VALUE THROUGH PROFESSIONAL ASSET MANAGEMENT






NPMA

FUNDAMENTALS OF PERSONAL PROPERTY MANAGEMENT

NPMA

VALUE THROUGH PROFESSIONAL ASSET MANAGEMENT






Copyright © 2006-2013 by the National Property Management Association, Inc.
All Rights Reserved.
This book, or any part thereof, may not be reproduced in any form without the express written permission of the publisher.

Published by:
National Property Management Association, Inc.
4025 Tampa Road, Suite 1203
Oldsmar, FL 33677
Tel: 813-475-6998 / Fax: 749-0812

Table of Contents i
Contributors iv
Foreword v

Module 1
Chapter 1 Property Management
Introduction 1-1
Ownership, Accountability, and Responsibility 1-2
The Property Control System 1-4
The Primary Responsibilities of the PMO 1-4
Organizational Placement and Structure 1-5
Records 1-7
Deciding What to Property to Control 1-10
Compliance 1-11
Property Reporting 1-12
Communication and Training 1-13
The Benefits of an Effective Property Function 1-15
Summary 1-15

Chapter 2 Acquisition
Introduction 2-1
Approvals 2-2
Acquisition Methods 2-3
Requisitioning and Purchasing 2-5
Summary 2-7

Chapter 3 Receiving
Introduction 3-1
Receiving Documentation 3-2
Centralized vs Decentralized 3-3
The Receiving Process 3-4
Items that Bypass Receiving 3-7
Reports 3-7
Other Organizational Responsibilities 3-7
Hazardous Materials 3-7
Classified Items 3-8
Summary 3-8

Chapter 4 Identification
Introduction 4-1
Tagged Property 4-2
Identification Methods 4-3
Special Circumstances 4-4
Key Participants 4-6
Unique Identification (UID) 4-6
Summary 4-6

Chapter 5 Storage and Warehousing
Introduction 5-1
Warehouse Operations 5-2
Categories and Types of Storage Facilities 5-4
Warehouse Layout 5-5
Material Resource Planning (MRP) Systems 5-6
Warehouse Equipment 5-6
Inventory and Distribution Methods 5-7
Warehouse Management Systems 5-7
The Warehouse and its Relationship With Other Functions 5-9
The Effect of New Technologies on Warehousing and Storage 5-10
Summary 5-10

Module 2
Chapter 6 Movement
Introduction 6-1
The Process of Movement 6-2
Off-Site Movements 6-2
Property Movement Documents 6-3
Shipping 6-4
Hazardous Materials (HAZMAT) 6-6
Summary 6-8

Chapter 7 Maintenance
Introduction 7-1
The Maintenance Plan 7-2
Calibration and Preventive Maintenance Procedures 7-3
Scheduling Periodic Maintenance and Inspection 7-3
Performing Maintenance or Calibration 7-3
Calibration and Preventive Maintenance Labels And Markings 7-4
Unscheduled Maintenance and Repair of Property 7-5
Repair or Replace? 7-5
Auditing the Maintenance Process 7-5
Who is Responsible for Maintenance And Calibration? 7-6
Key Considerations for Outsourcing the Maintenance Function 7-6
Summary 7-7

Chapter 8 Physical Inventory
Introduction 8-1
The Value of the Physical Inventory 8-2
Frequency of Inventory 8-3
Types of Inventories 8-4
The Inventory Plan 8-5
Conducting the Inventory 8-6
The Reconciliation 8-6
Reporting Requirements 8-8
The Inventory System 8-8
Data Collection 8-8
Outside Suppliers of Inventory Services 8-8
Summary 8-9

Chapter 9 Utilization
Introduction 9-1
The Role of the Property Manager 9-2
Authorized Use 9-3
Use for Intended Purpose 9-4
Policies and Procedures 9-4
Measuring the Effectiveness of the Utilization Program 9-4
Reutilization 9-5
Summary 9-6

Chapter 10 Consumption
Introduction 10-1
Consumption Programs 10-2
Requirements 10-2
Measuring Consumption Against Requirements 10-3
Controlling Issues 10-4
Consumption Analysis 10-4
Summary 10-5

Chapter 11 Property Disposition
Introduction 11-1
The Steps of the Disposition Process 11-2
Reutilization 11-2
Recycling 11-3
Methods of Disposal 11-3
Trade-ins and Exchange Sales 11-5
Sales 11-5
Donations 11-7
Destruction 11-7
Retirement 11-8
Summary 11-8

Acronyms 12-1
Glossary 12-5

FUNDAMENTALS OF PERSONAL PROPERTY MANAGEMENT

This project would not have been possible without the support of a considerable number of people, beginning with the contributors listed below, who gave a lot of effort and precious personal time to produce this excellent publication. The list below includes all those who assisted in the original *Fundamentals of Personal Property Management* manual and the effort to update and improve this publication. Our foundation for this publication began with contributors of past editions of NPMA Certification manuals. Many thanks to all!

CONTRIBUTORS

Fundamentals of Personal Property Management Manual

2006 Version
Andrew C. Anderson, CPPM, CF
Richard Coatney, CPPM
Barbara Finnegan, CPPM, CF
Lois Fiore, CPPM, CF
Elaine Frenette, CPPM, CF
Billie Jo Perchla, CPPM, CF
Dave Perrin, CPPM, CF
James Scott, CPPM, CF
Fred Seth, CPPM, CF
Pete Slyck, CPPM, CF
Gary Swanson, CPPM, CF
Marcia Whitson CPPM, CF
Ed Winters, CPPM, CF
Scott Bogue, Editor
Design and Layout, Pointhaus Inc.

2013 Version Re-write
Andrew C. Anderson, CPPM, CF
Ivonne Bachar, CPPM, CF
Kim Bowley, CPPM, CF
Cheri Cross, CPPM, CF
Rosanne (Beth) Green, CPPM, CF
Tara Miller, CPPM, CF
Jerri Proszek, CPPM. CF
Billie Jo Perchla, CPPM, CF
Terry Rochelle, CPPM, CF
Cathy Seltzer, CPPM, CF
Marcia Whitson, CPPM, CF
Design and Layout, Pointhaus Inc.

FOREWORD

The *Fundamentals of Personal Property Management* manual is written and edited by some of the most experienced and knowledgeable leaders in the asset management profession today. This manual encompasses the basic and fundamental knowledge required for managing personal property throughout its life cycle. Utilizing the National Property Management Association (NPMA) ”core body of knowledge” developed by highly qualified professionals in the NPMA, this manual was written to address the topics and issues that are basic to the asset management profession.

NPMA is grateful for the time and expertise selflessly donated by the members listed on the Contributors page. A special thank you for the endless hours and dedication of Jerri Proszek for organizing this re-write project, Tara Miller for text editing, and many other contributors who made this publication possible.

This manual is an invaluable reference tool for asset management professionals throughout all industries, including government agencies, corporations, hospitals and educational institutions. For the individual, this manual provides excellent information to increase your knowledge, enhance job proficiency, and help to meet your personal career goals.

As the leading membership association for asset management professionals, NPMA is committed to advancing the profession. Companies and organizations around the world benefit from the strategic role of asset management professionals who are poised to be strong, essential parts of all organizational processes and contribute greatly to the bottom line.

NPMA is dedicated to providing asset management professionals with the best literature, training and educational opportunities. We believe this manual will prove to be a key instrument for meeting your professional goals.

Rosanne (Beth) Green, CPPM, CF
Vice-President of Certification
April 2013



MODULE 1 CHAPTER 1

PROPERTY MANAGEMENT

PROPERTY MANAGEMENT: THE EXERCISE OF A RESTRAINING OR GOVERNING INFLUENCE OVER THE ACQUISITION, USE, AND DISPOSITION OF PERSONAL PROPERTY.

INTRODUCTION

Every organization, regardless of its size or type, has critical business functions that are an integral part of meeting its objectives and accomplishing its mission. Familiar examples of these functions are accounting, payroll, and human resources. Property control must also be considered a core business function.

The property control function is unique in several ways—one being that it may be known by a variety of names. These include property accounting, fixed-asset accounting, inventory control, materiel, property control, and asset management. Regardless of what it is called, the property control function's role and responsibilities remain the same.

The department within an organization that is responsible for controlling or managing property is the Property Management Office (PMO). It, too, may be known by different names. The PMO, headed by the property manager, is responsible

for establishing, guiding, managing, and maintaining an efficient property system, communicating effectively with other departments and functions, and developing and presenting training in subjects relating to property.

The property manager manages through a staff and a network of colleagues. Doing this is particularly important when property-related policies and procedures affect multiple functional units within a large organization.

The establishment and maintenance of a property control system is also the responsibility of the PMO. A property control system is comprised of property management personnel, processes, and management information system (MIS).

Note: *In the language of property management, "process" means a series of steps taken to produce a desired result. The document that describes and conveys those steps is a "procedure". Implicit in "procedure" is that these are the steps that must be followed to produce the result.*

Property managers are the main point of contact for anything concerning property. They must be experts in the field of property and property regulations and be able to convey the requirements to the rest of the organization. If the organization contracts with other entities, such as the government property manager must have a working relationship with all sponsor representatives.

OWNERSHIP, ACCOUNTABILITY, AND RESPONSIBILITY

The vocabulary of the property profession includes many terms with meanings specific to the industry. As is true in many areas of the property management profession, a lack of standard terminology can cause real-world problems when the various relationships between people or organizations and things are being discussed.

The concepts of ownership, accountability, and responsibility, are interrelated and often a source of confusion.

"Ownership" *is having legal or rightful title to property.*

Property is either owned by the organization or is provided by a sponsor under some kind of agreement (in which case, the sponsor has ownership). Ownership of property allows the owner to make any and all decisions regarding the property; it is the property professional's job to support the property owner in making and implementing effective decisions regarding the property.

Organizations and government entities may have unique requirements as well as specific duties and responsibilities, and potential penalties in mind when providing property to recipients (see Accountability below). These duties, responsibilities, and potential penalties should be documented in a formal agreement between the provider and the recipient (e.g. contract, grant, memorandum of understanding (MOU), etc.).

With the increased use of rental agreements and leases by governmental and private entities, it sometimes becomes difficult to precisely determine the ownership of property.

"Accountability" *means to possess and have use of the property of another with delegated duties and responsibilities, subject to penalty in case of default. Note those "accountable" do not have legal or rightful title to the property.*

The key elements of property accountability are:

- Provider
- Recipient
- Specific duties and responsibilities
- Specific penalties in case of default

The phrase "accountable for the property" is often used without clearly stating to whom the property holder is accountable. This becomes an issue as the possession and use of property become involved in more complex relationships; ones in which there are more than one provider and more than one recipient of the property.

The world of government contracting provides an excellent example of the importance of establishing accountability. A government agency, National Aeronautics Space and Administration (NASA) for example, has a large amount of property

used to accomplish the work of the agency—everything from desks to space vehicles. There is no question NASA is accountable to Congress for the property, since Congress provides the funding to acquire the property. And, when NASA provides property to a contractor, NASA in turn considers that contractor accountable to NASA for the property. And if, as sometimes happens, this contractor provides the property to a subcontractor; the subcontractor is accountable to the prime contractor for the property.

In the above case, there are a host of correct answers to the question, "Who is accountable for the property?" But in reality it is the question that is wrong. The question should be, "To whom are you accountable for the property?" In the example, the subcontractor is accountable to the prime contractor, the prime contractor is accountable to NASA, NASA is accountable to Congress, and Congress is accountable to the voters. The duties, responsibilities, and penalties, are different for each.

When accountability shifts from one entity to another it is called a transfer of accountability. This transfer may or may not include physical relocation of the asset(s), but it will always include a change in accountability for the property. The appropriate level of management, as defined in the organization's policies and procedures, must authorize all transfers of accountability. Likewise, the person accepting the transfer must have the authority to act for the accepting organization or department at the appropriate financial level. In addition, the Contracting Officers for both the releasing and accepting organizations must approve transfers of sponsor-owned property.

Approvals must be obtained before a transfer occurs and must be in writing—within the award document, a letter, or an e-mail—and made part of the historical file and the audit trail for the assets. The transfer document must include the effective date of the transfer, the purpose of the transfer, and description of the property involved in the transfer. For transfers between contract numbers must be included. It is important both the releasing and gaining organization review the transfer documentation for accuracy and completeness, then sign and date it as evidence of the completion of the transfer.

Interdepartmental transfers follow similar rules, but there is an important (and potentially confusing) difference. These types of transfers occur routinely within organizations. They are often a direct result of organizational changes, the shifting of work between departments as workloads change, or when assets become excess to the needs of one department and can be utilized by another on a permanent basis.

Regardless of what level or where accountability rests; department, division, or region, an interdepartmental transfer occurs when property *and accountability* shift from the using organization to another.

Potential confusion results when accountability rests above the department level. The transaction is sometimes called an "interdepartmental transfer," but it is a transfer of *responsibility*, not a transfer of accountability.

Note: *For organizations having multiple sites, a department or organizational subunit may also have locations at multiple sites. In this case, regardless of who is accountable, a change in location is movement, not an interdepartmental transfer.*

***"Responsibility"** means to be answerable for a trust or obligation.*

In common usage, "responsibility" is often used interchangeably with "accountability". However, in property management, "responsibility" is less formal in meaning, and more general in applicability. In particular, one can be responsible for property without having possession or use of the property. One can be responsible for the property without being accountable. So, while accountability certainly includes responsibility, responsibility does not necessarily include accountability.

The key distinction from a property professional's standpoint is that one is *accountable* to someone for the property, and is *responsible for* certain actions (such as maintenance or storage) related to the property.

THE PROPERTY CONTROL SYSTEM

The Property Control System is comprised of written policies, procedures, operational guidelines, and related records as well as the management information system (MIS) that facilitates performing those functions. Within these documents, the roles and responsibilities of each participant in a process are defined.

The overall system must incorporate methods for safeguarding the physical assets of an organization, for periodically verifying the existence, status and condition of the property, and for ensuring the accuracy of related records. It must also enable the participants in all the processes to comply with internal business rules, federal, state, local regulations, and to provide an audit trail for the property system.

Property records are the foundation of the property control database. Many organizations rely on the property control system for the information required for tracking accountability as well as for depreciation and taxation data reported to federal, state, and local government. The information is also used to verify the items exist when audits are performed.

An effective and user-friendly property system provides a mechanism through which an organization can define and plan for its property needs and be able to acquire, manage and dispose of property to meet them in a cost-effective and efficient manner.

The following sections will address the key elements of the property control system and the roles and responsibilities of the individuals and functions that support it.

THE PRIMARY RESPONSIBILITIES OF THE PMO

As has been stated, the PMO must define, establish and maintain effective and efficient processes for managing the assets used in support of the objectives and mission of the organization. It must ensure assets owned by the organization or for which the organization is accountable are adequately controlled, protected, preserved and maintained to maximize their useful life and provide the best possible return on investment.

The property function is responsible for establishing an infrastructure that will facilitate property management through the entire life cycle of an asset. This includes developing and implementing detailed policies, procedures, operating guidelines, and record-keeping systems—that is, a property management system—and establishing and communicating the specific roles and responsibilities of all participants.

The primary drivers behind the need for an effective property function include fiscal responsibility and stewardship, and investment and resource management, in addition to compliance with organizational needs and external requirements.

Note: *Stewardship is defined as the careful and responsible management of operations and property within one's care.*

The control of property is subdivided into 15 functional areas of property management for all property, regardless of ownership or funding. To have control, the organization must have individuals or functional groups responsible for performing the functions listed in Figure 1-1.

In addition to the functional areas listed in figure 1-1, there are other business processes for which policies, procedures and operating guidelines must be established to achieve a well-balanced property control system:

- Requirements determination
- Property accounting
- System reviews
- Risk management
- Fleet management
- Hazardous material control (environmental issues)

These business processes are addressed in detail in the Intermediate Studies Manual.

As well as addressing the fifteen functional areas listed in Figure 1-1 and the key business processes listed above, it is very important for Property to identify and understand the level of interface needed with and among other units within the organization. These functional groups have a vested interest in, and are responsible for, specific property control tasks. They are referred to as key stakeholders in effective property control, and include:

	Function		Function
1.	Acquisition	9.	Physical Inventory
2.	Receiving	10.	Consumption
3.	Identification	11.	Utilization
4.	Records	12.	Maintenance
5.	Reports	13.	Subcontractor Control
6.	Storage	14.	Disposition
7.	Movement	15.	Contract Closeout
8.	Audits		

Figure 1-1 Functional Areas of Property Management

- Finance and Accounting
- Accounts Payable
- Internal Audit
- System users
- Risk Management
- Agreements Management
- Contract or Grant Accounting
- Research Administration
- Procurement
- Sales
- Office of Technology & Licensing
- Security
- Health & Safety
- Transportation
- Information Systems & Technology
- External auditing agencies

To increase the likelihood of compliance, the unit best suited to the task should be made responsible for the performance of specific steps within a process. The level of complexity of the processes is driven by the needs of the organization, with the specific steps within each process being determined by the structure of the responsible business unit.

Note: *Within the context of this chapter, and unless stated otherwise, "compliance" means satisfactory performance of the steps defined in the processes that support the organization's mission and objectives. Compliance is discussed in more detail later in this chapter.*

ORGANIZATIONAL PLACEMENT AND STRUCTURE

Organizational Placement

The organizational placement of the property function varies from organization to organization. Given that Property has management responsibility for one of the major areas of financial investment within an organization, the most effective organizational placement is within the financial management or accounting function.

There are many cases, however, in which Property exists as part of other functions, including Procurement, Contracts, Facilities, Transportation, and Research Administration.

There are several factors that influence where the property function would most effectively reside. They include:

- The type and size of the organization
- The type, volume, and value of property that must be managed
- Compliance requirements and related risk to the organization
- Management groupings of functional areas within an organization
- The level and type of interface needed with key stakeholders
- The resources available to staff the function
- The geographical layout of the organization

When the PMO can influence where it is to reside organizationally, these factors should be brought forward for management consideration.

Regardless of where Property resides organizationally, it must have adequate authority to define, implement and maintain business processes that may touch every level of the organization. It is also critical Property receives the visibility and management support necessary to ensure its

policies, procedures and operational guidelines are viewed as value-added and important to the conducting of everyday business throughout all levels of the organization.

The PMO usually has the authority described above. However, it is often external compliance requirements (regulations or sponsor-imposed controls), as well as consistent and persistent communication about the impact of effective property control, through which adequate levels of visibility and management support are attained.

The ability to effectively promote the property function within an organization is a valuable skill for all members of the Property staff.

Organizational Structure
Organizational structure within the property function refers to how the staff is organized and how their respective responsibilities are delineated. It directly impacts their ability to conduct everyday business while providing the service and support that Property must offer its internal and external customers.

There are many successful models for an effective property function. For those organizations that are able to decide upon and implement the organizational structure of their property function, below are some key characteristics to consider:

- Centralized vs. decentralized
- Combination of a centralized department with support from a decentralized network of property custodian contacts throughout the organization
- Single individual responsibility vs. a fully staffed Property division or department
- Functional groupings within the department—by business process, support to business team, area of specialty, type of property, etc.

Some of the key factors in deciding which model to use include:

- The type and volume of property to be managed
- Compliance requirements and related risk
- The current levels of compliance vs. the desired level of compliance
- The geographical diversity of service areas to be supported
- The number and skill sets of property staff
- The complexity of business processes and data management systems
- The financial resources available
- The direct supervisory responsibility of property staff and the property custodian network
- The time available to be dedicated by individuals who have property responsibility throughout the organization (e.g. departmental property administrators, property custodians)

Key Participants
To effectively and efficiently manage property, key participants in the property process must be identified. Following is a list of possible key players within an organization and where they fit into that organization. These are examples of responsibilities and roles that support the control of property; there could be others.

The *Chief Financial Officer (CFO)* (or *Provost*, for colleges and universities), is usually ultimately responsible for ensuring all property-related policies and procedures are followed and is usually the authority behind the property manager. The property manager must have CFO support to establish and issue policies and procedures within the organization.

The *Controller's Office*, or Financial Accounting, in agreement with the property manager, publishes property policy as it relates to the financial records for the organization. Also, these two organizations must work together to ensure that the financial information in the property records is reflected in the general ledger. Typically the property records are used as a subsidiary ledger.

The *Program/Project Manager*, or someone within the program/project organization, normally identifies a need for property. What is important is the role property management plays in the project management or department administration's activities and property accountability.

The *Property Management Office (PMO)*, has the responsibility and role of ensuring an effective property control system is established and maintained. In addition, the PMO ensures all

property is controlled and managed according to sound business practices.

Depending on the department within the organization, the *Department Heads, Directors, or Unit Managers* may be given the role and responsibility of ensuring personnel within their units follow the policies and procedures that have been set forth by the PMO.

The *Departmental Property Administrator* is in charge of the property within a unit or department. This is the individual who consolidates the property activity of the department and informs property management via transactions recorded in the property database. These transactions include acquisition, utilization and disposition (receipt, identification, movement, etc).

A Property Custodian is typically the person who is responsible for the assets within a group and who must instruct users of their role and responsibilities while property is in care, custody and control of an end user.

Asset Users or *End Users* must be assigned the task of reporting receipt, identification, movement, disposal, maintenance and other events, either through system transactions or verbal communication, in support of proper property management. Asset users and property custodians are the eyes and ears of the property manager or property management organization.

