be taken annually or in cycles throughout the year.

Introduction

In some governmental units, the value of inventories maintained is substantial. These governmental units should establish and maintain adequate inventory control systems. This policy discusses the general requirements of an inventory control system.

The term "Inventory - materials and supplies," when reported as an asset account in a fund, represents the value of materials that are stored under proper controls and held for future use. The term does not apply to materials that are charged directly to a fund's operating expense or capital outlay account at the time of purchase.

The Need for an Inventory Control System

An inventory control system is considered essential when any of the following conditions apply:

1. Materials are purchased in large quantities due to the volume of usage, or to secure better prices;
2. Materials have common usage in more than one department or function of the governmental unit;
3. Materials are subject to use for both maintenance and construction; or
4. Materials are vital to maintain service, and care must be exercised to prevent these materials from becoming out-of-stock.

In smaller governmental units, there is less need for an inventory control system when the following conditions apply to materials and supplies purchased:

1. Materials are available from local suppliers, can be purchased economically as needed, and expensed directly to the proper account when purchased;
2. Available facilities are not adequate for the storing, safeguarding, and control of materials, except at the point of use; and
3. The value of materials maintained is small and does not justify the expense of maintaining an inventory control system.

Fund Accounting Considerations

In a governmental unit that does maintain an inventory control system, the inventory control account usually will be carried in one fund, preferably the general fund or an

internal service fund, if appropriate. Other funds will be charged with the issues from stock as they occur. A budget appropriation will be included in the departments or functions within the fund, with the control account to cover the amounts of inventory the departments are expected to use plus the expected increase, if any, in the inventory account for the fiscal year. In this manner, the fund maintaining the account does not get charged for inventory expensed in other funds.

Expenditure Recognition

Inventory items may be considered expenditures either when purchased (purchases method) or when used (consumption method). Under both methods, material amounts of inventory at year-end should be reported on the balance sheet [1990 Codification Section 1600.122(a)]. Under the purchases method, (1) inventories are recorded as expenditures upon acquisition, and (2) significant inventories on hand at year-end are reflected in the "Assets" section of the balance sheet and are fully reserved in the equity section. Under the consumption method, (1) inventory acquisitions are recorded in inventory accounts initially and then charged as expenditures when used, and (2) an equity reserve for inventories does not need to be established unless minimum amounts of inventory must be maintained and thus are not available for expenditure [1990 Codification Section 2200.603(b)].

GASB Statement No. 11 - Measurement Focus and Basis of Accounting - Governmental Fund Operating Statements requires that supplies inventories be reported as financial resources when acquired, and be expensed when used in operations (the consumption method). The Governmental Accounting Standards Board believes that the consumption method for supplies expenditures is necessary to measure interperiod equity. It believes supplies inventories are financial resources because they are a conversion of cash (a financial resource) into another form that will be used instead of cash in future operations. The effective date of this statement is for fiscal periods beginning after June 15, 1994.

Perpetual Inventory Records

A perpetual inventory should be maintained for all items. A perpetual system keeps a continuous record of the physical quantities comprising the inventory.

For control purposes, each item should be properly identified by size, color, or other distinguishing characteristics. Perpetual inventory records should be reconciled monthly to the inventory control account. The storeroom personnel should maintain the quantity and price records that are required for adequate physical control of

receipts, issues, and inventory on hand. The accounting personnel should maintain controls by dollar value, as required for budget approval on purchases and for the proper accounting distribution of charges for materials issued to various user departments.

Determination of Inventory Costs

Cost is the primary basis of accounting for inventories. Cost is defined as the price paid or consideration given to acquire an asset. As applied to inventories, cost means the sum of the expenditures and charges directly or indirectly incurred in bringing an article to its existing condition and location. Cost therefore includes not only the purchase price, but also payments directly associated with inventory such as freight, storage, insurance, applicable taxes, and similar costs. Local governments generally value inventories at cost.

Inventory Cost Flow Assumption

For financial statement purposes, costs must be attached to the units of inventory. The most commonly used cost flow assumption applicable to governments is first-in, first-out (FIFO). Other assumptions include specific identification, last-in, first-out (LIFO), and moving average. The four assumptions are discussed and illustrated below.

The following information is used in the cost flow assumption examples:

Inventory, April 1	100 units @	\$10 per unit	\$1,000
Purchases, April 10	80 units @	\$11 per unit	880
Purchases, April 20	<u>70</u> units @	\$12 per unit	<u>840</u>
Goods Available	<u>250</u> units		\$2,720
			=====
Issued, April 18	90		
Issued, April 27	<u>50</u>		
Inventory, April 30	<u>110</u> units		

First-In, First-Out (FIFO)

Under the FIFO cost flow assumption, the first goods purchased should be the first units issued. The ending inventory would consist of the most recent purchases.

