



Standard Practice for Physical Inventory of Durable, Moveable Property¹

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1. Scope

1.1 This practice covers the physical inventory of durable, moveable property. Physical inventory is a vital part of a property control system.

2. Significance and Use

2.1 *Physical Inventory*—The primary product of a physical inventory is a report identifying, at a minimum, which items were located and which were not. The number and value of unlocated items constitute an organization's loss experience, which is critical for assessing the organization's property control risk and success. Unlocated items that are capitalized on an organization's financial records are generally written off at the close of the inventory (and therefore physical inventories are important to ensuring that public financial statements are accurate). Physical inventories have several byproducts as well. During the inventory, record deficiencies, such as incorrect locations or unrecorded property items are identified; these records are corrected as part of the process. Finally, physical inventory serves as a deterrent to loss, theft, damage, and misuse as those responsible for property perceive that they will be held accountable for it and be required to produce it on a periodic basis. In summary, physical inventories are conducted to accomplish one or more of the following:

- 2.1.1 Assess the accuracy of property records,
- 2.1.2 Update property records,
- 2.1.3 Assess property loss experience,
- 2.1.4 Provide the status of capital items for financial reporting purposes, and
- 2.1.5 Deter misuse, loss, damage, and theft of property.

Physical Inventory

3. Physical Inventory Planning

3.1 General:

3.1.1 A physical inventory is an assessment or audit. An effective physical inventory provides information of value that

equals or exceeds the cost of the activity. For the results to be valid and useful, complete the physical inventory by consistently applying written procedures. As physical inventories generally measure performance over a period of months or years and results are often trended, it is desirable to repeat past inventory practices in order to make results comparable.

3.1.2 As physical inventories are generally efforts involving significant time, resources, complexity, and personnel, appropriate project management techniques should be employed. Address the elements in 3.2 through 3.13 when planning.

3.2 *Management and Accountability*—Assign responsibility, authority, and accountability for the conduct of physical inventory and for the results of the inventory.

3.3 *Key Results Required*—Prior to planning an inventory, determine the decisions that will be made based upon inventory results and the key results required to make these decisions. For example, a common decision is whether or not a control system is effective; the find rate by value or number of items is often used as a key determinant. The number or percent of unrecorded assets (overages) is an indicator of an organization's success at achieving control of inbound or newly fabricated assets. All subsequent elements of physical inventory planning must accommodate measurement of key results with sufficient accuracy and precision for decision-making.

3.4 Population:

3.4.1 Determine the population to be inventoried. A population may be defined by equipment type, value, location, age, controlling organization or program, use status, or other control categories. Determine whether to conduct a complete inventory of those categories or employ a sampling technique. If sampling techniques are employed, determine the sampling method and size before selecting a sample. The sample must be adequate to yield data of sufficient accuracy to meet the desired objectives. If find rates or other data are required for subsets of the population, for example by organization, then sample sizes must be sufficient to yield data for those subsets with sufficient accuracy and precision to be valid and useful.

3.4.2 The population to be inventoried should be set at the beginning of the inventory period and "frozen." New receipts after the beginning of the period should not be included, nor should items transferred or disposed be excluded, from physical inventory reconciliation and statistics. Establish clear

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policies for removal of items from the population due to other circumstances (for example, if it is determined in the course of an inventory that an item was previously sold or cannibalized).

3.5 Independence—Determine the extent to which the physical inventory will require data to be drawn from sources independent of those responsible for property. Independent data sources are more accurate but can be more expensive to employ. Use barcode scanners or other electronic devices to ensure data accuracy without independence.

3.6 Data Requirements—Beyond the key results, determine the need to verify or update various data elements (based upon business needs) during the physical inventory. At a minimum, a physical inventory validates the existence and location of property. Other information may also be verified or updated. Employ floor-to-record checks and other techniques to determine the record accuracy status that existed prior to the commencement of the physical inventory.