The Physical Inventory Group is tasked with physically inventorying the property within the organization or program. Inventory personnel are responsible for verifying the existence of property, confirming serial number, location and gathering value added information (such as condition, location, identification or is the item excess) location, and identification) by locating the property within the organization and with identifying discrepancies, such as non-located or miscounted property.

They are also an integral part of reporting the results, reconciling of the physical inventory data to the property records (two related but independent systems) and adjusting the records to accommodate discrepancies.

The *Internal Audit Department's* role is to ensure established processes are being followed and the organization is compliant with both internal policies and procedures and applicable external regulations. This is true whether or not the organization is a contractor or holds sponsor-owned property.

The department must, from a property standpoint, review and assess weaknesses within the property system environment. In addition, it is their responsibility to issue audit reports and to request management response as to resolution of their findings.

RECORDS

The records element of the property control system is crucial to the entire process. It is through records that the existence of all property under the jurisdiction of the PMO is established and verified. One way of beginning the process for establishing the official record is to issue a voucher when an asset is purchased showing the nomenclature and planned location of the item, so receiving has an indication where the property should be located when the asset is received. The PMO sets up a property record in the property control system, using information from the purchasing system and from receiving documents, in addition to information gained from a physical examination of the item at Receiving. Often this process is automated when purchased items are received; the property record is automatically created.

Property records are modified during the entire life



POINT OF PROCESS	ADVANTAGES	DISADVANTAGES
Requisition is reviewed and forwarded to Purchasing.	Whenever property records are reviewed, the request is visible.	Purchase requests are often cancelled or modified before the purchase order is placed.
A purchase order is placed.	Receiving and property management can prepare for the arrival of the property by pre-assigning the asset numbers. This allows quick identification when the items are received. The order is visible when records are reviewed.	1. Purchase orders may be cancelled or modified, deleting the property item. 2. Sometimes purchase orders are issued after items are received.
Property is received.	Asset numbers can be assigned by Receiving as items are accepted. This eliminates the need for property management to notify Receiving of the appropriate tag number. Also, on long-lead items, there isn't a tag number that is waiting to be affixed long after the surrounding numbers have been used.	If Receiving personnel are not aware of property management requirements, or do not comply with them, items may be released without proper identification or information needed by property management, e.g. serial and model numbers.
Payment for property is made.	Most of the necessary information is in the accounts payable file—purchase order, receipt information, payment information, and delivery point within organization.	Depending on procedures, the asset may not be identified when received. If identified, the identification number, serial number, model, and manufacturer may or may not be available. If the asset is not identified in Receiving, property management may have to track the item down to identify it and obtain property information.
Property is identified after or during the above processes. It is generally valid for the special circumstances previously discussed—credit card purchases, donations, or purchases without a purchase order. It is also valid for items found during an inventory.		If only this method is used, property could easily be overlooked.

Figure 1-2 Property Record Creation

cycle of property items according to the record-keeping requirements for each type of property and the organization's policies and procedures. A property record can be created at several different points during the process of acquisition. Depending on when the record is created, it may be a partial record until all of the steps have been completed. Some points at which property records may be created are shown in Figure 1-2.

Data element collection and updating are possible and desirable at different phases of the property life cycle. The organization must tailor the data collection process to meet system and business requirements.

The necessary elements of a record may help determine the best point for creating the record. These elements are:

- Asset identification
- Asset description
- Manufacturer
- Serial number
- Model number
- Asset location
- The assignment of responsibility for the asset
- Asset acquisition cost/date
- Acquisition method and reference (purchase order, donation, etc.)
- The date of receipt

PHASE	DOCUMENTS	DATA ELEMENTS
Procurement	Purchase Requisition	Description, model number, estimated useful life, asset classification code(s), estimated cost, budget codes, requisition number
	Purchase Order	Vendor name, vendor number, vendor address, purchase order no., acquisition method, funding source(s), accounting codes
Receiving	Shipping Documents	Expanded description, shipping costs, receipt date, location, warranty information, condition code
Accounts Payable	Payment Voucher	Acquisition cost, voucher number, final budget codes
Put in Service	Internal Placement Documents	In-service date, location, responsible person, initial dates, inventory date, residual value, accumulated depreciation, net book value, cost center
	Maintenance/Work Orders	Maintenance/calibration performed, maintenance/calibration date(s), next scheduled maintenance/calibration, next scheduled maintenance/calibration date, condition code
	Internal Transfer	Location, responsible person, condition code, cost center
Disposition	Authorization to Disposition	Authorized disposition method, advertising date(s), advertising method
	Sales Documents	Final disposition method; sale, reutilization, or disposal date; recipient, amount received (as applicable)

Figure 1-3 Data Elements

- Financial codes

If the asset is capitalized, the salvage value, useful life, depreciation method and general ledger account should also be included. Depending upon the complexity and design of the property system, there may also be some codes for replacement information.

In addition to retaining the purchase information electronically, it is advisable and usually necessary to retain all purchase documentation for the life of the asset.

Figure 1-3 contains a partial list of data elements often captured during the acquisition, management, and disposition of property:

Describing the Property: Generally, the record format may contain a short description field and a long or detailed description field. The short description should describe items in a consistent manner. This field may or not be free-form. If it is free-form, any information that will fit may be typed into the field. If it is not free-form, there is usually a pre-defined list of allowable input.

The long or detailed description field may be used in two different ways: (1) by adding more information to the short description, or (2) by restating the short description with more detail.

Location and Assignment of Responsibility: This element should identify where the asset is located for use and inventory. Depending on the size of the property system, it can be very

detailed or very broad. For example, for a small organization property system, the location may be the individual workstation or room where the item is found. However, if the property system involves several departments or facilities, the location may only include the department, project area or building.

Even if the location of record is an individual's workstation, this may or may not constitute an assignment of responsibility. Normally, the responsibility will remain with a department head, manager or custodian. Organization policies and procedures identify who is responsible and indicate financial penalties (if any) for missing items that have been lost, destroyed or stolen.

Acquisition Cost and Financial Codes: This element includes all costs associated with an item, including taxes, shipping, and installation. If there are multiple items on a purchase order, costs that cannot be individually assigned are distributed between the items on a proportional basis. On large projects there may be several purchase orders or contracts added together to calculate the total project acquisition cost.

To ensure all assets and costs are recorded, the property records should be compared to the appropriate financial charge codes in the accounting system.

DECIDING WHAT PROPERTY TO CONTROL

Property items owned by an organization or for which an organization is accountable may range from low-cost supplies to multi-million dollar equipment and facilities. From a property perspective, the determination of what is to be controlled is driven by business, regulatory, and contract agreement needs.

There are two key questions that must be asked when determining the "control" population of property within an organization:

1. What will be controlled?
2. To what level of detail will it be controlled?

Once these high-level decisions are made, the specific decisions as to how, when and by whom the property will be controlled is further defined in the organization's policies, procedures and operational guidelines.

These "how, when, and by whom" decisions have far-reaching implications in terms of responsibility and workload. In some organizations, the property function itself has the authority to make these decisions. In other cases the decisions are made by related functions within an organization and handed off to Property for implementation. Sometimes these decisions are driven by specific regulatory requirements with which the organization must comply.

Those responsible for deciding what and to what level of detail assets will be controlled must take several key factors into consideration, with their impact clearly understood and carefully prioritized. What these factors are will vary from one organization to another but generally include the following:

- The organization's business needs
- External regulatory requirements and related risk
- Tax reporting
- The type, value, and volume of property
- Information for capital investment planning
- The effect of threshold on indirect cost recovery
- The cost of business including insurance, storage costs, etc.
- Level of confidence and fiduciary reporting responsibility
- Current levels of compliance vs. desired level of compliance
- The technical capabilities of on-line data systems
- Generally accepted business practices
- Staffing resources
- Good business practices for management resources
- The cost of control compared to the potential cost of a loss

Note: *The terms threshold, indirect cost recovery, level of confidence, and fiduciary reporting responsibility may not be familiar. These are discussed in later manuals and will not be further explored here.*

What is actually controlled, and the specific reasons why, will vary among organizations. Follow-

ing are a few examples of what an organization may elect to control:

1. All equipment that is not permanently attached to a building, has an acquisition value of $1,500 or greater, and has a useful life of greater than one year
2. All buildings and land improvements
3. Infrastructure assets
4. Items considered sensitive or easily pilferable, regardless of acquisition value. (e.g. all laptop computers)
5. All items fabricated or built-in-house
6. Other material

Note: *Infrastructure assets are defined as long-lived capital assets that may be in service for an extended period and are normally stationary (e.g., roads, bridges, dams, water and sewer systems).*

Decisions regarding the level of detail to which property is controlled must take into account:

- Individual requirements by sponsors; (e.g. compliance requirements)
- The capitalization threshold
- Property categories and respective useful lives
- The point at which work in progress is capitalized
- The unit of issue considered to comprise a single record (e.g. single item records, group records, etc.)
- The detail capability of the record-keeping system
- The level of detail needed for property reporting
- The cost of compliance

Note: *"Capitalization threshold" is a financial management term establishing the dollar amount organizations use when identifying durable, moveable property subject to depreciation on accounting and property records. Organizations must make balanced decisions between capitalization thresholds and items that may not reach capitalization thresholds but which may be of a sensitive or high-risk nature and as such, require different levels of control.*

The combination of these two decisions is the foundation upon which organizational policy is established. It is also the basis for individual procedures and related operational guidelines.

COMPLIANCE

More often than not, when the term "compliance" is used, it is understood to mean the process of satisfying the requirements defined by a sponsor agreement or by legislated regulations.

Within the context of the property function, compliance also refers to satisfactorily following the organization's established policies, procedures and operational guidelines. If, for some reason, any policy, procedure, or operational guideline is no longer applicable, the property function must ensure there is a mechanism for revisions in order to meet current business needs.

Note: *The organization's policies, procedures, and operational guidelines may themselves be written (at least in part) to comply with regulations or sponsor-imposed limits and requirements.*

The level of formality and detail of policies, procedures and operational guidelines is dependent on the size and complexity of the organization. Small businesses may have very simple and somewhat informal documents of this type. One person may "wear many hats" and be responsible for many phases of a process. In larger organizations, the processes they describe and control are much more detailed and frequently cross functional and departmental boundaries.

The potential consequences of non-compliance include:

- Increased surveillance and potential findings by both internal and external auditors
- The need to implement and monitor corrective action plans
- Increased liability and financial risk
- Increased insurance costs
- Damaged credibility with customers
- Increased borrowing costs

Effective use of the appropriate reports enables Property to monitor and manage the level of compliance. This, coupled with effective communication, can minimize the effects of problems that may arise.

PROPERTY REPORTING

Generating reports is one of the most important and frequently-used means by which information about property location, volume or quantity, and utilization is communicated. Reports vary from simple, routine reports to very complex analyses designed to validate in detail the accuracy of thousands of transactions and their specific business impact.

Reports are a tool for verifying and measuring compliance with established standards, identifying trends in system performance, exposing potential areas of concern, and highlighting exceptional levels of compliance. Reports are also a means by which the effects of implementing changes to processes can be understood and evaluated.

Effective reports provide excellent management tools. They form the basis from which key information about property is communicated throughout the organization and to external customers and sponsors.

Every organization has a set of standard reports. The frequency, format, content and distribution process of each report are determined by the specific needs of the organization. The following reports are recommended as a minimum:

Activity Reports
Activity reports provide information by which the performance of the property function is evaluated. They also provide management tools for monitoring the effectiveness of the processes. Most importantly, these reports can include information that serves as an early indicator of newly-developing problems and undesirable trends, providing an opportunity for timely intervention and corrective action before a local problem becomes systemic.

Financial Reports
These may include depreciation reports (both for depreciation expense and accumulated depreciation), quarterly financial activity reports, year-end reconciliation reports, and inventory reports.

Compliance Reports
Compliance reports include reports that are specifically required by senior management within the organization. These reports may also be required by a sponsor through the terms of a contractual agreement or be in response to external regulatory requirements based on legislative activity. These reports are not optional.

System Monitoring Reports
System monitoring reports monitor the behind-the-scenes database functions essential for an online system to work. These reports may include verification of successful periodic data feeds or interfaces with other systems, evaluation of user access to systems, and notification of system errors.

Utilization/Reutilization Reports
These reports provide measures of how effectively the organization is using and re-using its assets. This topic is covered in detail in Chapter 9, Utilization.

Exception Reports
This type of report identifies errors and omissions in data that must be manually monitored and corrected. For example, a report can be generated each time a task due date is missed.

Loss, Damage and Destruction (LDD) Reports
LDD reports address specific incidents that must be reported to the legal authorities, risk management, and/or sponsors.

Data Summary Reports for Tax Purposes
Detailed property records are important in providing the auditable back-up for depreciation expense, an important component of cost used in reporting federal and state taxes. Also, property taxes are imposed by the assessor where assets are located.

Ad Hoc Reports
In addition to standard reports, every property function must be able to generate ad hoc reports. This capability is particularly useful when impact studies are conducted in preparation for business process changes. Ad hoc reports are also a very effective tool for responding in a timely manner to unique or new queries that use data on record but which are not addressed by an existing report.

Regardless of what reporting tools are used for the creation of ad hoc reports, it must be user-friendly and easy to learn. Generating new reports is not simply a matter of entering a command in a software application and awaiting the printed document. It requires detailed knowledge of the data definition and structure within a database and a logical layout design to facilitate the reading and interpretation of the information presented in the report.

Although Property staff is not ordinarily responsible for programming reports, the ability to conceptualize a report and clearly articulate the data selection criteria and related formulas to programmers is a useful and valuable skill.

COMMUNICATION AND TRAINING

Communication and training are the cornerstone of effective property control system. These are the means by which information is distributed and ideas that facilitate process improvements are exchanged. Also, these are the methods by which expectations are described and performance standards are identified. Effective communication provides increased visibility for Property and plays a key role in educating organizational management and the employee population at large on property issues. Above all, communication and training provide for successful partnering between Property and key stakeholders in the resolution of property issues and in the implementation of process changes.

Note: *While communication and training are in many ways inseparable, it is useful to think of training as structured communication usually presented to a group.*

A lack of training is a “primary causative factor” when government auditors find an organization liable for the loss, damage, or destruction of sponsor assets. It is considered a demonstration of “willful misconduct and lack of good faith”.

An effective communication strategy is important. For communication and training to be effective, it is necessary to identify the target audience and define what information the target audience must receive. The members of the target audience will vary from one organization to another and from one situation to another. The key is being able to identify who the target audience should be for a particular communication need.

Examples of target audiences include:

- Senior management
- Board of Trustees, Board of Regents, and investors
- Property staff
- Program/project management
- Key stakeholders
- Department management
- Department property administrators
- Property custodians
- Asset users
- Data maintenance personnel
- Administrative support staff
- New or departing employees
- Systems technical support
- Security personnel
- Maintenance personnel
- Customers and sponsors
- Auditors

Members of each of these groups have a need to know specific property-related information. It is the responsibility of the property function to identify the information needed by each group, determine the appropriate level of detail, and select the best method by which to present the information.

Types of information provided may include:

- Policies, procedures and operational guidelines
- Reports (as described earlier in this chapter)
- Prospective process changes
- The results of special projects
- Progress reports on key processes, e.g. a physical inventory
- Training or educational information
- Kudos recognizing exceptional performance
- Compliance issues and corrective action plans
- Organizational changes
- General property awareness communications

To maximize the effectiveness of a communications strategy, a variety of delivery methods should be used. Each audience will tend to be more receptive to one delivery method over an-

Delivery Method	*Target Audiences*	*Types of Information*
• Group Presentation	• Senior Management • Board of Trustees • Board of Regents • Property Staff • Asset Users • New Employees • Key Stakeholders	• Reports • Prospective Process Changes • Special Project Results • Progress of Key Processes
• Classroom	• Data Maintenance Personnel • New Department Property Administrators	• On-line System Use • New Systems Implementation • Policy and Procedures
• On-line Tutorials	• Asset Users • Department Property Administrators • New Employees	• Process Skill Certification • On-line System Use • Completing Forms
• Focus Groups • Advisory Groups • Open Forums	• Asset User Teams • Special Project Teams • Management Representatives • Property Support Network	• Information Exchange for Process Improvement • Best Practices
• E-Mail • Organization News Publications	• On-line System Users • Department Property Administrators • Property Custodian Network • Key Stakeholders • Program/Project Management	• General Announcements • Special Notifications • Draft Documents for Review • Property Awareness
• Web-based Systems	• All Property Users • Data Maintenance Personnel • Key Stakeholders • Auditors	• Policies, Procedures, Operational Guidelines • Forms • User Tools
• Individualized Sessions	• New or Temporary Employees • Departing Employees • Individuals with Special Needs	• Training for Specific Tasks • Transfer of Property Custody

Figure 1-4 Delivery Methods, Target Audiences, and Types of Information

other, and each attendee will have his or her own learning style. Also, certain information will lend itself more to one delivery method than to another. *Figure 1-4 lists examples of delivery methods, target audiences, and the type of information that might best be communicated in each instance.*

Whichever combination is used, it is helpful to include some level of redundancy in a given subject, presenting it to a variety of audiences using multiple delivery methods. Some repetition helps to improve the retention of information and makes access to information by a large number of users easier.

Subject matter experts (SME) should be involved in providing the information for training. If staffing permits, someone from the PMO should also be involved in the presentation of training. If the property office does not have staff available who are comfortable presenting information to a group, where possible the SME should be present during training to answer questions or clarify points.

One of the most overlooked parts of training is the documentation, that is, text and visual aids. There are many forms of training documentation, and providing more than one kind helps training be more enjoyable. It also enhances learning. Some popular forms of documentation to consider include:

- User guides
- Tutorials
- Quick reference cards
- Intranet web sites
- HTML files

THE BENEFITS OF AN EFFECTIVE PROPERTY FUNCTION

There are many significant benefits to be gained by having an effective and efficient property function. All of these benefits affect the financial health of the organization in one way or another. Some of the key benefits are listed below:

Maximize Return on Investment
Adequate control, protection, preservation and maintenance of equipment and other controlled property ensure that its maximum useful life is achieved. This reduces the unnecessary replacement of items and facilitates long-term budgeting and replacement/upgrade planning.

Facilitate Compliance
Clear, precise policies, procedures, and operational guidelines are the cornerstone of facilitating compliance at all levels of the organization. Compliance ensures a smooth-running operation and reduces the potential for error.

Maximize Reutilization
The effective tracking of equipment and other controlled property simplifies identifying the time that an owning department no longer needs an item. This provides an optimum opportunity for the reutilization or reallocation of property that has not reached the end of its useful life. It can minimize redundant purchases and permit departments with limited budgets to obtain additional or “new” property for their use. Maximizing utilization also reduces the volume of disposal, leading to greater environmental consciousness.

Depreciation Expense
The writing off of depreciation expense against gross income is a major financial benefit to an organization that is eligible to depreciate its property. The calculation takes into account several items including the nature of the equipment and buildings, their respective useful lives, the cost basis (that is, how the cost of the property was determined), and the depreciation basis. A complete and accurate property record permits the organization to take fullest advantage of depreciation and supports the write-offs in the event of a tax audit.

SUMMARY

Every organization, regardless of its size or type, has critical business functions that are an integral part of meeting its objectives and accomplishing its mission. One of these is property control. It may be called property accounting, fixed-asset accounting, inventory control, materiel, property control, or asset management, but its role and responsibilities remain the same.

Property managers are the main point of contact for anything to do with property. They must be experts in the field of property and property regulations and must be able to convey the requirements to the rest of the organization in a way that promotes compliance.

It is usually clearly stated the PMO has the authority to define, implement and maintain property-related business processes that may touch every level of the organization, but it is often external compliance requirements and consistent and persistent communication about the impact of effective property control through which visibility and management support are attained. Property professionals must make it evident property control is a value-added function, one important to the conducting of everyday business throughout all levels of the organization.

Ownership, accountability, and responsibility, three key concepts that underlie property management are often confused or used interchangeably in general conversation. Because these have specific meanings in the vocabulary of property, the distinction between them should be clearly understood and consistently applied by property professionals.

To be successful within the organizational structure, the property manager must interact effectively with the financial, operational, health and safety, transportation, security, and acquisition functions, and establish a network of colleagues which includes the chief financial officer, program and project managers, departmental property administrators and property custodians, asset users, and the inventory group.

A primary responsibility of the PMO is to develop, implement, and maintain a property control system. The Property Control System is comprised of written policies, procedures, operational guidelines, and related records as well as the MIS that facilitates the performance of the functions they describe and control.

A crucial element of the property control system is records; because it is through records the existence of all property under the jurisdiction of the PMO is established and verified. The property record begins at one of several alternative points during the acquisition process, and continues through every transaction related to its protection, preservation, utilization, maintenance and disposition.

Two key decisions must be made when defining the "control" population of property within an organization:

1. What will be controlled?
2. To what level of detail will it be controlled?

Once these decisions are made, the specific decision-making process as to how, when and by whom the property will be controlled is further defined in the organization's policies, procedures and operational guidelines.

The cornerstone of effective property control is communication and training. These are the means by which information is distributed and ideas that facilitate process improvements are exchanged. They are the means by which expectations are described and performance standards are identified.