FIFO - (Perpetual Inventory System)

Cost of Goods Issued (140 units):

April 18	90 units @	\$10	\$	900
April 27	50 units:	10 units @	\$10	100
		40 units @	\$11	<u>440</u>
Total				\$1,440
				=====

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Ending Inventory (110 units)	
40 units @ \$11	\$ 440
70 units @ \$12	<u>840</u>
	\$1,280
	=====

Specific Identification

The specific identification inventory cost flow assumption requires that each unit issued and each unit remaining in the inventory be specifically identified and that the actual costs of those units be included in the cost of goods issued and ending inventory respectively. For example, all units issued on April 27 must be specifically identified. If they are all from the units that were in the beginning inventory, cost of goods issued would be \$10 for each unit. If they are from the purchases of April 20, cost of goods issued would be \$12 for each unit. Similarly, each unit remaining in the ending inventory has to be identified and the appropriate cost of \$10, \$11 or \$12 attached to each. Specific identification is more often used in situations in which units are costly and can be easily distinguished.

Last-In, First-Out (LIFO)

Under the LIFO cost flow assumption, the last goods purchased should be the first units issued. The ending inventory consists of the earliest costs.

LIFO - (Perpetual Inventory System)

Cost of Goods Sold (140 units):	
April 18 90 units: 80 units @ \$11	\$ 880
10 units @ \$10	100
April 27 50 units @ \$12	<u>600</u>
	\$1,580
	=====
Ending Inventory (110 units):	
90 units @ \$10	\$ 900
20 units @ \$12	<u>240</u>
	\$1,140
	=====

Average Cost

Under the average cost flow assumption, all the costs and units are commingled so that no individual unit costs can be identified. The average cost per unit is the cost of the goods available divided by the number of units. Under a perpetual inventory system, the term moving average is used because a new average cost must be calculated after each purchase.

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Moving Average - (Perpetual Inventory System)

April 1, Beginning Inventory	100 units @ \$10	\$1,000
April 10, Purchases	80 @ \$11	<u>880</u>
April 10, Balance	180 @ \$10.44	\$1,880
April 18, Issued	90 @ \$10.44	<u>940</u>
April 18, Balance	90 @ \$10.44	\$ 940
April 20, Purchases	70 @ \$12	<u>840</u>
April 20, Balance	160 @ \$11.125	\$1,780
April 27, Issued	50 @ \$11.125	<u>556</u>
April 30, Balance	110 @ \$11.125	\$1,224
		=====

Cost of Goods Issued

April 18	\$940	
April 27	<u>556</u>	
		\$1,496
		=====

Ending Inventory \$1,224
 =====

Note Disclosures

ARB No. 43 - Restatement and Revision of Accounting Research Bulletins, Chapter 4, requires a disclosure of the valuation basis of inventories (i.e., cost). In addition, the method used to determine the value should be presented (e.g., FIFO). Finally, because governmental funds may use either the purchases method or the consumption method for recognizing inventory expenditures, the method chosen should be disclosed in the Summary of Significant Accounting Policies section of the notes to the financial statements. When the purchases method is used for budgeting purposes, the notes also should indicate that the inventory asset amount is not available for appropriation because it has been charged to expenditures when purchased rather than when used.

Reorder Point

The amount of inventory for each item that should be maintained at all times is referred to as the minimum quantity or safety-stock. The optimum safety-stock level exists where the costs of carrying an extra unit are exactly counterbalanced by the expected stockout costs. Carrying costs are primarily 1) interest lost on having the unit's funds tied up on inventories instead of being invested or deposited, 2) obsolescence write-offs, and 3) space costs. Stockout costs include the expense of expediting orders, the costs of any downtime while waiting on out-of-stock items, and the illwill created by not being able to immediately provide service to customers or citizens. The reorder point is commonly computed as safety stock plus the average usage

during the lead time. The average usage during the lead time is the amount that would be used during the time required to requisition a replacement supply, secure quotations or bids from suppliers, issue a purchase order, and secure delivery of the article from the supplier. The amount of safety stock should be determined for each item to ensure there are no stock shortages. When the stock needs to be replenished, the optimum order quantity should be reordered. In determining optimum order quantity, the average usage for the period of time the supply should last, the method of packaging, and the quantity that can be purchased and delivered at the best price are factors to be considered.