3.7 Validation Techniques—Determine the validation and data gathering techniques permissible for the inventory. Validation techniques may include: barcode scanning, radio transmission, owner validation, validation by an independent individual, two-signature validation, validation by transactions or records (for example, receipt, maintenance, transfers of accountability or location, network log-on or use records, and shipping papers), and others. All acceptable techniques shall meet the independence requirements established in 3.5 and gather the data required by 3.3 and 3.6.

3.8 Result Validation—Some organizations have requirements for independent validation of results. This validation can be incorporated in the inventory conduct or occur after the inventory period. Determine if any such requirement exists and, if so, establish plans to meet the requirement. Generally, validation is more effective and efficient if conducted during the physical inventory period.

3.9 Period—Determine the time frame for the inventory. The period determines the permissible time frame for validations. The plan may include provisions for extension of the period under certain circumstances.

3.10 Resources—The considerations in 3.2 through 3.9 are generally sufficient to determine resource requirements. Determine the individuals who will perform and manage the inventory (in accordance with your independence requirements). Determine additional resource requirements, including funding, equipment, vehicles, supplies, information systems needs, and unique expertise (for example, statistics). Those who will be held accountable for the results should control the resources.

3.11 Information Management—Determine the process for updating property records based upon each permissible type of validation. Determine the process for recording previously unrecorded assets (overages) identified during the physical inventory. Determine how results (ongoing and final) will be gathered, maintained, and reported. Determine requirements and procedures for supporting documentation. Establish adequate controls to ensure validity, such as independence, division of responsibility, and password protections.

3.12 Training and Communication—Establish a plan to ensure that individuals involved in the physical inventory have

all necessary skills and information and to ensure that all those affected by the physical inventory are familiar with the established objectives, period, population, and validation techniques.

3.13 Project Plan—Determine the individual tasks that will be performed, and determine their order, time periods, dependencies, and resource requirements.

4. Procedure

4.1 Conduct the physical inventory in accordance with the written plan and procedures. Document deviations and anomalies. Conduct the inventory in such a way that the event could be repeated with substantially similar results.

5. Results

5.1 Key results of a physical inventory are measured by an annual loss rate by number or by value and an annual overage rate by number or value.

5.1.1 Loss rate by number is calculated as follows: (Number of items not located divided by the number of items in the total population) divided by the time in years since the last physical inventory.

5.1.2 Loss rate by value is calculated as follows: (Acquisition value of items not located divided by the acquisition value of items in the total population) divided by the time in years since the last physical inventory.

5.1.3 Overage rate by number is calculated as follows: (Number of overages divided by the number of items in the total population) divided by the time in years since the last physical inventory.

5.1.4 Overage rate by value is calculated as follows: (Value of overages divided by the value of items in the total population) divided by the time in years since the last physical inventory.

5.2 Other measures should be employed to provide the required key results established in 3.3.

5.3 Annual loss rates measure relative property control success. Property control should be optimized in accordance with organization needs. Property control helps ensure that property is available when needed and reduces the risks of loss of sensitive information or property. The consequences of failure determine the failure tolerance. Consequences include the cost and effort to replace an item, lost revenue from the release of company-sensitive information, and lost productivity resulting from the unavailability of a property item. For populations with high consequences, annual loss rate targets may be virtually 0 percent. For populations with very low consequences, annual loss rates of as high as ten percent may be acceptable. Typical acceptable annual loss rates vary from half a percent to five percent. The acceptable annual loss rate for a specific population should be the rate that minimizes the sum of the financial impact of the negative consequences of losses and cost of control.

6. Interpreting Physical Inventory Results

6.1 The accuracy and validity of physical inventory results are dependent upon the techniques employed, the confidence and precision of samples, and the level of effort expended.

Results of different organizations or the same organization over time are therefore difficult to compare.

6.2 Lists and analyses of those items not located (shortages) are useful for determining control effectiveness and vulnerabilities. However, a physical inventory does not reveal why an item was not found. Generally, it can only identify those items found and those not found. Items not found may have been lost or stolen, disassembled or destroyed, legitimately disposed of

(though not recorded), or may have been missed during the inventory. The acquisition value of shortages, while perhaps a useful figure for comparison, is not a reasonable estimate of the financial impact of property losses.

7. Keywords

7.1 physical inventory; property control

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