Effective communication provides increased visibility for Property and plays a key role in educating organization management and the employee population at large on property issues.

Whether reports are routine or ad hoc for special purposes, all reports are an excellent communication tool. They are the means by which key information about property, including use, location, and condition, are communicated throughout the organization and to external customers and sponsors.

There are many benefits to be gained by an organization that has an effective and efficient property management function. Certain of these, such as return on investment and reutilization of excess property, have a direct and measurable financial impact. Others, such as compliance with both internal and external procedures and regulations, have an indirect, but no less important, value to the organization.

CHAPTER NOTES



MODULE 1 CHAPTER 2

ACQUISITION

AQUISITION: (1) THE ACT OF ACQUIRING. (2) THE ACQUIRING OF PROPERTY OR SERVICES BY CONTRACT WITH APPROPRIATED FUNDS THROUGH PURCHASE OR LEASE, WHETHER THE PROPERTY OR SERVICES ARE ALREADY IN EXISTENCE OR MUST BE CREATED, DEVELOPED, DEMONSTRATED, AND EVALUATED.

INTRODUCTION

Webster defines the root word, acquire, as “to get or gain.” A significant function of a property system is the process of acquisition, that is, the getting or gaining of property items needed to meet business objectives.

The acquisition process is defined by the organization’s policies and procedures. Because acquisition involves the expenditure of organization funds, it must be carried out with a great deal of discipline. Management tools must be put into place and maintained to ensure compliance with those policies and procedures.

A property management department dedicated to tracking property (material and equipment) is essential to the administration of an organization. The property management department, procurement department, grants and contracts office, and finance and comptroller’s office must work

closely to ensure supporting documents are accurately maintained.

Acquisition begins when needs have been defined, and it may include these additional steps:

- Establishment of requirements to satisfy the needs
- Obtaining of approvals
- Solicitation and selection of sources
- Preparation and awarding of contracts
- Financing
- All aspects of contract administration
- Procurement (most often, via purchase)
- Those technical and management activities (such as strategic planning, budget approval, and make-or-buy decisions) that are directly related to fulfilling the established requirements

This chapter addresses various methods of acquiring property once a requirement has been established. The determination of requirements, solicitations, source selection, and contract administration are described in the NPMA Intermediate Studies Manual.

When advanced technology procurements or specific unknowns like research and development are involved, a Request for Quotation is frequently used. In these cases the specific deliverables are known and indicated. This is in contrast to a Request for Proposal or a Request for Information, used when the organization sets forth the requirements and permits the vendor to select products that will meet the requirements.

Previously used methods of procuring, tracking, and reporting property have been improved enormously by advanced technology. The computerization of these processes ensures efficiency and cost savings for organizations in the acquisition and management of property. Typically these computerized systems provide an integration of several processes including procurement, receiving, and property management, which enables the property to get flagged for tagging and the property record to be initiated during the acquisition and/or receiving process.

APPROVALS

Organizations are prudent to exercise fiscal responsibilities by ensuring that expenditures are authorized and appropriate, especially capital expenditures; therefore an approval process must be established. The approval process is normally structured in a series of layers, each of which provides preliminary approvals based on signature authority. Within most organizations, it takes at least two signatures to authorize an acquisition in order to maintain the integrity of the business process.

The approval process begins with obtaining approval to spend budgeted organizational funds. The type and cost of the property being requested influence the extent of the approvals required for acquisition.

Note: *At the end of each fiscal year, budgets are put together and approved for the projects for the new fiscal year. When the budget for a project is approved, the project is assigned an expense code so expenditures can be tracked. Non-budgeted acquisitions require additional steps. See Budget Review under Requisitioning and Purchasing.*

The organization's procedures establish the delegation of authority for signatures and the approval thresholds and types of property for those signature levels; e.g. a $100,000 milling machine or a crane will require more levels of approval than will a $500 copy machine.

It is important to ensure there are no possible misappropriations or unauthorized procurements by strictly adhering to the established process and procedures. The expenditure of funds must be closely controlled and monitored. If expenditures are not carefully monitored, duplicate or unnecessary acquisitions could lead to excessive cost, maintenance and storage difficulties, and later, problems with disposition.

At the end of the approval process, the purchase request is forwarded to the procurement department, where a final determination is made as to the most practical procurement method, as well as, the source to procure the property.

Automated Procurement systems have facilitated and expedited the approval process, improving efficiency and reducing the time required to obtain approvals. The once cumbersome manually-routed forms are now sent electronically, pro-

viding automated tracking, reporting, and audit trails that ensure compliance with regulatory requirements. These computerized systems also incorporate the use of electronic signatures.

ACQUISITION METHODS

Acquisition may employ one of several distinct methods. Property managers must be knowledgeable and understand the details of how each method of acquisition is employed within their organization.

The methods shown below are universally-accepted ways of gaining or getting property in support of business operations:

1. Reutilization
2. Purchase new, used, lease or rent
6. Fabricate (in house)
7. Gifts

Each of these methods has unique characteristics and considerations. Regardless of the method of acquisition used, there exists the need to follow prescribed procedures.

In some instances the source of funding may drive the choice of method used in acquiring item(s).

Reutilization
The reutilization of excess, surplus, or on-hand property that are idle or underused, should be the preferred method of acquisition for any organization and is considered by the federal government to always be the first source of supply. Before the acquisition process begins, a thorough review of on-hand property throughout the organization must be made. This is referred to as "screening". For audit purposes, the screening event should be documented.

If Government property is going to be reutilized, it may require Contracting Officer approval (e.g., the use of property on a contract other than the accountable or owning contract and consideration of what the property was originally purchased for on a specific funded project or program).
Property management systems should support reutilization via proper usage coding and continuous utilization reviews. In addition, an accurate, current, complete, and well-organized and catalogued property management database is absolutely essential. Having an electronic screening system which lists available excess items is very valuable to an organization; and readily provides information to end-users. Additionally, an electronic system will provide a means to post pictures of the available items, which aides the end-user seeing the equipment for their re-utilization decision.

All organizations should optimize their use of property in order to conserve funds and make better use of existing property. Chapter 11 Property Disposition addresses how all internal requirements or requests must be addressed before the disposition of any property.

Fabricate
"Fabricate" can best be defined as to make or build in-house. The purchase of an item custom-built to specifications by an outside supplier is a straight purchase, not (by definition) a fabrication.

The most important considerations for in-house fabrication are the capacity and expertise of organization staff and the facilities and tools required. Fabrications require the ability to monitor progress and to correctly classify the expenses to ensure accurate reporting. This is critical if the fabrication is part of a sponsored project.

Due to the highly technical nature of many current products and systems, in-house fabrication must be clearly justified. For that reason, most large corporations subcontract a significant portion of their components and spares to smaller specialty houses.

This method of acquisition requires there be a formal budget in place to pay for the item, one that takes into account all of the costs that have no counterpart in acquisition via purchase. Costs associated with fabricating the item, such as labor, material, special tools, and other direct and indirect costs, comprise the acquisition cost.

There must also be a process by which a fabrication is declared complete. The fabrication is capitalized (when its value is above the capitalization threshold); the acquisition date for reporting purposes (and, if applicable, depreciation pur-

poses) is based on the completion date. Also, the process must include notification to the Property Management Organization so the asset can be input into the Property Accountability System (if appropriate) and tagged.

Approvals necessary for acquiring property through this method are consistent with those required for other types of acquisition. There must be management approval to begin the job (build, similar to the buying of an item) with the proper fund citation as to who or what is paying for the item.

Purchase

The responsibility of obtaining approval to begin the purchasing process lies with the using activity. Approval for the expenditure of budgeted funds is at the first level of management above the requesting individual (user). This allows for management oversight and ensures the correct accounts or budgets are charged. It also allows for a management review for schedule purposes.

New or used: Once it has been determined there is greater benefit to be gained by purchasing an item than by making or fabricating it, a decision is required for the Buy New or Buy Used option. It should not be of great relevance to property management whether equipment is new or used when it is purchased, as long as it meets all financial and functional requirements.

There are other areas within the organization that have an interest, such as the purchasing department and the originating activity (the end user).

For either option, the purchasing system must include the necessary controls to ensure quantities purchased are reasonable, documentation is adequate and consistent, and acquisition actions take place in a timely manner. The primary considerations should be efficiency and overall economy.

Buy New: Decisions to buy new are usually based on a number of factors such as immediate availability, advanced technology, and extended service warranties. Capital assets, which are usually above $5,000 in value and have a life expectancy of at least one year, are candidates for the Buy New process.

Buy Used: There may be times when it is more advantageous for an organization to buy used or refurbished equipment and gain those economies and efficiencies mentioned earlier. Buying used is a common practice in the acquisition of major manufacturing equipment, such as milling machines frequently costing in excess of $100,000. Another excellent candidate is test equipment, which is in abundance on the resale market. Many organizations do not require “state of the art” test equipment, and can do well by buying previous-generation equipment that fully meets their requirements at a significantly reduced cost.

An important consideration in the purchase of a used item is whether any warranty is expressed or implied, or if there is an option to acquire an extended warranty.

As with buying a new item, once the requirement has gone through the necessary budget process, the focus must be on ensuring appropriate approvals are obtained as outlined in the organization’s policies and procedures.

Lease or Rent: Two reasons an organization would lease or rent instead of purchase or fabricate are:

- The lead-time necessary to purchase or fabricate the item would not meet the needs of the operation. With leasing or renting, the approval process requires less time, thus expediting acquisition.
- The item may be required for only a short period of time, which would make it uneconomical to purchase or fabricate the item.

Note: *A lease is generally for a longer period than a rental, and the rights and responsibilities of both the owner and the user are more extensive and more formally drawn.*

Note: *As stated above, leasing and renting are also used for the acquisition of property. However, this subject is extensive and is covered elsewhere in the NPMA Intermediate Studies Manual.*

From a property perspective, the acquisition of equipment using either leasing or renting methods does not differ from the buying of those items. However, when an organization elects to

lease or rent, there are some areas which should be considered.
The main concern with this method of acquisition is with the terms and conditions of the lease or rental agreement. The agreement should show:

- What is being leased or rented
- The lease or rental period (and its required delivery date)
- The terms of payment
- Who is responsible for maintenance or calibration
- Whether or not the item will be available for purchase at the end of the lease
- Other terms, such as, return shipping method and who bears the responsibility for coordinating the return of the item
- In the case of computer equipment or copiers, how will the hard-drives or media devices be sanitized before the equipment is returned

Also, the terms of insurance for any loss, damage or destruction must be carefully reviewed and accepted before the agreement is issued.

The terms and conditions of the lease or rental agreement are normally set and agreed upon, and approvals obtained, before the property function reviews the agreement. However, it is incumbent upon the property function to ensure these concerns are addressed by making them known to the purchasing and business offices before the agreement is finalized and available for review by Property.

It is also the property function's responsibility to ensure approving and purchasing staff are properly trained in handling leases or rentals and the documentation receives the appropriate signatures of approval.

Gifts
Colleges, universities, and non-profit organizations are frequent recipients of gifts from a variety of sources, such as commercial companies, alumni, and private parties. The primary reason gifts are given to organizations is the tax benefit received by the entity or person donating the gift.

The gift process is normally handled by a function other than procurement, such as the Office of Development (in universities) or property management. Regardless of which organizational function manages gifts, property management does need to be aware of the acquisition and to record the asset into the property database. Property management must also identify the title, that is, determine who holds title to the asset. Another key point is having a method to determine the fair market value of the gift.

One caution regarding gifts: occasionally a "gift" can actually be a "grant". In this case it would be considered part of a sponsored project and the project as a whole must be transferred to the group that administers sponsored projects. One key factor in identifying whether a gift is actually a grant is to determine whether or not the donor has any performance expectations (that is, expects to obtain certain results or benefits) in exchange for having provided the assets. If so, it may be a grant. The Sponsored Project Group is responsible for defining the determining criteria.

REQUISITIONING AND PURCHASING

Requisitioning
The purchasing process begins with the preparation of a requisition or purchase request document. The requisition should include the appropriate accounting information and property category to which the purchase will be charged, and detail the following:

- Items required
- Estimated cost
- Requestor
- Items' final destination within the organization
- Requested (or required, as appropriate) time frame for delivery
- Suggested vendor(s)
- Necessary approval signatures

The type of purchase (new or used) and the cost determine the approvals that must be obtained before the requisition is received by purchasing. All reviews and approvals should be made in accordance with applicable laws and with the organization's policies and procedures. The process normally includes the following reviews:

Management Review: Management approval is required to validate the need for the purchase. The review should also verify the purchase will

fulfill, but not exceed, the requirements of the intended use. For example, a large color copier and sorter should not be purchased when the area needs a small desktop copier for occasional use.

Budget Review: The budget review determines whether or not the expenditure is included in the budget. If it is not in the budget, a determination must be made regarding the making of adjustments to the budget to accommodate the expenditure. In most governmental agencies, expenditures over the approved budget are restricted and if the requested expenditures exceed a predetermined amount over the budget, approval must be obtained from the oversight agency.

Property Review: The property review serves several functions. A review of the funding source alerts the property manager to any special regulations or requirements, such as screening, that may govern the acquisition of the property. If the purchase is a replacement, it serves as a preliminary notice of future disposals. A review of the accounting codes ensures the property will be properly recorded in the financial statements. The review also allows the property manager to prepare for the addition of the property.

Note: *Screening (Chapter 9 Utilization) is the process of determining whether or not the organization currently holds an underutilized, inactive, or excess asset that could be used to meet a need, thereby avoiding the cost of the acquisition. Such equipment may be moved from storage or transferred from its current location.*

Special Reviews: Special reviews may be necessary, depending largely upon the involvement of governmental agencies and their practices. Some special reviews may include Information Technologies, Vehicle Management, Facility Maintenance and Facility Services.

Approvals normally follow these reviews when the terms of the requisition or purchase document meet the requirements of the reviewing function.

Purchasing

After all reviews are completed, the requisition is forwarded to the purchasing department for procurement. The goal of the procurement process is to acquire the quality and quantity of goods or services at the agreed-upon price and within the required delivery period.

When the type of purchase and the vendor have been determined, a purchase order is prepared. The purchase order provides the vendor with information detailing:

- Product or performance specifications
- Shipping instructions
- Handling instructions
- Taxes and other ancillary costs
- Price
- Delivery date
- Delivery instructions

Notification or copies of the purchase order should be made available to Receiving, Accounts Payable, the originator, and property management.

There must also be a procedure in place to ensure the proper documentation of change orders (modifications), which are changes made to a purchase order once the order has been placed with the vendor. Change orders may lead to problems if they are not tracked and documented correctly, which could result in incomplete (or incorrect) information on the property records at the time of reconciliation.

At this point, the purchasing process is complete, unless there is a problem with the delivery of the item, the product itself, the payment, or invoice.

Acquisitions That Bypass Purchasing: Acquisitions made through loans, donations, purchase (credit) cards, petty cash, or payment without a purchase order may bypass most of the normal purchasing processes. It is important to have controls along with an approval process in place for these types of transactions.

There is always the possibility sensitive property (such as weapons, ammunition, precious metals, or hazardous materials) may be purchased using one of these methods, therefore there must be policies and procedures in place to ensure the property is recorded in the property system.

Note: *There may be other consequences to acquisitions (including acquisitions of sensitive property) that bypass the purchasing process.*

From property management's point of view, the main concern is keeping good records.

SUMMARY

A significant function of a property system is acquisition, that is, the getting or gaining of items of property needed to meet business objectives. The property management system must address acquisition, not from a technical need or requirement perspective—although the property system should ensure needs and requirements are established in accordance with procedures—but by ensuring proper authority to acquire property is obtained. The property manager must review what was acquired, the mechanism used to pay for the item(s), and who approved the acquisition.

Acquisition begins when needs have been defined, and proceeds through the establishment of requirements to satisfy those needs, the gaining of approvals, the selection of sources, financing, contract administration, and procurement.

Because of ever-increasing internal and external oversight of expenditures, especially capital expenditures, approvals to spend organization funds and to purchase or lease property must strictly follow procedures. Depending upon the type and cost of the property requested, at least two, and often several, signatures must be obtained.

There are seven main methods of acquisition. Property managers must be knowledgeable and understand the details of how each method is approached and used by their organization.

Primary among these methods is the reutilization of on-hand equipment that is idle or underutilized. Reutilization conserves funds and makes optimum use of existing equipment. Property management systems must support reutilization via proper usage coding, continuous utilization reviews. In addition, an accurate, current, complete, and well-organized and catalogued property management database is absolutely essential in permitting the effective screening of property.

Some acquisitions may bypass the review, approval, receiving, and record-keeping steps of the purchasing process. From the property manager's point of view, there must be policies and procedures in place to ensure such property is properly recorded and that timely corrections are made to miscoded transactions.

CHAPTER NOTES

CHAPTER NOTES



MODULE 1 CHAPTER 3

RECEIVING

RECEIVING: (1) THE PROCESS OF ACCEPTING EQUIPMENT OR MATERIALS INTO AN ORGANIZATION OR FACILITY. (2) THE POINT AT WHICH AN ORGANIZATION'S OBLIGATION, LIABILITY, AND ACCOUNTABILITY BEGIN.

INTRODUCTION

In addition to being a process, Receiving is the location where incoming property enters the facility. When items enter the facility, they are handled by receiving personnel who document their receipt, determine if any discrepancies exist, and tag them (if appropriate) for identification purposes. If discrepancies exist, action is taken in a timely manner to rectify the problem.

During the receiving process, documentation is created to establish custody and accountability. This documentation also provides information concerning the receipt to various vital operational areas including: purchasing, accounts payable, property management, inventory management, transportation/delivery, quality inspections and ordering functions. Documentation may include receiving reports, which are often annotated copies of purchase orders (POs); freight bills, bills of lading, packing lists, government shipping documents, reports of loss or damage, and/or delivery registers or logs.

In organizations having online financial systems or integrated systems, documentation is created electronically and is retained in the system's transaction history. It is often used as part of a three-way match of transactions prior to payment: the Purchase Order (PO), the receiving documentation, and the invoice. Although payment activity is part of the acquisition process, the payment transaction may be triggered by a receiving event.

There are exceptions to this; especially if receiving is decentralized (decentralized receiving is discussed later in the chapter). Items may be shipped directly to the requester or user, carried into the facility by staff members, purchased with a p-card (company issued credit card) or fabricated in-house. Whatever the circumstances, the organization must establish policies and procedures that mandate the proper receiving and identification of all items prior to use.

Regardless of how items are received, proof of receipt, establishment of a record, and property identification are essential. This is particularly important for capitalized equipment that becomes a part of accounting records, which in turn affect the general ledger and tax reports. Proof of receipt is critical for donated equipment, because the receipt date may affect the tax year in which the donor may claim the donation for tax write-off purposes. Having the proper receipt documentation for an item is crucial in the area of Sponsor/Government-owned items furnished by the sponsor in support of their research or related efforts.

Receiving areas are particularly susceptible to theft and misappropriation. Both physical security and process controls are required to minimize theft and misappropriation and to provide a prompt signal to management in the event of an incident.

RECEIVING DOCUMENTATION

Receiving documentation may include a carrier's freight bill, a supplier's packing list, a receiving report, a receiving voucher log, or other sponsor-provided documentation. This type of documentation may be managed in hard-copy or in an electronic manner. If managed electronically signature may be captured using a digitized screen.

Carrier's Freight Bill: A multi-part form originated by the trucking company, railroad or airline. It shows the number of items, packages, pallets, etc., included in the shipment and generally characterizes the contents. This form is signed by the receiver, who keeps a copy. The remaining copies are kept by the carrier to document delivery.

Supplier's Packing List: A listing of the items shipped. It may identify the contents of each package as well as the total quantity of each item. Normally, a packing list will cover the entire contents of a single shipment. It may also include information regarding items which are outstanding or on backorder. Most packing lists are prominently labeled and may be attached to the outside of a package or enclosed in a marked package.

Sponsor Documentation (Government Furnished): Documentation generated by the sponsoring agency, or the previous organization accountable for sponsor-owned equipment. Most common types are a form DD-1149, DD-250, SF-120, and DD-1348. These documents list the items and quantities being provided as well as information regarding the transfer of accountability between organizations or between contracts.

Receiving Report: An internally-generated document listing the items and quantities ordered on the PO. It is often a copy of the PO or the portion of it that is pertinent to the receiving process. A receiving report includes a complete record of what was received, from whom, and the date of receipt.

Receiving Voucher Log: A log or transaction history that providing a continuous record of receiving activity. It can be a manual register or online data collection from which summary reports can be generated. A typical log contains:

- A sequential register, voucher, or transaction number to identify and provide traceability for each incoming shipment
- Date of receipt for each shipment
- Shipper's document number or the PO number to provide a link to these documents
- Carrier name and freight bill number to provide a link to the delivering carrier
- Number of line items or quantity received
- Part numbers or identification numbers of

the items received
- Description of the items received
- Account, contract, or project, number against which the items were ordered
- Number of items, boxes, or packages received and their weight
- Delivery information indicating where the item or material is to be sent from the receiving area
- Other data, such as units of measure, quantity received, and the initials of the person who logged in the receipt

A receiving log provides receiving activity information as well as a way to trace items that are lost or misappropriated during the receiving process or during delivery from the receiving area. If no documentation is present, the receiving entity shall either contact the shipping entity requesting documentation or generate a document listing the following information:

- Name of shipping entity
- Date shipment arrived
- Authorization for the shipment (for example, purchase order number or shipping request number)
- Description of tangible property
- Manufacturer (if applicable)
- Model number and part number (if applicable)
- Serial number (if applicable)
- Unit of measure, and
- Quantity

CENTRALIZED vs. DECENTRALIZED

There are two primary types of organizational structure for the receiving function: centralized and decentralized. Both can be operated efficiently and effectively, but each has its own challenges.

