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NASA Procedural Requirements

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Responsible Office: Logistics Management Division

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Chapter 5. Physical Inventory of Materials

5.1. Requirement for Physical Inventories

Physical inventories of Center materials inventory shall be taken to determine the accuracy of the records and the adequacy of the control system.

5.2. Inventory Methods

5.2.1. All inventories under perpetual control shall be inventoried annually using a sampling procedure. However, once every 5 years a complete wall-to-wall inventory shall be conducted instead of the sample. This requirement may be fulfilled on a cyclical basis. Centers may schedule the wall-to-wall inventory incrementally by status code, type account code, storage facility, or any other method that ensures that every item is inventoried at least once every 5 years.

5.2.2. Centers shall perform a wall-to-wall physical inventory of all onsite stock locations, whether Stores Stock or Program Stock, when the contract for operation of that stock location expires. The purpose of this physical inventory is to ensure a reasonable level of accuracy of item records for the continuing requirement to maintain effective and efficient supply support. The SEMO may waive this requirement if the latest wall-to-wall inventory or latest wall-to-wall increment has a less than 20-percent error rate of line items and gross adjustment value. When a waiver is granted, the result of the last physical inventory shall be disclosed to the new contractor.

5.2.3. Materials acquired and stocked by contractor personnel onsite at NASA Centers, whether for Government or contractor use or both, remain accountable to the Government. The contract provides for this through the NASA FAR Supplement clause 1852.245-71 entitled, "Center-Accountable Government Property," and expressly requires the contractor to manage the materials in accordance with this manual. When physical inventories indicate that 90-percent record accuracy is not being maintained, the consequences specified by paragraph 5.5 are invoked.

5.2.4. This manual does not govern management of materials that are contractor accountable under the Federal Acquisition Regulation, either onsite at a NASA Center or offsite at a contractor location. Management of such materials is in accordance with the contractor's own Government-approved property management system under the requirements of the FAR. The SEMO does not have authority to waive the physical inventory required by the FAR at the completion of such contracts.

5.3. General Inventory Procedures

5.3.1. All of the items on record shall be included as part of the sample pool or shall be counted during a complete inventory. To ensure that all locations are identified and all items in the warehouse are properly recorded prior to the inventory, a location validation shall be made prior to full lot and wall-to-wall inventories. A location is not required to be validated for sample inventories and, in any event, not more than once a year.

5.3.2. Each count of a materials inventory line item shall be taken using a new count card or listing. The individual counting and the individual verifying, if a verifier is used, shall sign or initial and date the count card or listing after entering the quantity counted. The record balance shall not be entered on a count card or listing prior to the count. When a verifier is used, a recount is not necessary. If, however, the SEMO deems that a recount is needed, it shall be taken by an individual other than the original counter or verifier. To maintain a system of checks and balances, individuals such as warehouse and storage personnel shall not be allowed to inventory materials under their custodial care and responsibility. If such a situation cannot be avoided, then the inventory count must be spot checked through random sample by an individual who does not have direct custodial responsibility.

5.3.3 The physical inventory control record shall clearly indicate the record quantity, each count quantity, whether or not the count quantity constituted an error or variance, and the resolution of differing counts.

5.4 Sampling Procedures

5.4.1. The sampling procedures outlined in this paragraph are designed to provide reasonable assurance that the inventory control system is adequate. In percentage terms, it provides approximately 95-percent confidence that 85 percent of the records are within the acceptable error limits.

5.4.2. Inventories under perpetual control shall be examined using a lot sampling technique. When a lot fails to pass the sample, it shall be completely counted and the records adjusted accordingly. Inventories shall be taken annually, either all at once or on a scheduled cyclic basis throughout a fiscal year. If, in the judgment of the SEMO, there is a high probability that the sample inventory shall be unacceptable, a complete lot or wall to wall inventory may be taken without first taking a sample.

5.4.3. Lots shall be reasonably uniform in size and shall be limited to one status code of inventory, unless the inventory records for all status codes are identically maintained. Each lot may comprise one or more types of accounts, from 1201-1215. Type accounts may be split to provide uniform lot sizes.

5.4.4 Sample size and error limits for varying size lots areas follow:

SAMPLE SIZES AND ERROR LIMITS

Lot Size (Line Items)	SampleSize	Error Accept	Limit Reject
2 to 8	2	0	1
9 to 15	3	0	1
16 to 25	5	0	1
26 to 50	8	0	1
51 to 90	13	0	1
91 to 150	20	0	1
151 to 280	32	1	2
281 to 500	50	3	4
501 to 1,200	80	7	8
1,201 to 3,200	125	10	11
3,201 to 10, 000	200	21	22
10,001 to 35,000	315	21	22
35,001 to 150,000	500	21	22

5.4.5. Sample inventories are allowed a variance to determine whether the sample inventory passes or fails. The variance allowed is 10 percent in count or value. The variance is applicable to each line item but not to the sample size as a whole.

5.4.6. Samples shall be selected, using a constant interval developed from the following formula:

$$\text{Lot size} = \frac{\text{Constant Interval}}{\text{Sample size}}$$

A group of records the size of the constant interval and composed of the first records in the inventory file shall constitute the pool from which the first item in the sample is drawn at random, i.e., the first group of records in the lot that equals the constant interval. Thereafter, the constant interval shall be added to the number of the first record selected and each succeeding record number until the sample is selected. The sample size shall not deviate from the table. In order to arrive at the sample, additional items shall be selected at random from the lot if the original selection is less, or items shall be randomly deleted from the selected sample if the original selection is oversized.

5.4.7. The selected items shall be counted. Line items may be recounted to verify a count. Those that meet or exceed the variance limits of 10 percent in count or value, which are the limits for an error, shall count as a rejection. When the number of rejections equals or exceeds the reject limit in paragraph 5.4.4, the sample fails and a complete inventory of the lot shall be taken. The complete lot count must be taken within the same fiscal year as the sample.

5.5. Complete Lot Inventory Procedures

5.5.1. When a complete lot inventory is taken, the counts shall be compared with the record and errors noted. When either the total of errors reaches 10 percent or more of the total number of line items in the lot, or the total value of gross adjustments, plus or minus, equals or exceeds 10 percent of the value of the lot, the inventory shall be considered unacceptable.

5.5.2. When a complete lot inventory is found to be unacceptable, an analysis of the causes for the errors shall be performed and corrective action scheduled. A copy of the analysis and the schedule for corrective action shall be forwarded to the Logistics Management Division, NASA Headquarters.

5.6. Adjustments as a Result of Inventories

Discrepancies between the record balance and the physical balance shall be adjusted in accordance with paragraph 4.7.

5.7. High-Demand Item Review for Periodic Inventories

At the time of the annual physical inventory of periodic inventories, a review shall be made to determine if any items qualify for transfer from periodic inventory control to perpetual inventory control. Those items qualifying shall be transferred.

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