The optimum size is called the economic order quantity (EOQ), the size that will result in minimum total annual costs of the item in question. EOQ formulas can be programmed into a computer. One common EOQ formula is:

Order Size = The Square Root of (2 X The Annual
Quantity Used in Units X The Cost Per Purchase Order)
Divided By The Annual Cost of Carrying One Unit In
Stock for One Year.

Using this formula, the order size gets larger as the annual quantity used in units or the cost per purchase order gets larger, or as the annual cost of carrying one unit in stock for one year gets smaller.

Receiving Materials

To ensure adequate internal control over the receiving function, one person should be responsible for the receipt of materials at each facility/location. Prenumbered, controlled receiving reports should be prepared (a purchase order, with amounts ordered omitted, may be used as a receiving report). A receiving log showing the date received, the quantity received, the vendor, a brief description of the goods received, and how they are received (common carrier, vendor's truck, etc.) also is helpful in controlling receipts.

All materials delivered should be inspected and approved for use. The description and quantity of all items received should be compared with the requisitioned items. The purchasing agent should be advised of any discrepancies. The quantity received should be entered on the receiving report or copy of the purchase order, and the duplicate of the receiving report should be sent to the purchasing office for processing.

Storage Facilities

Adequate inventory control requires that facilities be maintained for the storage and protection of materials. The facilities should protect the materials from loss by theft, breakage, unauthorized withdrawals, fire damage, exposure to the elements, and damage from rodents or insects. Some materials require housing in a storeroom with shelves and bins of adequate size, that are clearly labeled to show descriptions of the stored articles. Bulky materials not subject to weather damage can be stored in a fenced area. Racks, skids, or platforms, as well as aisles through which trucks may be driven, should be provided where required.

All storage areas should limit access to the materials to authorized personnel. When a storage area is staffed only during certain working hours, it may be necessary to provide keys to the area to bonded supervisory personnel in other departments. This would allow authorized personnel to obtain materials required for emergency use at night or during a holiday or weekend. A stores requisition for such withdrawals should be left in the office.

"No smoking" signs should be posted in all areas where flammable materials are stored and dispensed. Every precaution to ensure the safety of personnel and property should be observed in the storage and handling of heavy, bulky, or dangerous items.

Insurance

Adequate fire and damage insurance should be provided based on the average value of materials carried in stock. The amount of insurance coverage should approximate the average value of inventory subject to fire or other damage. Insurance needs should be re-examined at least annually.

Storing and Controlling "Nonstock" Items

Local governmental units having adequate storage areas in the storeroom and yard may set aside space for the storage and safeguarding of materials and equipment that are not included as part of the stores inventory, but are in the custody of the storekeeper for protection.

Such items may include meters, transformers, and other equipment charged to appropriate fixed asset accounts when purchased; automobiles and trucks not assigned; construction equipment not in use; construction and maintenance tools not carried as regular equipment on the trucks; and large lots of materials bought and charged out for specific construction jobs.

Items of this nature should not be recorded as receipts and disbursements on the inventory records, nor should the storekeeper be charged with the responsibility of reordering and maintaining this stock. The articles should be tagged for identification as nonstock items.

Since these items are in the custody of the storekeeper, receiving reports for incoming shipments should be made by him/her. Also, stores requisitions marked "nonstock" should be required to be made to the storekeeper before any items are issued. Items on loan, such as vehicles and tools, should be signed for on the requisition form when released. When returned, the item should be noted on the requisition, and the original copy should be given to the person making the return to the stores area.

Disposal of Scrap

Scrap materials (such as copper, aluminum, and iron) that have a known salvage value should be stored in the storehouse area, sorted by type of scrap, and safeguarded until a sufficient quantity has been accumulated for disposal. (See Fixed Assets Policy for information on disposal of property.) Scrap that has a value is an asset to the unit and should be treated and recorded as such. Any revenues gained through the sale of scrap must accrue to the governmental unit, not its employees.

Issuing Materials

The governing board of the unit should determine who is authorized to requisition inventory. An authorized person from the requesting department should sign two copies of an approved stores requisition. This requisition should show the following: date, work order number, job name, location, charge account number, signature of authorized person, quantity of each article ordered, description of article, and unit of measure.

The storeroom person should issue the quantity of each item as listed on the requisition and initial the requisition. The person receiving the materials should check the quantity and sign the requisition.