Centralized Receiving
There are many advantages to having a central receiving section under the property, logistics or facilities manager. Consolidation of facilities and staff is one significant advantage. Others include:

- The ability to more easily standardize procedures for both receiving and identification, facilitating cross-training or the reassigning of staff to cover peaks in volume
- Having a single entry point for freight carriers
- Having a single control point for the delivery transportation system
- Better consistency in assigning and affixing a means of identification to the property

For centralized receiving to be effective, all deliveries must be routed to a single point of entry. This requires working with carriers such as Federal Express, Airborne, and United Parcel Service to ensure all packages received with a PO number, sponsor furnished, and loans on them are delivered to Central Receiving for processing.

Certain disadvantages in centralized receiving these include:

- The handling of items too large for Central Receiving or those with specific handling requirements that would be better met by the department receiving the item. The appropriate manager or director should approve exceptions to centralized receiving at the beginning of the purchase requisition process.

- Turn-around time (the time between receipt of an item at Central Receiving and delivery to the end user) can be longer than with decentralized receiving, and turn-around time is often the most common concern of the ordering departments. Efficiency in receiving shipments and delivering them to end users is of utmost importance for customer service. An excellent goal is delivery within 24 hours of receipt; when delivery is routinely demanded in less time, decentralized receiving may be the answer.

Additionally, it is very important the internal delivery process include a signature trail documenting the handoff of the property from the receiving staff to the user or delivery point. It is essential that all documentation be archived or included in the transaction history.

Decentralized Receiving
With the increasing preference for integrated online systems and direct delivery agreements with vendors (e.g. office supplies), many

organizations find it more practical to establish a decentralized receiving function. Five key factors that determine whether this is the best option are:

- Organizational structure of the company
- Geographical location of buildings
- Type of assets received
- Level of urgency items are needed
- Facility, handling equipment and personnel resources available

Decentralization can exist in varying degrees. Three of the most common configurations are:

- Receiving designated for each region or zone of the company
- Receiving designated for each major building or department
- Receiving designated as each "desktop location" or direct end-user delivery point of the requestor

A significant benefit of decentralized receiving is it usually minimizes delivery time. However, each of these three options is progressively more difficult to manage. Not only are there the typical problems in dealing with overages, shortages, damaged goods, or other shipping discrepancies, the process becomes increasingly difficult to monitor for consistency in following procedures and in the level of compliance with published requirements.

Although decentralized receiving presents unique challenges, it can be effectively managed. Key decisions must be made with regard to the staff reporting structure. Staff may report to one management organization—usually a central administration department—or to the department the receiving function supports. Decentralized receiving makes marking items for accountability purposes very difficult, since the persons responsible will have to travel to a variety of locations to obtain the information needed and to physically tag the items. Decentralized receiving takes a lot more training, reviews, analysis to make sure all procedures are followed.

When online systems are used for data management, they should be integrated and that the system must be accessible to all who have a need.

THE RECEIVING PROCESS

Whether receiving is centralized or decentralized and regardless of the kind of property being received, the critical steps involved are the same. The critical steps are:

- Delivery
- Inspection and acceptance
- Documentation
- Timely routing to end user or designated storage area

Delivery of Shipment by Vendor or Transportation Provider
This is the point at which the vendor or transportation provider physically delivers the shipment to the receiving department. Hours of operation must be posted and made known to all delivery carriers. Exceptions are handled on a case-by-case basis. Upon delivery, the carrier must obtain the signature of the individual receiving the shipment on behalf of the organization. The date and time of this transaction establishes the point at which the organization assumes accountability for the asset. Most delivery documents have a statement above the signature line, stating the receiver's signature is proof the item was undamaged. It is important to inspect items for damages before signing the delivery documentation.

The process generally begins with a notification (either electronic or via hard copy) to the receiving department that items are expected (due in). This is followed by the physical delivery and initial inspection of the items, reconciliation with a due-in record, quality or technical inspection, if required identification (ideally this function is done in the receiving area), delivery to the intended user, and the distribution of documentation.

At the time of delivery, items received are checked against items expected. Multiple deliveries may be made against one purchase order. If part of the purchase order is received, each is considered a partial shipment and must be individually handled through the entire receiving process. For items which are received outside of the Procurement System, (e.g., loans, donations, P-card purchases), the Receiving Department

must make a record that is reconciled against other documentation (e.g., transfer documents, invoices, etc).

Before a shipment is accepted, two key verifications must be made. First, is this shipment intended for this facility? Misdirected shipment should be rejected by the receiver, and given back to the transporter. Second, is there any obvious outward damage to the packaging? If there is, it must be noted on the receiving documentation. Very specific documentation will help with the resolution of who is responsible for the damages. It could be improper packaging by the seller or improper handling by the transporter or damaged during the off-loading of the items.

The receiver then compares the items received against the PO and receiving document, noting receipt of the items and any obvious discrepancies, and checks that the quantity of items or containers agrees with the transportation document. For items not on a PO an added step of documenting the items for future comparisons will be required.

Before a discrepant shipment is accepted, the signature of the carrier's representative (most often the driver) should be obtained (also suggested to take pictures), acknowledging the discrepancies. Deficiencies may include, but are not limited to, the following:

- Visible Damage (e.g. box is crushed or wet for something leaking or caught in the rain)
- Misdirected shipments
- Improper loading, blocking, bracing, stowage, or handling by the carrier

Inspection
After the driver has delivered the shipments further inspection is required:

- Damage of any kind – concealed
- Overages shortages
- The items physically received is not what is listed on the packing slip
- Improper preservation, packaging, packing, or marking
- Documentation errors
- Any additional acceptance inspection required (e.g. quality)

Checking for internal packaging damage is done when the package is opened for the purpose of attaching identification, such as a decal. This may be performed by Receiving personnel.

One last phase of receiving may include installation and operational testing along with quality control inspections. Project or program personnel usually perform the third level of inspection, and are expected to fully document the results. This information becomes most critical in cases where the item must be returned or repaired, which can significantly affect production and or delivery or production schedules.

Receiving is not considered complete until all applicable phases are complete.

Documentation
Complete and accurate documentation is imperative when reconciling the items, that is, matching the items received with what was ordered and expected. The receiving process establishes custody and accountability, and is the initial auditable transaction noted on the property record.

Receiving reports must be prepared in a manner that clearly indicates the quantity and condition of the property at the time of receipt and any discrepancies noted, including overages, shortages, incorrect item(s), misdirected shipments, and/or damage disclosed during the receiving operation. Documents attached to a receiving report may include the freight bill, bill of lading, packing list, government shipping documents, and discrepancy reports. Receiving information is also used as one basis for payment by the accounts payable department and also may be used to initiate the warranty period for equipment.

Figure 3-1, on the following page, shows the basic information that should be collected during the receiving process.

Receiving documentation must be distributed in accordance with the organization's procedures and may be hard copy or via access to online distribution systems. Departments needing copies, or access to electronic data, commonly include:

Basic Receiving Information

Date of receipt
Receiving transaction number (may be a log number or sequential transaction number designated by an on-line system)
For items purchased, the PO number associated with the receipt
Name of carrier and/or method of delivery
Type and quantity of packages received
Names of personnel accepting delivery
Names of personnel conducting inspection
Inspection results and condition of the item(s)
Notation of any discrepancies and associated resolution. Such issues as shortages, overages, or damages and who is accountable and responsible for resolving and paying for those discrepancies e.g., vendor, freight line, or company must be analyzed and resolved. Receiving must perform an informal investigation and file a claim, if required.
Date of delivery to end user
Signature of end user
Copies of carrier Bill of Lading (if provided by carrier)

- Receiving
- Purchasing
- Quality (if the item requires a quality inspection)
- The department receiving the items
- Accounting
- Inventory Control
- Property Management

In addition, when the information is in hard copy form, a copy must be provided to the department responsible for entering the data into the system of record.

Note: *The receiving and identification processes (Chapter 4 Identification) are often handled at slightly different times and by different personnel. If the identification process is combined with the receiving process, gathering the serial number is also done during the receiving process. If the location in which the asset will reside is also known, it should be noted on the documentation where the property was delivered, to an End User or to a Designated Storage Area.*

Accountable property may be assigned a property identification tag. The most commonly used tag is a bar-code tag. Tagging may be done in the Centralized Receiving area or in the case of decentralized received may be done by the end-user. Some organizations may also contract with the Seller of the item to apply an identification tag prior to delivery.

Because end users are usually anxious to receive their shipment, delivery of the item(s) should be completed as soon as possible, but no later than one working day after receipt of the shipment from the vendor. Exceptions to this rule may include items requiring special inspection or large shipments that require more than one day to process. If exceptions are granted, expeditious processing must still remain a priority.

Delivery documentation must include the date of delivery and an acceptance signature by the end user or a designee.

Items placed in storage pending delivery to the end user must be held in a secure area that provides adequate protection for the type of property being stored. For example, items requiring environmental conditions such as a specific temperature may require refrigeration. Items in receiving storage are held for a minimal amount of time.

Access to the receiving storage area is limited to authorized receiving personnel. If the items are government-owned or sponsor-owned property, specific segregation or security requirements may be called out in the grant, contract or loan document.

ITEMS THAT BYPASS RECEIVING

If an item is delivered directly to the end user or requires unusual receiving accommodations due to size or other conditions, the recipient of the item must immediately notify the receiving department of the delivery. In these situations, company procedures must specify who is responsible for conducting and documenting the inspection and/or acceptance steps of the receiving process.

REPORTS

There are several reports that should be generated during the receiving process. Increments for monitoring of reports may be daily, weekly or based on the financial period. These should be considered as standard reports for any receiving operation; they include:

- Due-in reports
- Aging reports
- Transaction volume reports
- Discrepancy reports

Due-in Reports: Reports of purchases or sponsor deliveries due in to the company. Due dates are usually specified during the purchasing process and are noted on the PO issued to the vendor. Sponsor deliveries should be identified in the terms and conditions of a grant or contract.

Aging Reports show:

- Overdue due-in acquisitions
- Items in storage pending delivery to end users

Transaction Volume Reports may indicate:

- Total receipts processed.
- Transactions processed per staff member
- Transactions processed per department or delivery area

Discrepancy Reports: Types and volume of discrepancies noted and their associated status.

OTHER ORGANIZATIONAL RESPONSIBILITIES

Purchasing Department: The purchasing department provides purchase order information to the receiving department, which uses it to set up the due-in record. With online integrated systems, this information should be accessible by authorized receiving staff.

When there are in-transit discrepancies (loss or damage occurring while the item is in the hands of the carrier), the purchasing department (or the department to which this responsibility has been delegated) negotiates with the vendor or subcontractor for replacement or an equitable credit adjustment in accordance with established procurement procedures.

Program Management: Program management provides verbal or written notification to the receiving department as to when to expect certain items and when those items will be needed for their intended purpose, based on the production schedule, business plan, contract requirements, etc.

Notification should include special instructions when warranted (e.g. items requiring special handling or storage, or requiring specific environmental control).

HAZARDOUS MATERIAL

Hazardous materials present unique receiving problems. Explicit guidelines and procedures are required by law, on the state, local and federal level, as are trained and qualified personnel to handle the material. See Code of Federal Regulations (CFR) 29 and 40 for federal laws. The safety of all personnel involved must be given top priority to prevent injury or loss of life. Whenever hazardous materials are to be received or handled special requirements must be reviewed.

Hazardous materials include:

- Explosives: This includes ammunition and explosive materials used in industrial applications.
- Corrosive liquids: These may present unique fire hazards as well as strong oxidizing

effects. Examples include hydrochloric, nitric and sulfuric acids.
- Flammable gases: Examples include liquefied petroleum gas, acetylene, butane, propane, hydrogen, and ethylene.
- Flammable liquids: Those which have a flash point below 100°F. Examples are acetone, alcohol, benzyl, ether, gasoline, and naphtha.
- Flammable solids: These are susceptible to catching fire when exposed to air, moisture, friction or moderate heat. Iodine, pyroxylin plastics, and calcium carbide are examples.
- Oxidizing materials: These materials may start fire due to their strong oxidizing action. Examples are chlorates, permanganates, peroxides, and nitrates.
- Other hazardous materials include those which may present unusual difficulty in fire extinguishment.

CLASSIFIED ITEMS

Identifying the shipment as classified is the first step in properly processing these items. Originators of classified shipments are required to provide advance notice to the recipient. To avoid security violations, personnel outside of Receiving to whom these notices are sent must alert Receiving. Classified documents are sent by certified mail, if classified confidential, and by registered mail if secret. Often, company mail room procedures require such mail be forwarded directly to a classified material custodian.

When delivered by commercial carrier, classified material may be identified by labeling and by a hand receipt in addition to the carrier's freight bill. The receiving report document may also identify the shipment as classified.

Classified shipments must be double wrapped. The wrapping should be inspected for any damage and for consistent labeling. The labels on both the outer and inner wrapping should match. Any discrepancies in packaging or labeling must be immediately brought to the attention of the classified material custodian.

The following steps must be taken to protect classified shipments from the time of receipt until the items are stored in a classified material area and delivered to the appropriate end user.

Step 1: Ensure that all handling personnel have the proper security clearance and a need to know.
Step 2: Maintain constant oversight of classified material that is in an open receiving area.
Step 3: Initiate a signature receipt for the transfer of classified items from the receiving area to the authorized end user.
Step 4: Before the end of the shift or the work day, secure all classified items in an approved manner.

SUMMARY

In addition to being a process, Receiving is the location where incoming property enters a facility.

Receiving personnel perform the following actions:

- Document its receipt
- Determine if damage or errors in shipping have occurred
- If appropriate, tag or otherwise identify it Create documentation to establish custody and accountability

Key to the receiving function's value to the organization is timeliness in resolving discrepancies between what was ordered and what was received, taking corrective action if shipping damage has occurred, completing the identification process, delivering the ordered items to end users, and documenting the transactions. When receiving is centralized, every effort should be made to provide delivery within 24 hours of receipt.

Receiving documentation usually includes the carrier's freight bill, the supplier's packing list, one or more receiving reports, and receiving voucher logs. Functions using information generated by Receiving include:

- Purchasing
- Accounts payable
- Property management
- Quality assurance
- Inventory management
- Transportation/delivery
- Ordering

Depending upon an organization's needs and resources, receiving may be centralized or decentralized. The type of system chosen depends on the organizational structure of the company, the geographical location of buildings, the type of assets received, the usual level of urgency expressed by end users, and the facility, handling equipment and personnel resources available.

Regardless of where it takes place, the receiving process consists of: (1) delivery, (2) inspection and acceptance, (3) documentation, and (4) routing to the end user or to a designated storage area.

Hazardous materials must, by law CFR 29 and 40, be handled by trained and qualified personnel according to explicit guidelines and procedures.

Classified items must also be handled according to strict procedures:

1. All handling personnel must have the proper security clearance and a need to know.
2. Constant oversight of classified material in an open receiving area must be maintained.
3. All transfers must be to an authorized end user.
4. A signature receipt for the transfer must be initiated.
5. All classified items must be secured in an approved manner before the end of the shift or work day.

CHAPTER NOTES

CHAPTER NOTES



MODULE 1 CHAPTER 4

IDENTIFICATION

IDENTIFICATION: THE MARKING OF PROPERTY OR, IN SOME CASES, ITS CONTAINER, BY WHICH ONE OR MORE OF THE FOLLOWING CAN BE ASCERTAINED: OWNERSHIP, PART NUMBER, SERIAL NUMBER, AND MODEL NUMBER, DESCRIPTION, CONTRACT NUMBER, OR UNIQUE ORGANIZATION DESIGNATION.

INTRODUCTION

The primary purpose of asset identification is to readily identify ownership. By properly identifying items, organizations can defend rightful ownership should a dispute occur, and can keep track of assets for tax, compliance, depreciation, and/or insurance purposes.

Property identification must be affixed to the property, where practical, and referenced on support documentation and in associated online accountable records for inventory control purposes. The specific coding sequence and method employed may be established at the organization's discretion, it must be clearly identified in the organization's policies and procedures and communicated broadly.

Ideally, identification is incorporated into the receiving process. At the time an item is inspected and accepted, the identification marking can be affixed. Timeliness in identification reduces the likelihood an asset will be issued for use before key data about it has been obtained and a record established. In cases where receiving is decentral-

ized or the asset is at an off-site location, identification may be completed by the asset user upon notification of receipt to the designated property staff.

TAGGED PROPERTY

Tagged property is property identified in an organization's property control system as being qualified by its value, sensitivity, or measure of control required to receive a unique marking or 'tag' for identification and tracking. The requirements for tagging (the process of affixing a tag and establishing the record) are driven by established policies regarding capital equipment, sensitive, or controlled property, or as otherwise defined in contracts, grants, or other sponsored projects or legal agreements.

For assets acquired through the organization's purchasing system, it is optimum to establish a step within the requisition process to identify the items as controlled and taggable property. It is critical items requiring tagging be identified at the time a purchase requisition is generated. As the final step of the requisition process, this practice ensures early distribution of the information to the receiving personnel. This may be accomplished by using a coding system that reflects specific accounts, expenditure types, general ledger codes, and the like.

When received items are tagged, a coding system is generally used. Although the specific coding sequence and methodology used may differ from organization to organization, it may be accomplished by using a coding system that reflects specific accounts, expenditure types, general ledger codes, and the like. Whatever is selected must be clearly identified in the organization's policies and procedures.
Various types of tags may be affixed, depending upon the type of equipment, ownership, and value, e.g. sponsor-funded equipment, government property, organization-owned items, or items of a certain dollar value. Depending upon what is required; tags may be serialized or non-serialized.

Depending upon what is required; tags may be serialized or non-serialized. Types of property generally requiring serialized tags are:

- Capital equipment. Specifically, a tangible asset used to conduct business and not intended for sale, with a unit acquisition cost over a certain value as determined by the organization or sponsor. This designated value is known as the Capital Equipment Threshold. It can vary from one organization to another and is used to record an item of durable, moveable property on accounting and property records when the item is subject to depreciation or has a useful life of more than 2 years. The organization's procedures must clearly specify what types of costs are included in the acquisition cost of a capitalized asset; (for example: the base cost of the asset, components or upgrades included in original acquisition, freight, taxes, etc.)
- Special requirement items such as those needing recurring maintenance or calibration.
- Rented, leased, or loaned equipment.
- Donated personal tangible, sensitive, or controlled property. This may include items, regardless of acquisition cost, which are subject to high theft rates, those that may increase risk to personal or public safety, or those that may become hazardous waste and they are no longer needed by the organization. Examples of high theft risk property are computer equipment, electronic scales, cameras, and audio-visual equipment.
- Government property that will NOT be expended, be consumed, or become part of a deliverable end-item or has a useful life of more than 2 years.

Types of property generally requiring non-serialized tags include:

- Components and accessories to capital equipment. This case occurs when components or accessories are shown on the same purchase order as the capital asset and are not capital assets in their own right. Property management adds the value of the component or accessory to the acquisition cost of the property item and modifies the extended description, adding information on the added component or accessory.
- Property items with a unit cost equal to or less than the Capital Equipment Threshold.
- Donations or Gifts of personal, tangible property having a fair market value below the organization's capital threshold or intended to be consumed or incorporated in a higher assembly.

- Components and accessories of low-value government property that will not be expended or consumed, nor become part of a deliverable end-item.

Examples of property categories generally not subject to tagging or marking are:

- Individual issue items (i.e., protective clothing, small hand tools)
- General low-value office supplies (i.e., staplers, hole punches, calculators, etc.)
- Consumables and expendables, meaning either those items that will be incorporated into an end item or items that are "used up", such as paper products, shop rags, etc.)

IDENTIFICATION METHODS

Identification methods are numerous, from a simple tag or mark on the item, to a barcode, to more elaborate tagging by electronic transmitters. The optimum method can be determined by the following criteria:

- The type of asset to be controlled
- The data collection method to be used (scanning, pinging, etc.)
- The environment in which the property item must reside (climate, humidity, etc.)
- Ease of reading (whether visually or electronically)
- The size of the decal or tag
- The surface onto which the tag(s) will be applied
- The total cost per decal, tag, or mark, including (where applicable) any readers
- Availability

The organization's procedures, which are usually based on the most practical and cost-effective way to identify ownership, will determine the method used.

Options for identification are used throughout the property management industry include:

- Unique identification labeling (e.g. Bar Coding)
- Stamping
- Marking
- Etching
- Network pinging
- Radio Frequency Identification (RFID)

Unique Identification Labeling
Bar code technology is one of the most commonly used methods of property identification. It is readily available, and cost effective

Bar codes can include a large amount of information about the tagged item.

A significant benefit of bar coding is the facilitation of physical inventories and other property verification events that occur during an asset's life cycle.

Information about the item is commonly entered into a computer or network, converted into bar codes by special software, and printed onto tags or decals in the form of a series of lines and spaces.

One caution: implementing a bar code system does not in itself ensure quality data is entered into property records. Good records depend on the accuracy of the data-capturing process and on the accuracy of the data input for each bar coded tag. Establishing a quality control process to validate accuracy is recommended.

Decals and Labels
While bar coded tags have rapidly become an industry standard, a wide variety of stickers, decals, and engraved or stamped metal or plastic plates (which may be affixed via adhesives or mechanical fasteners) are available. Cost, availability, use environment, legibility, and expected service life should be considered during the selection process.

Stamping
In stamping, the identification information is permanently impressed into the surface of the asset, usually by the use of "mirror image" steel punches. Stamping is primarily used for identifying tools or special tooling and is most successful on metal surfaces. Positive features of this method are its permanency and its legibility when grease or paint is applied to the surface. Stamping is not recommended for items that could be damaged by shock or impact.

Marking
Marking with paint, ink, or permanent marker is useful in cases where the application of a decal would not be appropriate. It is also successful in the marking of containers used for the protection, transportation or storage of an asset.

Etching
Etching is used to cause a color change or to create a shallow, but visible depression in the surface of an item. One advantage over stamping is that etching does not subject the asset to force or impact. An acid solution is often used for etching, requiring particular care not to have it affect other portions of the asset.

Network Pinging
Network pinging can be used for conducting physical inventories as well as for defining the network identity of an asset. It is primarily used for computers or other networked electronic devices. The identifier is not always the barcode number, but can be an IP address or some other unique electronic identifier. Implementation requires extensive technical support but network pinging can be highly effective.

Radio Frequency Identification (RFID)
RFID is a technology that communicates through the use of radio waves to exchange data between a reader and an electronic tag attached to an object, for the purpose of identification and tracking. Although potentially cost-prohibitive, RFID is a growing technology.

It is predicted RFID technology will continue to proliferate in our daily lives the way bar code technology did over the forty years bringing unobtrusive but remarkable changes.

RFID tags are usually scanned by automated reading equipment, and can be used to track items as diverse as completed products (or even individual components), shipping containers, pallets, livestock, and manufacturing equipment.

SPECIAL CIRCUMSTANCES

Additional Special Identification
Sponsors may provide identification devices that must be affixed to their assets, whether furnished property or contractor-acquired they may be used in conjunction with the organization's identification markings or be used as the sole asset identification, as directed by the Sponsor. In addition, large organizations, specific business units, project teams, or departments may also have supplementary identification requirements.

Replacement Tagging
In cases where the tag or marking is damaged or missing, a procedure must be in place to notify the tagging department of the need for replacement. If an online system requires the assignment of a new control number, the record must cross-reference the prior number.

Non-Taggable Items
Most assets are taggable; that is, the asset is accessible and an identification decal or tag can be successfully affixed to its surface. However, despite requirements to physically tag or otherwise mark property, there are situations in which the items do not lend themselves to tagging. For such items, organizations must develop and implement alternate procedures for their control. Property management personnel must work closely with security, production, purchasing, program leaders, and most other functional areas in protecting and controlling equipment.

Non-taggable property includes items that:

- Are too small to tag
- Are exposed to chemicals, abrasives, excessive heat, or other conditions that would destroy a tag
- Have a surface that does not lend itself to adhesives or marking
- Cannot be etched or stamped
- Will lose their value if tagged
- May be damaged, contaminated, or otherwise compromised by any type of marking
- Are permanently inaccessible

To facilitate the locating and tracking of non-taggable items, information recorded in the property record should be very detailed. Providing as much descriptive detail as possible is helpful; a photograph is also beneficial. In addition, annotating the record to the effect the item is non-taggable is helpful when reporting or attempting to locate the item during a physical inventory.

Non-taggable items must be accounted for during physical inventories. Maintaining a field in the fixed asset system for identifying non-taggable items

should allow the printing of reports with these items sorted by an assigned (although not affixed) tag number and location. A report sorted by room location allows the property control staff to do a records-to-floor inventory, noting variances while in the room, without having to go back to that same room at a later date.

Off-Site or Drop-Shipped Items
Many organizations have property located at a number of locations other than what is considered to be the main business address. Assets for which the organization is accountable, regardless of where they are located or who holds title or ownership, must be identified using the same methods as those used for assets at the main address. Alternate procedures must be established for facilitating the identification process, which includes collecting the descriptive information unique to the asset (description, model, serial number, etc.) and affixing the decals, bar codes, or other means of identification. Roles and responsibilities for this process must be defined in the procedures manual.

Property at Subcontractor Facilities
The requirement to correctly identify property must be included in the flow-down terms and conditions of the subcontract. ("Flow-down" refers to those parts of the prime contract requirements that are passed down to a lesser effort or authority, such as a subcontractor).

Taggable assets provided to a subcontractor must be appropriately marked, and a record established, before they are moved from the primary location. Assets acquired by the subcontractor must be tagged in accordance with the prime contractor's policies and procedures unless otherwise specified in the subcontract award document.

A specific individual within the Property Management Office (PMO) of the primary organization should be designated as the point of contact for managing all subcontractor issues related to property.

Property Authorized For Use Off Site
Many organizations allow research and administrative staff to use property off site or at home under the following strict guidelines:

Individual or Function	Possible Involvement in Process
Receiving Department/Individual	• Integrate identification process with receiving process
Department Property Coordinator	• Arrange for access to the property • Schedule tagging event • Affix tag to asset and collect identifying information
Project Manager or Principal Investigator	• Provide access to designated work area • Ensure that property is available for tagging • Provide the names of points of contact at a subcontractor's facility • Provide information regarding equipment configuration
Asset Custodian or End User	• Provide access to designated work area • Ensure that property is available for tagging • Provide information regarding equipment configuration • Affix tag to asset and collect identifying information
Building or Area Manager	• Provide access to designated work area • Provide a storage or holding area for property pending release for use
Subcontractor	• Provide access to designated work area • Ensure that property is available for tagging • Provide information regarding equipment configuration • Affix tag to asset and collect identifying information
Property Administration	• Establish and/or implement policies and procedures regarding asset identification • Provide identification decals or marking methods • Provide guidance regarding identification policies and procedures

Figure 4-1: Key Participants in the Identification Process

- The property must be used in direct support of organization or sponsored project-related activities
- Accountability is the same as for an asset used on site
- A method must be in place for checking out assets or recording their off-site status
- Property must be tagged per procedure and the identification verified during a physical inventory

KEY PARTICIPANTS

The identification process may require the involvement of several individuals or functions. The number of those involved is predicated upon the complexity of the operational procedures and by geographical challenges imposed by situations such as limited-access areas, multiple buildings, multiple off-site locations, and the like.

One or more of the individuals or functions listed in Figure 4-1 on the preceding page are most likely to be involved in the identification process.

UNIQUE IDENTIFICATION (UID)

The Department of Defense (DoD) UID Policy Office issuing a solicitation is responsible for identifying items requiring Item Unique Identification. (IUID). The unique identification of the items is driven by integrated set of logistics, acquisition, and financial requirements to track and identify item information.

On 29 July 2003, Mr. Michael Wynne, Acting Under Secretary of Defense (Acquisition, Technology, and Logistics), issued a policy on UID of Tangible Items – New Equipment, Major Modifications, and Re-procurements of Equipment and Spares. As stated on the Defense Procurement and Acquisition Policy webpage, http://www.acq.osd.mil/dpap/pdi/uid/faq.html an IUID Frequently Asked Question (FAQ) concerning benefits from list is:

What are the benefits of IUID?

The DoD must, of necessity, uniquely identify the items which it owns to provide for better asset accountability, valuation, and life-cycle management. IUID provides the Department with the source data to facilitate accomplishment of the following:

- Achieve a lower cost of item management as a result of being able to consistently capture the value of items purchased, control items during their use, and combat the counterfeiting of parts.
- Improve item availability and reduce frustrated freight as a result of an increased availability of data, more efficient item manage ment, and increased asset visibility.
- Capitalize on evolving best commercial practices in asset visibility and traceability.
- Improve long-term inventory management and strategic purchasing as a result of more accurate and available data.
- Achieve unqualified audit opinions on DoD financial statements concerning property.

SUMMARY

Property identification provides a readily-visible designation of asset ownership; facilitates physical inventories, reconciliation processes and reporting; helps to deter theft; and forms the basis of complete and accurate property records.

Where possible, identification should be incorporated into the receiving process. Regardless of how or where it is done, it must be done in a timely fashion to ensure that key data is captured for the property record before the asset is placed into service.

Tagged property is property that by its nature (value, sensitivity, or measure of control required) qualifies to receive a unique marking or tag for identification and tracking. Property that is to be tagged on receipt should be so identified on the purchase requisition.

Tags may be serialized or non-serialized. Serialized tags are generally affixed to:

- Capital equipment
- Special requirements items
- Rented, leased, donated, or loaned property
- Sensitive or controlled property
- Government property that will not be expended nor consumed, nor become part of a deliverable end item.

Non-serialized tags may be applied to:

- Components and accessories of capital equipment

- Property with a unit cost under the Capital Equipment Threshold
- Gifts
- Components and accessories of government property

Individual issue items (such as gloves), low-value office supplies, and consumables and expendables are not ordinarily tagged or marked.

Six methods of identification are used throughout the property management industry:

- Bar coding or some other unique identification label or decal
- Stamping
- Marking
- Etching
- Network pinging
- RFID

Cost, availability, and suitability for the application must be considered when choosing a method.

There is a variety of special circumstances that may alter how property is identified, including:

- Supplemental identification of sponsor-owned property
- The replacement of lost or damaged tags
- Items which meet the criteria for tagging but cannot be tagged
- Off-site or drop-shipped items
- Property at subcontractor facilities
- Property authorized for use off-site

A Department of Defense initiative, UID of Tangible Items, provides a range of benefits to property managers who deal with DoD property issues.

CHAPTER NOTES

CHAPTER NOTES



MODULE 1 CHAPTER 5

STORAGE AND WAREHOUSING

STORAGE AND WAREHOUSING: THE PROCESS OF RETAINING AND PROTECTING PROPERTY WHILE NOT IN ACTIVE USE AND INCLUDES THE DETERMINATION OF STORAGE METHODS AND SPACE ALLOCATION.

INTRODUCTION

Storage and warehousing operations are an important part of the property management function. They help an organization meet its goals and objectives by providing and holding equipment and material in support of project schedules, delivering received goods to end users, and shipping finished goods. Also, organizations are able to buy commonly used items or specialty items (e.g., critical spares) and maintain in storage until needed.

The effectiveness of property accountability at the warehouse is directly proportional to the effectiveness of warehouse operational control.

Generally, the traditional warehouse is responsible for the following:

- Storage, receipt, issue and distribution of material and equipment;
- Protecting property from loss, damage, destruction or deterioration
- Ensuring property is available when it is required
- Ensuring the storage of property is justified
- Ensuring property is issued for valid, approved purposes
- Maintaining documentation to support property control records

Because cost is always an issue, several variables must be considered when deciding what size and type of warehouse is appropriate for a given operation. The cost of operating a warehouse is determined by its type, size, work force, material handling system and equipment, layout, need for specialized facilities, and tracking and documentation controls.

In most operations, the cost of warehousing is managed as part of the budget process. In commercial operations, the cost of warehousing and storage is a part of the manufacturing cost; decisions about warehousing and storage facilities must be based on the type of support required for the manufacturing operation.

In the public or government sector, in addition to supporting the operation, the warehouse must meet the requirements of public laws and other regulations. Although meeting these requirements is not a matter of choice, doing so increases the cost of operating a warehouse.

Policies and procedures must be written for the operation of all warehouse facilities or areas designated to function as such. Current and accurate records of all activities, including receipts, issues and transfers, storage, and shipments must be maintained.

Warehouse operations must meet numerous federal and state regulations and guidelines, including regulations for the proper storage and shipment of hazardous materials or wastes. Warehouse design and operation must also take into account the shelf life of the items stored, continued maintenance on these items and incompatibility of items.

Warehouses must be clean and safe, and have proper markings for all areas, in particular those areas housing hazardous or controlled items.

WAREHOUSE OPERATIONS

Warehouse operations include several integrated functions. These are:

- Space allocation
- Receiving
- Storage
- Issue
- Recording
- Reports

After property is received, handling and storage procedures should be followed. The most important of these storage procedures is the utilization of the right storage space and equipment. Detailed planning is required, with input from all potential customers of storage facilities. Some specific requirements are as follows:

- Security cages and limited access are required for highly pilferable items
- Refrigerators and freezers capable of maintaining the required temperature are required for cold storage
- Climate-controlled storage space must be utilized for live animals and heat and cold sensitive items, equipment and chemicals
- Material handling equipment and vehicles must be appropriately chosen and on hand to prevent damage while moving or transporting property
- The proper protective equipment (e.g. ventilation and spill remediation) and clothing must be available for the handling of dangerous or hazardous property

Space Allocation

Activities such as receipt and issue, stock rooms, and long-term storage must be accommodated in what is often limited space. Space allocation and storage should be based on frequency of use and priority of function. For example, short-term storage items should be more accessible than long-term storage items, and recently arrived equipment should be segregated from surplus property.

Another consideration for space allocation is the frequency of movement of the items. If long-term storage is required, a racking system is an appropriate and effective use of storage space. Floor space storage may be the most effective method of storage if items move in and out of the facility on a daily basis, or are frequently accessed by warehouse personnel.

Receiving for a Warehouse

As described in detail, the receiving function (Chapter 3 Receiving) is the gateway to the warehouse. Receiving accepts first responsibility for the assets and material for an organization.

In some cases items might be directly received into a Storage Warehouse rather than a receiving department. In these cases the received items are matched with the procurement or transfer documents and the carrier's freight bill to ensure the received items are correct. Receiving also includes physical inspection of the items for damage, counting of the items, and quality verification as required.

The receiving dock is generally the right place for documenting and marking accountable property. Most receiving operations ensure property items are appropriately identified, recorded and labeled.

The identification of owned and accountable property (Chapter 4 Identification) depends on the policies of the owning organization. In a commercial operation, it may be as simple as identifying the property with the company name or symbol. In government operations, there are additional regulatory requirements. When properly executed, such identification can reduce the risk of lost property.

The receiving area, being extremely susceptible to theft or loss, requires good physical security and process controls.

Storage
Storage is a designated area where an item remains after being received until it is issued for use. There are different types of storage facilities that may be used, depending on the item and the protection it requires.

The primary function of storage is to protect property from loss, damage, degradation or theft, and to ensure it is available when required. Strict storage procedures and controls are necessary for the appropriate protection of the items.

The most important aspects of storage are:

- Proper selection of storage locations
- Item separation
- In-storage maintenance
- The efficient locating and movement of items

When determining the most appropriate area or period of time for storage, it is necessary to consider the type of property or material to be stored and when it will be issued for use. Certain chemicals, for example, must be climate-controlled and in non-corrosive or non-flammable storage containers; they often have short life spans and should be consumed as quickly as possible.

Issue
In a traditional warehouse operation, its major function is to issue material and equipment to its customers, who may be manufacturing, facilities, or administrative personnel. Their expectation is the item will be available from the warehouse when needed. This is when the efficiency of warehouse operation and the effectiveness of inventory control are truly tested.

Proper control over the issue process is an essential requirement for the accountability of property. An ineffectively controlled issue process can permit the loss of inventory from a warehouse.

Recording
All items received into, stored in, and issued from the warehouse must be accurately recorded and the record posted to the correct financial accounts. The proper recording of items at the appropriate time within an operation is necessary for an effective warehouse. Any failure to accurately record a transaction can compromise property accountability.

Note: *Used in this context, "within an operation" means when an item is received, moved, transferred, or inventoried, etc.*

Because the warehouse is the initiator of most property records via the receiving process, the data recorded at the warehouse becomes the foundation of the database that will be used throughout the life cycle of the property. For this reason it is very important the recording function be performed in a timely manner, and with the appropriate detail. Discrepancies can enter the record at any time, so property management should audit and validate the process for recording the data. Without validation, the integrity of the data is questionable.

Reports
Reports are essential for communication between the warehouse and other operations. Certain reports are created as standard or periodic reports (e.g., space availability reports, storage

reports, receiving reports, etc.), while others are created as special reports. Reporting requirements are established by the users of the reports or are in response to regulatory requirements, with some reports being generated to keep personnel appropriately informed in a timely manner.

Additional reports may be generated and distributed internally, to provide the warehouse manager with metrics for measuring the efficiency and success rate of the operation.

CATEGORIES AND TYPES OF STORAGE FACILITIES

There are four main types of storage areas: building, environmentally controlled building, yard, and special storage. They may be classified into two major categories:

- Covered storage
- Open storage

Within each category there are several types. Each of these, in turn, may incorporate a wide range of special variations.

Covered Storage Facilities
Covered storage is the most common type of facility and includes general-purpose buildings which may be environmentally controlled, depending on the type of property being stored and for what period of time. The characteristics of the items being stored is one the primary considerations when determining the type of facility to be used.

General-Purpose Warehouse: A general-purpose warehouse has a roof, sidewalls, and end walls. This type of warehouse may be either conditioned or unconditioned. Fully conditioned warehousing will have heat and air conditioning. The warehouse layout should accommodate receiving, storage, packing, shipping, security areas and administrative offices.

General-purpose warehouses are primarily single story buildings, but may include multistoried buildings. Dock levers (devices that raise or lower loading platforms) may be used for easy access to trucks and railcars. The main aisles should run the length of the general-purpose warehouse and cross-aisles should be included. Aisles may be numbered and lettered to facilitate the finding of storage locations within the warehouse.

Controlled Humidity Warehouse: Controlled humidity warehouses are required in high humidity environments if certain commodities and types of material are susceptible to damage or deterioration from excessive humidity.

Refrigerated Warehouse: A refrigerated warehouse may be divided into two parts: (1) Chill space with a temperature range of 36° F to 46° F; and (2) Freezer space with a controlled temperature below 32° F.

Flammable Storage Warehouse: Flammable storage warehouses must be built of noncombustible material and have firewalls with a 4-hour fire-resistance rating. Care must be taken not to allow modifications or penetration of the firewalls that would compromise this protection period.

Sheds: Sheds are buildings with complete sides and end walls. They are normally considered permanent structures. They may have concrete slab, dirt, or gravel floors, and may have some utilities such as electricity or water. Sheds are usually somewhat more “open” than general purpose warehouse buildings and should be used to store material requiring maximum ventilation or material that does not require complete protection from the weather.

Transitory Shelters: Transitory shelters are normally prefabricated metal or wooden structures with complete roof, sides and ends but no utilities. These structures can be dismantled for movement and reassembled.

Open Storage Facilities
Open Improved Storage Space: Improved storage space may be graded and surfaced with concrete, tar or asphalt, crushed stone or gravel, or some other suitable material. The area may be unfenced, or fenced if controlled access is required.

Open Unimproved Storage Space: Unimproved storage space is an unsurfaced open area designated for storage purposes. The area may be unfenced, or fenced if controlled access is required. This type of storage requires more expensive,

specialized materials handling equipment due to the condition and composition of the unimproved surface.

Segregated Storage
Both closed and open storage facilities may be used for segregated storage. Segregated storage includes storage within a room, in a defined inside area, or in an open storage area in which materials are physically separated. Separation can be by sills, curbs, or physical distance, with the means of separation based (as applicable) on law or best practice.

Segregated storage may be used to limit the quantity of a particular material stored in any one location, or for incompatible or hazardous materials.

When distance is used to separate hazardous materials, the open space may be occupied by non-hazardous, compatible materials. The mandated distance between hazardous materials must always be maintained as required by law.

There are ten categories of hazardous materials that require segregation in storage. See Figure 5-1.

• Radioactive Materials
• Corrosives
• Oxidizers
• Explosives
• Flammable Materials
• Compressed Gas Cylinders
• Low Hazard Materials
• Organic Peroxides
• Reactive Materials
• Poisonous Materials

Figure 5-1 Categories of Hazardous Materials

Federal and state agency regulations govern the storage of these materials.

Limited Access Storage
While segregated storage refers to product or safety requirements, limited access storage applies to security for the protection of pilferable, high value, or application-critical materials, tools, or equipment. When required, any of the types of storage described above could be set up as limited access storage.

WAREHOUSE LAYOUT

The layout of the warehouse is one of the most important factors in operating an efficient and productive warehouse. The objective is maximum space utilization while attaining the maximum number of picks for issues from stock and conducting inventories at the lowest possible cost.

A general-purpose warehouse should normally be configured for a combination of bulk, bin, shelf and rack storage areas. Where possible, there should be a straight-line flow of stock from the unloading point to the storage area and from the storage area to the packing and shipping area.

These points should be considered during the planning of the warehouse layout:

- Quantity of materials to be stored
- Frequency of receipt and issue
- Size and weight of items
- Materials handing equipment capacity
- Accessibility requirements of materials in storage (e.g. inspections, etc.)
- Compatibility of materials

Some warehouse operations use a bin replenishment process in which the same unit of issue s stored in multiple locations with bin replenishment. In the bin replenishment process, smaller quantities of stock are stored in bin locations that are readily accessible. Larger quantities of the same stock are stored in areas designed for bulk storage.