Issuing Fuel and Oil

A tape should be prepared daily showing the quantities issued for each type of fuel and oil during the day. A stores issue ticket should be prepared as each vehicle is fueled. The ticket should include the following: the department to which the fuel was issued, the account number to be charged, the truck or car identifying number, the speedometer reading, the quantity issued, and the signature of the person to whom the issue was made. The original

ticket should be forwarded to the accounting office. A duplicate copy should be filed by date of issue.

Physical Inventory of Materials

Each local governmental unit that maintains an inventory control system should take a physical inventory of all materials in stock at least once annually, usually at or near year-end, and adjust the control records to agree with the balances disclosed by the physical inventory. Physical inventories may be conducted more frequently, if desired, to maintain/test the accuracy of the inventory records. This may be especially important with large items with a material value.

If no perpetual inventory control is maintained and a large dollar value of inventory is kept on hand, a physical inventory must be conducted at year-end and whenever interim financial reports are issued to determine the value of inventory and the appropriate expense amounts for usage of inventory items.

When issues of an article exceed the balance that should have been on hand as shown by the perpetual inventory records, an actual count should be obtained for the article having a "negative balance" and for similar articles to disclose errors in the recording of prior issues or receipts. Similarly, when issues are attempted based on balances shown on the inventory records to be adequate, but insufficient quantities are found in stock, actual counts should be obtained and inventory records corrected. A physical count should be made before adding an incoming shipment since the article will be at a lower quantity and easier to count.

The formality and complexity of physical inventory procedures to be used by a local governmental unit depend primarily on the significance of the dollar value of inventory maintained. However, regardless of the complexity determined to be appropriate inventory procedures should provide for the following:

1. adequate written instructions;
2. adequate supervision;
3. identification of damaged, obsolete, or otherwise unusable stock;
4. identification of consigned stock;
5. use of prenumbered, controlled tags or sheets to record inventory counts;

6. counting of items and control of tags by employees not responsible for custody of the inventory (i.e., independent counts);
7. rechecking of counts that vary significantly from balances shown on inventory records;
8. cutoffs of receipts, issues, and inventory accounting transactions consistent with the cutoff date established for the physical inventory; and
9. adjustment of inventory records to physical counts after an approval by an authorized individual other than stores personnel.

Ideally, counts should be performed by someone independent of the storekeeping function. As an alternative to this approach, counts may be performed by a storekeeper and tested extensively by someone independent of the storekeeping function. Also, in small units, a board member could perform the inventory count. All testing and results should be properly documented for review by the independent auditor.

It is important that the perpetual inventory records being tested by the count be posted "current" up to the time of the count so that the physical stock status and the inventory record status are truly comparable at the time of the count. Thus, counts of inventory items may be performed only after all transactions up to the time of the count have been posted to the inventory records and all related materials have been put in/taken from stock.

Cycle Counts

If perpetual inventory records are maintained, an alternative to conducting counts of all items in inventory periodically is to conduct partial counts regularly during the year. The term "cycle count" refers to the practice of establishing a regular cycle, or frequency, for counting each portion of inventory in order to test/maintain perpetual records. For example, a designated one-twelfth of the inventory items may be counted during each month, so that over 12 months (one fiscal year) all inventory items are counted and all inventory records are tested/adjusted. Cycle counting does not preclude an item from being counted in more than one cycle per year, particularly those of high value and/or critical use. This method has the advantage of spreading the workload from taking the physical/inventory throughout the physical year.

One of the primary purposes of conducting a year-end physical inventory is to value the inventory for financial reporting purposes. When cycle counting is used, no year-

end physical inventory of all items in stock is taken. Rather, for year-end or interim financial reporting purposes, the value of inventory shown in the asset accounts of the general ledger is used. It is assumed that, at any point in time, the quantities shown on the perpetual inventory records are correct, and that the value of inventory for any item is properly reflected in the books of accounts. This assumption is based on the inherent "test" nature of cycle counting (wherein adjustments are made to the value of inventory where differences are found between inventory counts and balances shown on the perpetual inventory records), and supported by the independent auditor's physical tests of inventory and the related perpetual inventory records at year-end. Material amounts and values of inventory may require significant year-end testing.

Budgetary Accounting for Inventories

Each purchase order for the replenishment of inventory should bear a preaudit certificate that certifies the availability of funds (to be signed by the finance officer), as required by G.S. 159-28. The appropriation for inventory replenishment should provide for such purchases for the entire fiscal year. Interim financial statements should be studied to compare purchases of inventory with the reimbursement for materials withdrawn from inventory. Any excess of purchases over withdrawals will result in an increase in inventory value, which should not be permitted to exceed the inventory increase provided for in the budget.