In bulk storage, stock may be stored in the original shipping container or in a dedicated container. When a bin is depleted, it is replenished from the material in bulk storage. Bulk quantities, in turn, are ordered from the vendor.

One efficient and cost-effective alternative to this is “single location unit of issue”. If the stock received will not fit into the current single location, it requires the stockkeeper to find a new location that will accommodate a larger quantity, resulting in continuous re-warehousing and handling. However, it eliminates bin replenishment cost and facilitates picks from stock since all items of a single unit of issue are stored in only one location. In addition, this practice improves inventory

accuracy and reduces the time required for location verification and taking inventory.

MATERIAL RESOURCE PLANNING (MRP) SYSTEMS

An important organizational task for increasing the effectiveness of warehousing in meeting production needs is to establish an effective MRP.

MRP is a fully-integrated, computer-based planning and control system providing coordination and communication amongst finance, marketing, production, and receiving departments. MRP takes into account plans from these entities and assists management in developing a production plan which may be adjusted on a daily or weekly basis to satisfy changes in demand. MRP plans should be shared with personnel who are managing and planning warehouse needs and operations.

WAREHOUSE EQUIPMENT

The selection and use of warehouse equipment and supplies must take into consideration personnel safety, the protection of property and materials, and the ease and efficiency of material handling.

One of the most commonly used items in a warehouse is the storage pallet. Establishing a standard pallet size for warehouse and transportation operations enables maximum utilization of available storage space and ease of material handling. Where possible, Purchasing should require vendors to palletize all shipments on a standard-size pallet. The most common standard pallet is the 40X48-inch pallet with a four-way entry. This provides safe handling and entry from any direction with lift equipment.

Dunnage may be used to protect items, permitting the mechanical handling of certain materials and protecting stock from possible damage while in storage. Dunnage may include shrink or stretch wrap, bubble wrap, cardboard, Styrofoam® pieces, or other packaging materials.

Material handling equipment is a critical element of an effective and efficient warehouse operation and must be carefully chosen. Material handling equipment includes fork lifts, fork lift extensions, drum handling devices, hoppers, rams, clamps, crane boom attachments, pushers, load inverters, portable platforms, ramps, and bridge plates.

There are numerous other pieces of warehouse equipment available to the property and warehouse manager. Some of the most common are as follows:

1. Metal shelving, which comes in a wide variety of sizes to accommodate small, high-quantity items such as electronic parts, nuts, bolts, screws, plumbing supplies and connectors. Most metal shelving can be adjusted to handle different-sized items within the same storage area. Metal shelving can be augmented with storage bins or boxes to facilitate the storage of small items for ease of picking and packing.

2. Pallet racks, for the storage of property that is too large, bulky or heavy for manually loaded storage shelves. The depth and width of pallet racks depend on the dimensions of the property to be stored. The height depends upon obstructions under the ceiling such as lights, sprinklers, and power lines, and the lifting height of material handling equipment. Pallet racks are usually installed back-to-back in rows, with aisles between each double row. For maximum space utilization, the aisles are normally just wide enough to accommodate the material handling equipment used to load the racks.

3. Cantilever racks, used for storing long lengths of rigid materials such as pipe, tubing, extrusions, lumber, and bar stock. Normally, cantilever racks are specially designed to accommodate the categories of material stored and the type of storage and retrieval equipment in use (gantry overhead crane, side loader forklift, or conventional forklift).

4. Vertical storage racks are specially designed racks for the storage of slate or sheet stock of varying types. Many manufacturing and repair facilities need sheet galvanized steel or aluminum in their operations. This type of storage is ideal for those items. Vertical storage is often used with overhead handling equipment for items too

heavy for manual loading.

5. A-frame racks are designed for the horizontal storage of long lengths of materials, such as tubing or conduit that can be manually loaded.

6. Automated storage racks are becoming more common, especially in commercial and manufacturing environments. Automated storage systems effectively use the available storage area and virtually eliminate warehouse personnel travel time connected with the storage and retrieval of items. Automation also eliminates much manual paperwork through an interface with a computerized warehouse management system.

7. Automatic Storage and Retrieval Systems (AS/RS) that use high-rise storage racks and mechanical equipment, usually guided by tracks, rails, or electronic devices, to move warehouse staff down the aisles to a storage rack and elevate them vertically to the appropriate storage shelf.

INVENTORY AND DISTRIBUTION METHODS

Once equipment or materials are received, it is often necessary to store them in a warehouse or designated storage facility until they are distributed. Two types of inventory and distribution methods are typically used:

- Last In - First Out (LIFO). This method moves most recently received items to the area where they will be used first. This method may be used when the quantity on hand is expected to be used in its entirety within its useful lifetime. In these instances, it is not cost-effective to use personnel to rotate stock. LIFO is not a good indicator when calculating ending inventory value, because although the remaining inventory items may be old, obsolete stock, the entire inventory will be valued according to the most recent price.

- First in - First Out (FIFO). This method moves the oldest items in storage to the location where they will be used. The FIFO method is best utilized when dealing with materials that may have a shelf-life or to help reduce old stock. FIFO is a good indicator when calculating ending inventory value, and may provide a reduction in the cost of goods sold or manufactured through the use of older stock purchased at a price lower than today's price.

WAREHOUSE MANAGEMENT SYSTEMS

To ensure all property is properly accounted for, the warehouse must have a good management and control system. Both the warehouse's customers and upper management assume that once it has been received, the property stored in or issued from the warehouse is under control at all times.

The warehouse, by its nature, generally has a high turnover of items, which could cause the location of the property to change many times. Failure to record such movements in an accurate and timely manner can jeopardize record integrity, resulting in the loss of property accountability. Without the establishment of proper controls at the warehouse, the property will also become vulnerable to loss or theft.

To manage a given system, warehouse management must monitor the effectiveness of the system and its operating costs. Any proposed or implemented modification to the system must be evaluated for its net effect on the operation.

It is necessary to remember the warehouse management system includes the generation of property control records for the warehouse. Caution should be used when making any major changes to the recording of items, since warehouse records are an important part of tracking the history of items. Warehousing records can be vital to understanding future procurement needs for an organization, and even utilized in production planning.

Stock Locator System

Today, most warehouse operations are managed with computerized systems. The larger the organization, the more complex the systems. In some operations, warehouse management systems may be integrated with other systems. Smaller

operations may use very simple computer systems (often Personal Computer (PC)-based) or even manual systems, as long as they can perform the necessary functions. What constitutes the right system for an operation depends on the types of controls required, the volumes (and variety) of materials processed, inventory values, budget, manpower, and technical support required.

If we remember the main function of a warehouse is to issue material and equipment to customers, then the heart and "life blood" of the warehouse is the stock locator system, which identifies and tracks item location. In a small storeroom, the stock locator system may be a manual card deck or a spreadsheet on a personal computer. In larger warehouses, stock locator systems are incorporated into in the inventory control system.

To be effective, a stock locator system must pinpoint every physical location within the warehouse in a simple, easily-understood manner. However it is arranged, the warehouse layout must work with the stock locator system. The clear marking of rows, aisle racks, bins and storage locations (including levels within a location) is essential for timely and accurate stock selection and inventories.

Maintenance of the stock locator system must be the highest priority of every person working in the warehouse. Changes in the locations of Stock-keeping Unit (SKU) must immediately and accurately be recorded in the stock locator system to ensure that the material's location is always correctly reflected in the record.

Figure 5-2 shows the record elements that should be used within a locator system, as well as the minimum basic record elements to maintain within that system.

Types of Warehouse Management Systems
The warehouse management system can vary from a simple manual log to a very sophisticated computerized and automated system. There are hundreds of commercially off-the-shelf (COTS) software packages in the marketplace. Some companies develop their own homegrown software to match their processes. Some may use a combination of their homegrown system and an off-the-shelf system to reduce the cost of development. Many medium size warehouses use small stand-alone PC-based systems. Small warehouses or stockrooms may use a manual log system.

Data Elements
• Description of property (noun name)
• Control number
• Unit of issue
• Date received
• Warehouse storage location
• Lot number (if required for traceability)
• Cost
• Retention period
• Justification for storage
• Condition
• Agreement number to which accountable
• Organizational function placing the item in storage

Figure 5-2 Locator System Data Elements

Selecting the Right Warehouse Management System
There is no single answer to the question of which system is best for a given operation. Before selecting a specific system, specific circumstances must be evaluated. Many factors must be considered during this evaluation, including (but not limited to):

- Level of control required
- Volume of items handled
- Types of property managed
- Extent of integration with other systems required
- Cost of developing a system versus buying a system
- Availability of funding
- Manpower constraints

It is important the total implementation cost and the effort required also be taken into consideration before a system is selected.

The selection of a system is a much more complicated task than it appears on the surface. With the changing technology of today, it is important the software selected for the warehouse be flexible enough to continue to effectively interface with the organization's other systems as they

change and develop in response to the organization's changing needs. It is also extremely important that the system be user friendly.

Regardless of the system chosen, it must provide for the proper control of property in the warehouse, as well as for keeping track of all property movements.

THE WAREHOUSE AND ITS RELATIONSHIP WITH OTHER FUNCTIONS

The Purchasing Organization
The purchasing organization creates purchase orders that result in bringing new items into the warehouse. It is the responsibility of the warehouse receiving function to receive, inspect and document the receipts. Purchasing relies on Receiving to inform them regarding the fulfillment of the supplier's commitments.

Purchasing and warehousing may work in a single department, or they may be part of a materials management group. In government operations, purchasing and warehousing are frequently part of the logistics department. This interdependency makes warehousing and purchasing close partners.

The Property Management Organization
Property management has a significant dependence on the warehouse. Since the warehouse receives, marks or tags, stores, and issues the property, warehousing is a major source of data for property management. To ensure the information is useful, property management establishes the rules and procedures for property marking and identification—including bar-coding requirements—for the warehouse.

In addition, property management must ensure the property data from the warehouse is complete, accurate, and reliable. This requires close teamwork between the warehouse and property management. For this reason, and others, many property professionals believe the optimum situation is to have the warehouse under property management control.

Even in organizations in which the warehouse is not under direct property management control, the property manager is often involved. Property management has a direct interest in seeing key data components on receipts, such as the manufacturer, model, serial number and property identification number issued, are captured and documented prior to the delivery of items. To ensure this takes place, property management should be involved in the procedures and training developed for the warehouse.

Property management is also concerned about tracking and the safeguards in place for finding and protecting stored property items, to ensure that no losses occur while the property is stored.

The Operations Departments
Operations departments—such as programs, production, or facilities—receive most of their items from the warehouse. Operations departments are the end users of the property, and they expect the warehouse to be a reliable source.

Operating departments assume that property in the warehouse is in a controlled environment and plan their activities around those assumptions. Such trust and expectation of reliability by the operating departments requires close attention to detail by the warehouse.

From the perspective of record-keeping, a healthy working relationship between the warehouse and the various operations departments helps to ensure that property management is able to track property throughout its life cycle. Upper management should strongly encourage such a relationship, because there is almost a certainty that if problems exist with record-keeping as property is issued for use, problems will also exist in the property records.

Disposal Operations
In some cases, the warehouse operation is responsible for the storage of excess and surplus items while the items are awaiting final disposition. The typical processes for the management of warehouse inventory and for the management of disposal item inventory are very similar.

Planning the operations for a disposal warehouse may be even more challenging than for other types of warehouses, because the materials and items received vary on a daily basis. Also, in most cases the quantities and sizes of items may be unknown until they are received at the warehouse.

THE EFFECT OF NEW TECHNOLOGIES ON WAREHOUSING AND STORAGE

New technologies and ways of doing business are having a significant impact on traditional warehousing practices. Among these is just in time (JIT) delivery, the process of providing goods or services at the precise time and location they are needed.

With modern, greatly enhanced communication and the ability to do business via the Internet, JIT is becoming far more popular. JIT requires the close coordination of planning, purchasing and delivery, but it can reduce or eliminate the need for warehouse storage of received items because delivery is made directly to the end user.

However, transferring the warehousing requirements to vendors may increase the cost of goods purchased. In addition, Purchasing should ensure vendors are able to supply the items when they are needed by operations departments. If certain costs increase because operations departments cannot get necessary items when they are needed, warehousing may prove to be more cost-effective than JIT.

SUMMARY

Warehouse and storage operations are integral parts of the property management function. While warehouse management is a science by itself, this chapter has covered general warehouse and storage operations from the property manager's point of view.

The warehouse receives, stores, and issues property. The property record begins at the point of receiving, forming the basis for all subsequent records.

A close relationship with the warehouse helps property personnel perform their jobs more effectively. In part, this is because inadequate control of property in the warehouse means potential problems for property management.

Warehouse operations include space allocation, receiving, storage, issue, recording, and reports. Directly or indirectly, the property manger has an interest in all of these.

The physical requirements for storage and the cost of providing facilities and staff are based on the nature of the property and on the volume of items received, stored, and issued. Spoilage, pilferage, and inaccessibility may be the result of inadequate or inappropriate storage facilities.

To ensure all property is properly accounted for, the warehouse must have a good management and control system. Both the warehouse's customers and upper management base their plans on the assumption that once it has entered the warehouse, the property that is received and is then stored in (or passes through) the warehouse is under control at all times.

Property management has a significant dependence on the warehouse. Since the warehouse receives, marks or tags, stores, and issues the property, warehousing is a major source of data for property management. To ensure the information is useful, property management establishes the rules and procedures for property marking and identification—including bar-coding requirements—for the warehouse.

In addition, property management must ensure that the property data from the warehouse is complete, accurate, and reliable. This requires close teamwork between the warehouse and property management. For this reason, and others, many property professionals believe the optimum situation is to have the warehouse under property management control.

CHAPTER NOTES



MODULE 2 CHAPTER 6

MOVEMENT

MOVEMENT: (1) THE ACT OR PROCESS OF MOVING. (2) A CHANGE OF PLACE OR POSITION. (3) THE PHYSICAL RELOCATION OF PROPERTY FROM ONE AREA TO ANOTHER.

INTRODUCTION

Movement of assets is performed is in a variety of ways and for numerous reasons. For example, it may occur when an item moves from a storage area to the user, to storage, or as a change from one asset user to another within the organization. It may involve distances of a few feet to thousands of miles. Whatever the circumstances may be, the primary concerns are ensuring the move is completed without damage to the asset and the property record reflects an accurate location.

For record accuracy, the location must be updated following the movement of an asset. The exact time frame during which the property record must be updated is defined in the organization's approved policies and procedures. Documentation of all moves must be reflected in the property records and made available during an inventory or audit. The challenge of tracking property locations can be significant, but it must be met because the delivery of critical services may be negatively impacted by any delay in the availability of all property.

Effectively managing the movement of property must be done within the context of supporting the objectives of the organization. While the variety of ways in which property may be used and moved requires flexibility in each department's location control policy, the policy must still meet the compliance and business management needs of the organization must also be met.

Note: *"Compliance" includes compliance with regulations, contract or agreement provisions, and organization policies and procedures.*

THE PROCESSES OF MOVEMENT

When items are requisitioned from inventories held at a warehouse or storage facility, the requisition is approved by an appropriate member of management and forwarded manually or electronically to the warehouse supervisor. The requisition includes the delivery date specified by the requestor. The warehouse supervisor ensures that the movement includes the proper documentation, the required record updates, and appropriate handling of the item(s).

The shipping begins by loading the equipment or material into an appropriate container with proper packing as required, per U.S. Department of Transportation (USDOT; commonly referred to as DOT) guidelines. The method of loading the property and the type of transport vehicle used depends on the type of materials or equipment being moved. Organizations may contract for shipping with companies who guarantee that the asset(s) transport. Contracting with outside vendors for transport is normally used when items must be hauled long distances.

Local movement involves transport from one internal location to the other, accompanied by the required documentation and authorization. Such movement often involves property for which a department or organizational unit is accountable but which has been placed in storage during periods of non-use.

OFF-SITE MOVEMENTS

As a general policy, property is not to be removed from authorized locations. However, to facilitate the continuous flow of activities in support of organizational objectives, policy may permit home or other off-site use of equipment. Providing this benefit creates a unique set of tracking challenges and risks.

If it is necessary for an employee or other authorized person to move property from its current work location to an off-site location, the requirements in Figure 6-1 should be followed.

As shown in Figure 6-1, property control policies and procedures must be specific regarding the

Requirements
Approval to remove property from current authorized locations must be secured from an individual responsible for the inventory account. A written or electronic record of the property and of the authorization must be maintained in the office of the approval authority.
The property may be used only for authorized purposes.
Any person removing such property from authorized locations assumes the responsibility for seeing that appropriate care is taken in its transportation and security, and that such property is returned in satisfactory working condition. The person may be liable for the replacement or repair costs of any property not so returned.
The property must be returned to its normal location as soon as possible, ordinarily within one week, unless a more extended period is specifically approved. Approvals should be limited to the current fiscal year, and must be renewed at the beginning of each fiscal year. In addition, at the time of the organization-wide inventory, all property must be returned to its authorized location so that it can be accounted for by physical inventory.
In the event of the planned absence of an individual who has property off-site, the property must be returned to the on-site department location prior to the individual's departure.
All property temporarily removed from in-house locations is subject to immediate recall at any time to meet higher priority operational commitments.

Figure 6-1 Requirements for the Removal of Property for Off-Site Use

conditions under which off-site use is authorized what responsibility the asset user assumes by taking an asset off-site, and any use limitations applicable to the equipment.

Should the asset require maintenance or repair during the designated off-site period, the asset user must contact the department property administrator or area maintenance coordinator.

The location of off-site assets must be reflected in the property record and the record periodically reviewed, the location approved, and the record updated. The approval and periodic update of this information may be documented using an "off-site approval document" via an established electronic or manual sign-out mechanism. To prevent unauthorized access to personal data, specific street addresses personal residences, the specific street address may be held on file within the property office and a designated address code indicated on the property record

PROPERTY MOVEMENT DOCUMENTS

The movement of property must be authorized and documentation generated to show changes in quantities and location. Movement documents or electronic transactions must be posted to the property record and retained in the property management files for audit purposes.

Various types of documents are used for moving property and for recording its movement. The forms described below are examples of the type of documentation required to maintain control while property is moved. These may be hard copy form or, more likely, electronic transactions in today's environment.

Transfer and accountability form: The transfer of property between users is documented on this form. All parties involved must receive a copy after approval is obtained from the property manager or a designated individual. The transfer and accountability form contains the transferee, the transferor, the quantity, description, serial number, tag number, value, and classification code.

Note: *This form has a dual purpose: to record movement of the property and to transfer accountability.*

In a web-based system, the transferee's acceptance or rejection of the item and final approvals are processed online using electronic signatures. If property accountability is being transferred from one contract to another, the losing and gaining contract numbers must appear on the document.

Once all approvals have been obtained and this form is completed, the property can be moved to its new location.

To ensure accountability and tracking during audits and inventories, use transfer forms rather than a hand receipt (see below) if property is borrowed over a longer period of time than is permitted by the loaning department's procedures. The transfer document should be annotated as "temporary" so that the loaning department will retain ownership of the property.

Note: *In the context of this section, "transfer" means a transfer of custodial responsibility that usually occurs in-house from one department to another.*

Hand receipt: Property movement between an inventory control point (e.g., storage, calibration lab, maintenance, etc.) and the custodian or user is controlled through the use of a hand receipt. The hand receipt includes the property's identification number, serial number, description, new location, and signatures of the individual receiving the property and the Property Management Officer. The original form is maintained in the Property Management Office and a copy is given to the recipient of the property.

Equipment log-out form: This form is used to track the short-term movement of equipment from an established equipment pool for multiple users. The equipment log-out form contains the user's name, time out and time in, item description, quantity, tag number, serial number.

Electronic or automated property pass systems: As has been discussed, there are instances when it is advantageous to allow employees to remove property for off-site or home use.

Due to the frequency of these cases, many organizations today have developed automated property pass systems that involve barcode

technology, incorporating the scanning of items at security points and the automatic generation of reminders to employees who have items checked out.

It is important that the employee, the supervisor, and property management personnel are aware of property checked out of a facility. Since equipment is more vulnerable to theft while away from a secure facility, records and reports of equipment used off-site must be complete, accurate, and timely.

SHIPPING

Shipping is the movement of property from one geographical area to another, usually via commercial carrier.
All shipments must be authorized. The originator of the shipment is responsible for the packaging, packing, preservation, and marking of any shipment. The property manager is responsible for determining the applicability of federal, state, and local laws, codes, or directives that apply to the shipping of property.

Federal and state government health and safety regulations, as well as the Federal Acquisition Regulation (FAR) and the Code of Federal Regulation (CFR) may be applicable. In the case of hazardous materials, refer specifically to 49 CFR, Part 178 for dangerous goods packaging specifications.

Various forms of documentation are used for processing shipments. For transactions including government or sponsor-owned property, a Requisition and Invoice/Shipping Document (DD Form 1149) may be used. Shipments of organization-owned property are documented using forms that conform to approved policies and procedures.

To ensure that the correct items are shipped and received, all shipping documents must be complete and accurate. Care must also be taken to ensure the required approvals have been obtained and the necessary funding and insurance coverage have been obtained. A system of receipt notification should be established to ensure completed shipments.

Whether the property is moved between buildings within the organization's facility or shipped to an outside location, the responsibility for movement rests with the shipper (unless otherwise specified in a legally binding document or mutually agreed by both parties) until the property is received at its destination. An exception to this policy is the transfer of responsibility to a licensed Interstate Commerce Commission (ICC) carrier, which places the burden of liability on the carrier.

Packaging
Packaging may be required prior to movement of property and materials. Appropriate packaging facilitates the handling and minimizes the potential for damage during transit. The mode of transportation chosen will greatly affect the appropriate packaging needed. Examples include whether or not the item will be moved on a pallet, if it will be subjected to mechanical handling during transit, or be required to withstand stacking.

Packaging economy: Achieving economy in packaging means obtaining the maximum output of adequately-protected items at minimum cost. Management must ensure underpacking or overpacking do not occur. A major concern for management is the needless expenditure of funds for the transportation of excessive weight and cube (volume) due to the overpacking of shipments.

Note: *"Underpacking" means providing inadequate protection. "Overpacking" is the excessive application of preservatives, packaging, or packing materials. Preservatives include dry ice, desiccants (a substance that absorbs water), and coatings.*

Packaging methods: There are several basic packaging methods used. Among these are:

Method I. Wrapper Not Sealed. Water as liquid or vapor and corrosive atmospheres have relatively free contact with the preserved part.

Note: *"Preserved" as used here means treated with a contact preservative, such as grease or a rust preventive (Cosmoline).*

Method I-A. Part Preserved-Waterproof Wrapper Sealed. Only moisture vapor penetration is possible.

Method I-B. Strippable plastic dip-coat serves

as a preservative and barrier.

Method II. Part cannot be preserved with contact preservative. Sealed waterproof and moisture vapor-proof barriers are used. Traces of moisture vapor which penetrate are absorbed by a desiccant.

Method III. Physical protection only.

Government packing and crating specifications: The Government has developed specifications for packing materials and crating for use by the military or for goods shipped to the military. They are also suitable for commercial purposes, and include:

MIL-P-116	Methods of Preservation
MIL-STD-731	Quality of Wood Members for Containers and Pallets
PPP-F-320D	Specification for Fiberboard, Corrugated and Solid, Container Grade
MIL-STD-129	Marking for Shipment and Storage
NN-P-515	Plywood, Container Grade
MIL-STD-726	Packaging Requirements Code
UU-C-843	Cushioning Material
FF-N- 105	Nails, Wires and Staples
MIL-B-117	Bags, Interior Packaging
QQ-S-781	Steel Strapping, Flat
PPP-B-591	Boxes, Fiberboard, Wood-Cleated
PPP-B-566	Boxes, Folding, Paperboard
PPP-B-636	Box, Fiberboard
PPP-B-676	Box, Set-Up-Paperboard
PPP-V-205	Veneer, Paper-Overlaid, Container Grade
JAN-P-100	Packaging and Packing for Overseas Shipment
MIL-C-7769A	Military Specification Cushioning Material
PPP-B-621	Federal Specification for Wood Boxes
MIL-A-25175(B)	Military Specification for Air Transport, Non-Tactical Packing For

In addition to these recognized classifications and specifications, there are many other packaging methods available to meet the specific needs for various items and modes of transportation.

Shipping containers: There are key elements to take into account when selecting the type of container to use for shipping property. Each situation will dictate the specific combination of factors. Below are criteria to consider when selecting a shipping container:

- The physical characteristics of the article (size, weight, shape, etc.), vulnerability of the item or parts to damage from shock or vibration, the ability to resist corrosion or other forms of deterioration, and the degree of assembly or disassembly
- Project or manufacturer specifications
- The cushioning, blocking, bracing, or forms of dunnage necessary to protect articles or packages
- The type of load that is formed by the articles or packages
- The requirements for transfer or issue of the material involved
- The requirements for ease of handling in transportation and storage, including the facilitation of mechanical handling, size and weight considerations for palletizing, and unit load patterns
- The mode of transportation and carrier regulations
- The handling and storage facilities available to the receiver
- The cost and availability of particular containers
- The costs the selected container will save or generate

Manufactured items: Manufactured items may require special and unique packaging requirements. In these instances, program specialists or quality assurance personnel may designate requirements. The manufacturer of an item may also provide packaging specifications. Additionally, packaging and shipping specifications are commonly indicated in user manuals for use when/if the item must be returned to the manufacturer for repair or replacement.

Waterproofing: Waterproof case liners, shrouds, and wraps are used to prevent deterioration of both the items being shipped and the associated packing material. Waterproofing provides pro-

tection by preventing the entry or diverting water damage. When utilized properly waterproofing materials guard against loss. Conversely, the improper use of waterproof materials can allow (or even cause) considerable damage.

Marking: The purpose of marking is to ensure clear identification of contents to display consignor and consignee addresses so that shipments can be moved without confusion or delay. No matter how well an item is packed, it is worthless if it cannot be identified upon reaching its destination if, indeed, it even reaches its destination. Most Department of Defense shipments are required to be marked per MILSTD 129 (Military Standard for Shipment and Storage); other organizations may use this standard or develop their own marking systems.

Hazardous materials: Packages containing dangerous goods must be permanently marked with the correct technical name and with distinctive labels or stencils of the labels.

The International Maritime Organization (IMO), which is a branch of the United Nations (UN), classifies dangerous goods into nine hazard classes. Diamond-shaped labels are used to indicate the hazards via specific colors and symbols:

Class 1 - Explosives
Class 2 - Gases
Class 3 - Flammable liquids
Class 4 - Flammable solids; substances liable to spontaneous combustion; substances which, in contact with water, emit flammable gases
Class 5 - Oxidizing substances and organic peroxides
Class 6 - Toxic and infectious substances
Class 7 - Radioactive material
Class 8 - Corrosives
Class 9 - Miscellaneous dangerous goods

Some of these classes are subdivided into divisions, a necessity because of the broad scope of the class.

The DOT administers regulations applying to the use of terms and symbols prescribed in 49 CFR. Also, see 49 CFR, Parts 100-177, for proper shipping names and instructions for the preparation of shipping papers, marking, labeling, etc.

Preparation of Shipping Documents
The proper preparation of shipping documents will ensure the correct items are shipped and received and that accurate records are available for audit purposes.

- The shipment of finished goods should be documented in accordance with the terms of the applicable customer purchase order or contract.
- A system of receipt notification should be established to ensure completed moves.

Freight shipments must be described on bills of lading in a uniform and consistent manner that is recognizable and acceptable to all carriers. The proper description of shipments is essential for determining applicable freight rates, enabling proper handling during transit, and processing freight claims for loss or damage. For items with a National Stock Number (NSN), the Department of Defense (DoD) Freight Classification Data File–Basic is the main reference for this information.

When determining the correct description of shipments:

- The type of assembly and packing governs the freight description that, in turn, governs the freight rate to be assessed. For example: loose; setup (SU); knocked down (KD); folded flat (FF), and nested.
- Show the condition of the material offered for shipment on the bill of lading. For example: old; used; scrap, second hand, etc.
- Equipment items must have proper manufacturing descriptive names, part numbers and serial numbers.
- As described above, the description shown in the DOT regulations must be used when shipping explosives and other dangerous material. See Hazardous Materials for more information.

Under **NO CIRCUMSTANCES** shall the bill of lading be marked or stamped **"SECRET"** or **"CONFIDENTIAL"** when shipping classified material.

HAZARDOUS MATERIALS (HAZMAT)

The packing and preparation of hazardous materials for transportation are governed by 49 CFR, administered by DOT. This regulation:

- Defines and classifies hazardous materials
- Authorizes certain packages or containers for use in the movement of hazardous materials
- Outlines qualifications, testing, the use of containers, the marking and labeling of hazardous materials, and approved methods of shipment

Requires that commercial carriers be certified to transport a particular hazardous material, Figure 6-2 provides some of the federal regulations applicable to ammunition, explosives, hazardous materials, and related dangerous material.

Public Law 91-452	Organized Crime Control Act of 1970
Public Law 93-633	Transportation Safety Act of 1975
Title 49 U.S. Code Subtitle 1	Department of Transportation
49 CFR, Parts 100-199	Hazardous Materials Transportation

Figure 6-2 Federal Laws and Regulation

Figure 6-3 is a step-by-step shipping guide to assist in complying with DOT regulations for the

Hazardous Material Shipping Guide

STEP	Action
1	Determine the proper shipping name. The shipper must determine the proper shipping name of the material.
2	Determine the hazard class or classes. See Sections 172.101, 173.2, and 173.2a for the correct hazard class of the material.
3	Select the proper identification number. See Section 172.101 and select the number that corresponds to the proper name and hazard class.
4	Determine the packing group. The packing group corresponds to the shipping name and hazard class. Combustible liquids and ordnance materials do not have packing groups.
5	Determine the mode(s) of transport to the ultimate destination.
6	Select the proper label(s) and apply as required. The first label shown for each entry is indicative of the primary hazard of the material and additional labels are indicative of subsidiary hazards.
7	Determine and select the proper packaging. Consider the quantity per package; cushioning material, if required; proper closure and reinforcement; and proper pressure, etc., as required.
8	Mark the packaging, including overpacks.
9	Prepare shipping papers. The basic requirements for preparing shipping papers include the following: proper shipping name; hazard class, identification number, and packing group; total quantity; and shipper's certification.
10	Certification. The shipper must certify by printing on the shipping papers that the material being offered for shipment is properly classified, described, packaged, marked, and labeled, and is in proper condition for transportation per applicable DOT regulations.
11	Loading, blocking, bracing, stowage, and segregation. Each package must be loaded, blocked, and braced per the requirements for the mode of transport. If the shipper loads the freight container or transport vehicle, the shipper is responsible for the proper loading, blocking, bracing, stowage and segregation of the material. If carrier personnel do the loading, the carrier is responsible.
12	Determine the proper placard(s). Each person who offers hazardous material for transportation must determine that the placarding requirements have been met. See Section 172.506.
13	Hazardous waste/hazardous substance. If the material is classed as a hazardous waste or hazardous substance, most of the above steps will apply. See the Environmental Protection Agency (EPA) regulations found in 40 CFR, Part 262.
14	Enter the emergency response information. This information is defined as information that can be used in the mitigation of an incident involving hazardous materials.
15	Visually inspect the shipment as a final check before offering the shipment for transportation.

Figure 6-3 Hazardous Material Shipping Guide

transportation of hazardous materials. It does not contain or refer to all DOT requirements for shipping hazardous material.

For specific details, refer to 49 CFR parts 100-199. The Hazardous Materials Table is found in Subpart B; Shipping Papers in Subpart C; Marking in Subpart D; Labeling in Subpart E; Placarding in Subpart F; and Emergency Response Information in Subpart G.

SUMMARY

Effectively tracking movement throughout the life cycle of assets is one of the most challenging aspects of property management. Changes can occur at any time, can involve large numbers of individuals, and often require expeditious handling. Often, property management is not involved in or informed of the movement until in the process after the move is completed.

Property managers must develop and promote policies regarding efficient and effective movement to management and to colleagues throughout the organization. If managed well, movement can be a visible, value-added part of an organization's business activities.

Movement may involve short or long distances. The items being moved may be small or extremely large. They may be harmless, common items or hazardous and controlled materials. Whatever the circumstances, movement must be completed without damage to the asset and the property record must continue to reflect an accurate location. Along with this, every movement must comply with applicable organization policies and with local, state, and federal regulations.

For record accuracy, the location record must be updated following the movement of an asset and the documentation retained in the property record. The challenge of tracking property locations can be significant, but it must be met.

Off-site movements often include the use of organization property by employees, or other authorized persons at home or at remote locations. Because of the portability and general usefulness, tracking and controlling the movement of these items is particularly challenging. Property control policies and procedures must be specific regarding the conditions under which off-site use is authorized, what responsibility the asset user assumes by taking an asset off-site, and any use limitations that are placed on the equipment.

Shipping is the movement of property from one geographical area or location to another, usually by commercial carrier. The responsibility for movement usually rests with the shipper until the property is received at its destination. Adequate packaging, the necessary authorizations, and all required documentation should be completed prior to movement.

The property manager is responsible for determining the applicability of federal, state, and local regulations that apply to the shipping of property. This is particularly important when sensitive, controlled, or hazardous property is moved, because the regulations are complex and the penalties for non-compliance may be severe.
For record accuracy, the location must be updated following the movement of an asset and the documentation retained in the property record. The challenge of tracking property locations can be significant, but it must be met.

The property manager is responsible for determining the applicability of federal, state, and local regulations that apply to the shipping of property. This is particularly important when sensitive, controlled, or hazardous property is moved because the regulations are complex and the penalties for non-compliance may be severe.

CHAPTER NOTES



MODULE 2 CHAPTER 7

MAINTENANCE

MAINTENANCE: (1) THE ACT OF MAINTAINING TO KEEP IN AN EXISTING STATE OR PRESERVE FROM FAILURE OR DECLINE. (2) SOMETHING THAT MAINTAINS. (3) THE UPKEEP OF PROPERTY OR EQUIPMENT.

INTRODUCTION

Any organization that provides a product or a service requires resources to produce that product or service. When physical assets are a required resource, they must be maintained in proper working order to ensure the product or service can be provided on time and as advertised.

In most organizations, maintenance consists of preventive maintenance, calibration, unscheduled maintenance, and repair.

Preventive maintenance consists of periodic inspections and scheduled services performed to maintain tooling and equipment in good operating condition. Detecting and correcting minor deficiencies before major malfunctions occur maximizes the useful life of the equipment and minimizes down time. It also helps to ensure that products continue to be made to specification.

Preventive maintenance can be as simple as lubricating a hinge before it begins to squeak,

or as complex as performing multiple electronic and mechanical checks, comparing the results against manufacturer (or organization) specifications, and making the necessary adjustments.

Calibration is the act of checking or adjusting (by comparison with a standard) the accuracy of a measuring instrument. Calibration generally consists of measuring the equipment's output with precision measuring devices and either making adjustments or generating a table of known variations between the equipment's output and the true value. Calibration is normally traceable, either directly or indirectly, to an outside organization such as the National Bureau of Standards.

Unscheduled maintenance and/or calibration are performed on an "as-needed" basis, either because no program of preventive maintenance or scheduled calibration is in place or because something unforeseen has occurred.

Repair is defined as work done to restore equipment to a sound or good condition after wear, damage or partial destruction has occurred.

Note: *In the property profession, scheduled maintenance and calibration are also referred to as periodic maintenance and calibration. "Periodic" means scheduled to occur at regular intervals; e.g. weekly, monthly, etc.*

THE MAINTENANCE PLAN

When an organization elects to perform its own maintenance, calibration and repair, or even when some (but not all) tasks are outsourced, a workable, efficient, and cost-effective maintenance plan should be developed and implemented. Downtime, quality problems, and reduced production are far more costly than they might appear at first glance, and a good maintenance plan can generate significant cost savings for the organization.

Items requiring regularly scheduled inspection and service should be scheduled for recall via a systematic process. Unless the operation is complex, special software is not required. The software requirement can be as simple as additional data elements (user-defined fields available in any off-the-shelf application) within the asset records and some custom reporting. Should special application software be chosen, there are many packages on the market designed for scheduling and recording maintenance, calibration and repair. They range from very simple to very complex, and run on a wide variety of hardware. While cost is always an issue, a comprehensive, user friendly, easily-maintained package of software and hardware, even if it is initially more expensive, can save many hours of labor and many dollars of expenditures in fixes and upgrades.

The software chosen should allow for "multiple service requirement" records, which may be processed for a single item of equipment when more than one type of service is to be performed or more than one service group (e.g. electricians, machinists, computer technicians, etc.) is required.

Once the software has been chosen, a record for each item requiring periodic service should be systematically prepared. Information to be considered includes:

- Service group: the established code designation of the service group responsible for performing or coordinating service requirements, or "who does it?"
- Service required: the type of service required
- Service procedure: the written procedure which provides the specifications and detailed service or inspection requirements
- Service frequency: the interval at which scheduled service is to be performed. If the service requirement involves multiple operations of the same type of service that are to be performed at varying intervals by the same service group, each different frequency must be specified as a separate operation number. The frequency of calibration and preventive maintenance is usually based upon the manufacturer's recommended service requirements, with consideration given to the stability, purpose, and frequency of use of each piece of equipment.
- Initial service date: the date of first service, upon which service recall scheduling is based
- Warranty: items requiring repair that are still under warranty should be so identified

CALIBRATION AND PREVENTIVE MAINTENANCE PROCEDURES

Procedures should be developed in accordance with manufacturers' service specifications and recommendations as prescribed in owner service manuals provided with equipment.

The developers of service procedures should take into consideration the specific application of the equipment, the type and degree of use, environmental conditions, etc., to supplement any inadequate or excessive service manual specifications with necessary and reasonable provisions for maintaining the equipment in good working order.

When service manuals are not available, service procedures should be prepared on the basis of experience and familiarity with equipment design and operation.

Service procedures should be reviewed to determine whether or not changes are required when significant program changes result in alterations to equipment application or in the conditions of equipment use, or when calibration or preventive maintenance deficiencies are experienced. They should also be reviewed when experience suggests that they are more extensive or more detailed than required.

Note: *"Process" means the steps that are taken. The "procedure" is the document that spells them out. Auditors look to see that processes have been developed for fulfilling the various maintenance requirements, that organizations develop processes for their workforce to perform, etc.*

SCHEDULING PERIODIC MAINTENANCE AND INSPECTION

There are various proven methods for scheduling Periodic Maintenance and Inspection (PMI) activities. In addition to its role in preserving equipment, PMI is valuable as a tool for utilization assessment (Chapter 9 Utilization) and inventory by exception (Chapter 8 Physical Inventory).

PMI records should be maintained for both calibrated and uncalibrated assets.
When establishing the PMI schedule:

1. Prepare and process forms for each item of property requiring regularly scheduled calibration or preventive maintenance service recall.

2. When new items are acquired that will require scheduled service, identify requirements that will affect existing scheduled calibration and preventive maintenance recall provisions.

3. When existing equipment is recalled from storage or transferred between departments and routed for reapplication to uses resulting in a change in service requirements, initiate or reschedule (as appropriate) periodic service recall provisions.

4. Automatically discontinue scheduled calibration or preventive maintenance service for most items routed to storage unless, in unique circumstances, it is still required. Maintenance documentation or the advice provided by experts dealing which such property will determine if maintenance or calibration should be discontinued. When scheduled service is to be temporarily suspended during periods of inactivity within departments, suspend periodic service recall provisions. However, items in storage still require preservation and protection.

5. Prepare and/or provide calibration procedures, maintenance procedures, design drawings, service manuals, or other reference documents to the applicable service group(s) to identify service specifications and requirements.

6. Establish service frequency intervals and target service hours for each item of equipment to be serviced. Identify items and/or conditions under which automatic frequency index adjustments may or may not be automatically applied on the basis of past service history.

PERFORMING MAINTENANCE OF CALIBRATION

The Maintenance Department should:

1. Upon receipt of recall notification for items requiring calibration and/or preventive maintenance at designated intervals, perform the required service and record the service data.
2. Refer to service procedures or manuals for

the required service specifications and details of items to be serviced as specified in the recall notification (which may be in the form of a card or an online screen).

3. Where appropriate, coordinate and arrange for service to be performed by outside agencies or other service groups.

4. Apply calibration preventive maintenance labels or color-coded paint dots to serviced equipment to document the service to users.

5. Record the completed service.

6. Maintain a historical data file of certification documents for reference and transfer standards (that is, calibration devices).

7. Provide for the historical data file retention of property service records. When service is performed as initial calibration, functional acceptance inspection or operational maintenance required on a scheduled basis (or required to resume previously suspended scheduled service), ensure the records are updated to document the service performed. This should be done prior to the release of the item for use and scheduled service recall. Retain the initial service record in the historical service data file for reference information.

CALIBRATION AND PREVENTIVE MAINTENANCE LABELS AND MARKINGS

Calibration and preventive maintenance labels are an important part of any maintenance program, and should be used whenever possible.

Labels should be displayed in a conspicuous place on the equipment, preferably adjacent to the identification tag or markings. When subsequent service is performed, the old labels must be removed and replaced by new labels. Color-coded paint dots may be used for visible identification of service periods when the equipment is small or when service labels would interfere with its operation.

While each organization has its own labeling and coding system, industry standard label color codes and the information associated with the labels are as follows:

- "Not Calibrated Experimental" (Green) labels are applied to any instrument which would normally require periodic calibration but because of its "experimental" status, scheduled calibration is not justified.
- "Calibration Required Before Use" (Red) labels are applied to items which require calibration before operation, but have had scheduled calibration recall suspended during periods of inactivity or non-use. All calibration-controlled items must be so labeled when sent to storage.
- "Calibrated" (White) labels are applied to items calibrated on a scheduled basis. The label must show the identification number of the item, the date calibrated, the date recalibration is required, and the service technician's identification. When calibration is performed, the old label must be removed and replaced by a new label.
- "Calibration Void If Broken" (usually Red) seals are used in conjunction with calibration labels to prevent access to equipment when items must be protected against tampering. When test stations are calibrated as a composite system, seals are also applied to the major removable components contained within the station.
- "Special Calibration" (White) labels are applied to equipment requiring special calibration to an approved procedure developed from the manufacturer's specifications with modifications for special or unusual conditions.
- "No Calibration Required" (Yellow) labels are applied to items which do not require periodic calibration.
- "Preventive Maintenance" labels are applied to items for which preventive maintenance or cleaning is performed on a scheduled basis. The label must display the identification of the item, the date serviced, the next service date, the service representative's identification, and, if applicable, the service operation performed. When multiple service operations are performed at different intervals, a separate label must be applied for each operation performed.

UNSCHEDULED MAINTENANCE AND REPAIR OF PROPERTY

When unscheduled calibration, maintenance, or repair service is performed, the service or services should be documented. Unscheduled calibration, maintenance, or repair occurrences and costs should be recorded and, if desired, tabulated.

The cause of all major repairs *and the corrective action taken* must be recorded.

The event must be recorded when:

- Calibration, preventive maintenance, or repair service is performed on an unscheduled "as required" basis
- Inspection or repair service is performed on items damaged, dropped, become defective or inoperable, or experience other malfunctions between regularly scheduled service intervals

Regularly scheduled service operations should continue as scheduled and should not be interrupted or otherwise affected by an unscheduled service requirement. As an example of this: if scheduled maintenance (which includes lubrication) takes place on the 1st of the month but the using department calls to have the machine oiled on the 15th, the schedule should not be adjusted. The requested service should be performed but regular maintenance resumed on the 1st.

Repeated calls by a using department for unscheduled service should result in a review of the recorded reasons, and, if appropriate, an adjustment to the service recall interval.

REPAIR OR REPLACE?

Repair seems simple: "If it's broken, fix it." But, there's more to it than that. Suppose an item costing $500 new will cost an estimated $250 to repair, and history shows that it has already been repaired five times in the last two years. Because a vital component of any maintenance plan is the cost involved, a comparison must be made, and periodically reviewed, between the costs of repair and the cost of replacement.

This section addresses considerations and options when determining whether to repair or refurbish (that is, to restore to as-new condition), or to dispose of and replace property.

When repair occurrences and/or costs become excessive or when the reliability and functional operation of equipment has substantially deteriorated, refurbishment or replacement of the equipment should be considered. Areas for consideration:

- What is the repair threshold? The threshold most used by the government is 65% of the original acquisition cost, but private organizations usually set the rate as low as 50% and are more likely to use the record value, including upgrades, instead of the acquisition value. When repair or refurbishment costs exceed the threshold, the item is replaced.
- Criticality of the item. Is the item a line stopper? Will a failure shut down the operation?
- Availability of a replacement. Is a replacement item easily obtained? How much lead time is required to procure a replacement?
- Obsolescence. Is the item obsolete?
- Recovery of cost. Could the item be sold as is and some of the costs recovered?
- Reutilization. Could the repaired or refurbished item be used elsewhere in the operation?

AUDITING THE MAINTENANCE PROCESS

Consideration should be given to making Quality Assurance responsible for reviewing the entire process of maintenance and calibration. Regardless of who is responsible, the maintenance process should be audited at defined intervals:

- Periodically review calibration procedures, preventive maintenance procedures, and service specifications utilized by service groups.
- Monitor calibration and preventive maintenance procedures to ensure compliance with requirements by all departments.
- Establish audit programs and perform periodic reviews of the calibration and preventive maintenance system, documents and procedures to comply with contractual requirements.

- Perform periodic sampling inspections and surveillance of equipment to determine whether or not established service schedules and processes are adequate and reliable.
- Coordinate the necessary procedures to ensure suppliers' calibration and preventive maintenance systems are adequate and are being followed.
- Review listings of items for which scheduled calibration or preventive maintenance service has been delinquent for more than one (1) month. Investigate to resolve delinquencies with the applicable service groups and using departments.
- Verify resolved delinquencies have been correctly processed.
- Coordinate corrective action or measures required to enforce adherence to and/or compliance with service requirements.

WHO IS RESPONSIBLE FOR MAINTENANCE AND CALIBRATION?

In the end, everyone is! Anyone who has occasion to observe, use, or perform service on an item requiring periodic maintenance or calibration should:

- Notify the applicable control group of any items which are provided for use without calibration and/or preventive maintenance labels or color-coded paint dots but which require such service on a regularly-scheduled basis.
- Notify the applicable service group of any items for which:
  - Calibration or preventive maintenance labels or color-coded paint dots indicate scheduled service is delinquent.
  - Scheduled service has not been performed in an acceptable manner and/ or the performance and reliability of the equipment, after service, are not satisfactory.
  - Unscheduled service has not been performed after items have been dropped, damaged, become defective or inoperable, or experience other malfunctions or disorders.
  - "Calibration Void If Broken" seals are removed or broken on equipment which requires protection against tampering.
  - Scheduled service is temporarily suspended during periods of inactivity.

When scheduled or as requested by the applicable service group, users should transfer equipment to the lab or service facility for required service. Items requiring special handling must be serviced in the using department or collected by the service group for servicing in the service department and returned to the using department.

KEY CONSIDERATIONS FOR OUTSOURCING THE MAINTENANCE FUNCTION

Depending upon the size of the operation, the number and complexity of items of equipment, available resources, and the organization's level of knowledge and proficiency, consideration may be given to outsourcing the maintenance program. Many contractors will assist in determining maintenance needs, preparing a plan, and performing all or a portion of the maintenance and calibration of the equipment.

Factors to consider include:

1. Cost. Cost is always a key factor for both large and small operations. The cost of the necessary tools, equipment, materials, and the cost of labor required to perform maintenance, calibration and repair should be considered.

2. The level of in-house knowledge and proficiency. For a small operation with only a few pieces of equipment, it may be much simpler to outsource maintenance, calibration or repair to specialists. An alternative might be to outsource the portion of the work that cannot be effectively performed by organization personnel. For example, an electronics manufacturer might maintain, repair and calibrate their electrical test equipment, but outsource the maintenance of tools, dies, jigs, fixtures, and mechanical gauges.

3. The range of equipment or tasks. For an organization with a large number of similar assets, it may be more cost-effective and practical to prepare an in-house program and support it with the necessary tools and skills. When the equipment is complex, or when there are many different pieces of equipment or different tasks that must be performed, one or more specialist contractors should be

considered.

4. Turnaround time. When maintenance personnel are overextended, repairs and calibration may be delayed, regardless of their urgency. Outsourcing contractors may be able to perform the work in an expedited manner, and as an additional service they may provide loaner items while equipment is out for repair.

5. The cost and utilization of specialized equipment. Precision instruments and calibration equipment can be quite expensive, particularly when they are used infrequently. Additionally, test and calibration equipment must itself be regularly calibrated. Tracing the equipment's accuracy back to a widely accepted standard, such as the National Bureau of Standards, can be expensive as well as time-consuming.

SUMMARY

When an organization provides a product or a service through the use of physical assets, those assets must remain in proper working order to ensure the product or service can be provided on time and as advertised. If the property is owned by another and entrusted to the organization, failure to maintain it can result in demands for replacement or reimbursement and may limit opportunities for future work.

While not responsible for performing maintenance, property management is responsible for ensuring the well-being of the property owned by, or entrusted to, the organization. Although we may not be responsible for its performance, we must ensure compliance requirements are met from a property perspective.

In most organizations, maintenance consists of preventive maintenance, calibration, unscheduled maintenance and repair.

Items requiring regularly scheduled inspection and service should be scheduled for recall via a systematic process; that is, maintenance plan.

Calibration and preventive maintenance processes should be developed in accordance with manufacturers' specifications and recommendations, taking into account the equipment's application, type and degree of use, environmental conditions, etc. Experience and good practice must replace manufacturers' specifications when these are inadequate or unavailable. Once established, service processes should be routinely reviewed as requirements change to ensure they do not result in excessive (or worse, insufficient) maintenance.

An integral and necessary part of maintenance is the application of (usually color coded) labels or paint dots that indicate the equipment's service status. Preventive Maintenance labels are applied to items for which preventive maintenance is performed on a scheduled basis. Equipment identification, service date, and next service date must be shown; the service performed and the servicing technician's name may also be shown.

Unscheduled maintenance or repair must be documented, and for all major repairs the cause must be identified and recorded. Regularly scheduled service should not be discontinued nor rescheduled in the event of unscheduled maintenance or repair. Records of unscheduled service should be routinely reviewed to determine whether or not service schedule modifications are appropriate.

As equipment ages in service, repair costs normally increase. The cost and frequency of repairs should be systematically compared to the cost of replacement or refurbishment, and consideration given to the repair/replace-refurbish decision threshold, the criticality of the item, the availability of a replacement, obsolescence, and the potential for disposition and recovery of cost.

Whether by Quality Assurance or some other organization function, Maintenance should be regularly audited. In addition, the auditing function should coordinate corrective action to enforce compliance with service requirements.

Who is responsible for maintenance and calibration? Everyone is! In the end, it's anyone who observes, uses, or services an item.

CHAPTER NOTES

CHAPTER NOTES



MODULE 2 CHAPTER 8

PHYSICAL INVENTORY

PHYSICAL INVENTORY: THE DETERMINATION OF INVENTORY QUANTITY BY ACTUAL COUNT. PHYSICAL INVENTORIES CAN BE TAKEN ON A CONTINUOUS, PERIODIC, OR ANNUAL BASIS.

INTRODUCTION

The inventory is an essential process for which the Property Manager is responsible. In today's environment of increased regulatory requirements, current, accurate and verifiable property records are critical to all organizations that manage property and fixed assets.

The role of the physical inventory is to ensure the assets recorded in the property system physically exist, to determine if unrecorded or improperly recorded transactions have occurred, and to identify any excess, defective, or obsolete assets on hand.

This requirement is governed by various regulations including:

- Sarbanes-Oxley for the corporate sector
- Governmental Accounting Standards Board (GASB) requirements for state and local governments and public universities
- Joint Financial Management Improvement Program (JFMIP) for federal agencies
- Federal Management Regulation (FMR) for Department of Defense (DoD)
- The Federal Acquisition Regulation (FAR), for government contracts

Accurate financial statements, including asset value, are critical for validating the accuracy of the capital fixed asset portion of an organization's financial statement. In addition, a physical inventory serves to validate the effectiveness of the organization, agency, corporation, university, hospital or government property management system.

Certain conditions dictate conducting a physical inventory. Government agencies or contractors have to conduct periodic physical inventories to meet their own (or their oversight activities') regulatory or contractual requirements. Most government agencies, military organizations, state and local governments, universities and health care facilities are subject to regulations that dictate the frequency of physical inventories. The frequency and type will vary based on risk, value, reporting requirements, and inventory objectives.

If equipment or consumable items are provided as part of a contract, the contracting agency is rightfully interested in ensuring the equipment has been effectively controlled during the contract period of performance and consumables were used at a reasonable rate. In addition to routine, scheduled inventories, an inventory is normally required at the time of contract completion to ensure surplus and residual equipment or material is properly accounted for prior to disposition. If inventory results do not meet acceptable levels, a penalty may be assessed.

Other reasons for conducting an inventory are financial. It is a factor in the decisions surrounding corporate takeovers, mergers and the restructuring of companies, because the value of a company's equipment and consumable items may significantly affect its total value. A physical inventory is a strong indicator of the effectiveness of the company's property management system as well as a means to verify the condition of the equipment that will be included in the corporate transaction.

Today, there are appraisal firms whose primary purpose is to conduct inventories of tangible, as well as intangible, assets to assist corporate executives in making the best possible business decisions.

Other financial purposes of an inventory are related to taxation and depreciation. Depreciated property and plant equipment inventory values are a major factor in computing federal, state, and local taxes because the taxes on inventory are based on inventory value. The property manager must ensure assets being depreciated are physically on hand.

THE VALUE OF THE PHYSICAL INVENTORY

A physical inventory is one of the best barometers of the health of a property management system. For example:

- Significant discrepancies in count may indicate theft, poor security, inadequate documentation of receipts and issues, or a multitude of other problems in controlling assets.
- Location errors indicate potential problems in documenting movement, inadequate training of property custodians, or poor record keeping.
- Locating (finding) equipment that has not been posted to the property management system may indicate inadequate interfacing with procurement, lax procurement practices on the part of staff, or failure to report the acquisition of assets.
- Property not located at the conclusion of inventory reconciliation may indicate problems in movement or disposition processes, or a lack of interest or training in caring for the property by users and/or property custodians.

Environments with highly decentralized procurement and property management procedures, such as universities, are particularly prone to these problems. Whatever happens to be the case, discrepant inventories are indicators of a flawed or inadequately-managed system.

There is another value of the physical inventory:

- Verifying good records and completing or correcting inadequately-maintained records. Most property management systems record the status of property, such as active, standby, or excess, and its condition, e.g. good, fair, poor, etc. In the absence of complete and current property status data, the physical inventory can be used to determine if property is still being used or is available for reutilization, and if it is in serviceable condition.

There are other factors to consider, including:

- Organizations can more confidently do contingency or capacity planning when such planning is based on an accurate physical inventory.
- When conducting an inventory of computers, system configuration can also be validated.

However it is calculated, the total value gained from well-managed physical inventories that have been conducted at the appropriate intervals will usually far outweigh their cost and the disruption they cause.

FREQUENCY OF INVENTORY

Inventory frequency may be set by the federal or state government, a government contractor, or an agency that has a fixed policy on the conduct of inventories. When inventory frequency is not externally mandated, the property manager must decide. Because physical inventories can be costly, they must be conducted in a cost-effective manner and only as often as required.

For equipment and certain other items, inventory frequency is largely determined by the type of property to be inventoried. For example, sensitive property such as precious metals or ammunition and explosives require far more frequent inventory oversight than a piece of plant equipment. Further, special or limited-use items such as molds or dies require less oversight than equipment that has common household usefulness (e.g. hand tools). Therefore, frequency for these items is dependent on more than just the value of the inventory.

Periodic Inventories
Periodic inventories are conducted at predetermined intervals. Unless specified by regulation, contract terms, or some other criteria, the interval is usually based on the type, location, and value of the property and on the reliability of the property management system.

Periodic inventories can take as long as the established interval or they can be completed in a short, specified time period. If it is a triennial inventory the organization can take the entire three years to conduct and complete the inventory.

"Continuous" or Cyclical Inventory (Inventory by Exception)
Although the frequency is considered "continuous", there is a fixed beginning and ending to the inventory cycle. Every time an item is physically or electronically touched, and the transaction is recorded, it counts as an inventory. This includes maintenance, calibration, moves, and transfers between users or custodians, or electronic inventories of computer networks. In recent years, technological advances have made this method of inventory possible. Near the end of the inventory cycle, a report is run of all assets that have not been updated during the inventory period. These items become the 'exception' that must be located in order to complete the inventory.

Roving Equipment: Equipment that moves frequently is more prone to loss*. This is not necessarily due to theft, but because the item can either be one step ahead of or behind the inventory takers, or because record updates cannot catch up to the items' movement. Test equipment, rolling stock (such as forklifts, dollies, and tractor-trailers), and reusable transfer-type containers may avoid inventory verification for years while never leaving the installation. The best way to handle roving equipment is inventory by exception.

Note: *In this context, "prone to loss" means the location of an item is not likely to be reflected in the record.*

Pilferable: Portable computers, photographic equipment, and similar items of property move frequently and are considered pilferable, resulting in a requirement for special control measures. These assets are also prime candidates for inventory by exception.

Inventory Frequency Based on Type of Equipment
While federal, state, and local regulations govern how frequently items containing nuclear material, carcinogens or other hazardous components have to be inventoried, property that is not subject to such regulations may require more frequent inventory due to its material content, sensitivity, potential for theft, or because it requires special control measures.

In recent years, computer equipment has been replaced often due to obsolescence. Items that become obsolete after a few years require frequent inventory since they are usually part of a replacement plan. Techniques such as on-line inventories of computer equipment through network administration have made the inventorying of computers significantly more accurate and timely.

Inventory Frequency and Security
If a facility is a secure environment and security personnel conduct checks of staff members entering and leaving the facility, the frequency of inventory may be reduced. There is less potential for theft or loss, since the property is used in a secure area.

In contrast, some organizations have limited security, property moves often, and there are virtually no restrictions on the entry and departure of staff or visitors. Universities are particularly difficult to secure due to the open academic environment, decentralization of property management, and numbers of faculty, students and visitors who roam through university buildings with limited restrictions.

Frequent, random inventory validations are advised in these types of environments. If inventory results reveal a significant amount of missing property, it may be necessary to institute security measures and increase the emphasis on individual accountability.

Inventory Frequency for Consumables
Consumables, which include repair parts, material, expendable tools, components, and spares, should be inventoried periodically by quantity (usually by part number) and the results of the physical inventory should be compared to the quantities shown in the record.

Depending on the type of business, record accuracy may significantly affect operational support, customer service and business success. Generally, when systems fall below a 95% accuracy level, system integrity is jeopardized. This results in shortages or excesses, over-ordering (which generates inflated inventories, increased cost-to-hold and high obsolescence) or under-ordering (which leads to low productivity, missed schedules, late deliveries, excess expediting and freight costs, insufficient stock, and the inability to support spares requirements).

TYPES OF INVENTORIES

Contract Termination Inventory
If the property to be inventoried is associated with a contract, a 100% inventory must be conducted at the end of the contract and property disposed of in accordance with contract provisions. The contract remains open until all assets have been accounted for and have been properly disposed of or transferred.

Wall-to-Wall
A wall-to-wall inventory is a scheduled inventory of all items within an identified area. This type of inventory is recommended only when the range and depth of stock is small and a complete inventory can be easily performed. A wall-to-wall inventory may also be required if a statistical sampling is conducted and the result is a failure based on the expected goal; that is, if the sample's inventory accuracy results are lower than expected.

ABC Inventories
The "A,B,C" method of cycle counting is popular because it emphasizes conducting inventories of the most critical items the most often. Some organizations stratify by usage, others by cost, and others by availability, or by a combination of all three. "A" items may be defined as the highest cost or most critical, which may include such factors as high usage, critical to a production process, long lead time, or fabrication to specifications. "B" items are lower in cost and/or usage than "A", but critical to manufacturing or production. "C" items are typically low cost and/or usage items or perhaps items readily available locally.

However they are defined, "A" items are inventoried the most often, followed by "B" and "C".

Statistical Sampling
An aspect of addressing inventory cost/benefit issues is deciding how many different items out of the entire inventory must be counted. Performing a 100% inventory may not be cost-effective for low cost consumable items, while anything less would involve too much risk when the items are costly, difficult to acquire, or critical.

Sampling plans, based on the laws of probability, may be used. A certain number of items are sampled, and the results of the sample are taken to represent the entire inventory. Of course, the smaller the sample, the higher the risk. Acceptable risk factors can be computed and used to determine the sample size.

THE INVENTORY PLAN

The creation of a detailed, specific plan is most critical to a successful inventory. If a detailed plan, with specific objectives, is not developed, the inventory will probably not be successful. Inventory planners should consider the following:

1. Specific inventory objectives, such as:
   - Meet contractual requirements
   - Verify asset or consumable item locations
   - Determine the value of assets or consumables for appraisal or tax purposes
   - Determine the condition of assets
   - Validate the accuracy of property record information
   - Confirm accountability information
   - Verify components and asset configuration. Are the components included with the item either on record as part of the item or shown as being at that location?

2. The specific types of property to be inventoried, such as:
   - Capital assets
   - Contract assets
   - Sensitive items
   - Real property, such as buildings or land
   - Materials, consumables, expendables

3. The inventory time frame, including specific start and completion dates.

4. The method of taking the inventory:
   - Electronic (scanning barcodes)
   - Tagging or marking each item
   - Via other methods such as inventorying computer networks and using movement records

5. Personnel conducting, coordinating, and supervising the inventory must be identified and notified. Planners must ensure participants understand the details of the plan.

6. Personnel who are selected to conduct the physical inventory should not be the record keepers and nor should they be accountable personnel. To materially assist and to preclude conflict of interest, organizations may bring in inventory personnel from other departments to conduct inventories and assist in reconciliation.

7. Determine inventory strategy (conduct sweep by buildings or rooms, inventory by accountable or responsible individuals, inventory of items in custody of individuals, inventory items located at alternate locations) and identify locations to be inventoried.

8. Determine the information to be collected during the inventory.

The inventory plan must also consider:

- Conducting the inventory to accommodate daily schedules
- Whether or not to load property numbers into scanners to permit immediate validation
- Data upload strategy (where applicable)
- Controls to be put on items being inventoried. Decisions must be made as to freezing assets or consumable stock during inventory periods. If the movement of assets or the issue and receipt of consumables during inventory periods is permitted, it must be carefully monitored. In a warehouse environment, selected parts of the stock on hand can be frozen during the inventory and then released after the inventory is posted.

As part of the inventory plan, a quality assurance plan must be developed and adhered to deal with inconsistencies. If problems are not identified immediately, reconciliation becomes difficult and time-consuming. After the initial inventory pass, at least 10% of the items in each area should be verified independently.

Although inventories conducted today usually involve using electronic scanners and Personal Computer (PC)-based and often mainframe-based software, the collection, management and updating of information must be carefully monitored and validated. Inaccurate inventories are often blamed on system problems; in reality, they are more commonly due to inadequate quality assurance planning.

There must also be contingency plans to handle the unanticipated occurrences, such as, emergency movement of property, problems with equipment, the replacement of key personnel, etc.

During the planning stage, inventory planners should meet as often as necessary with coordinators, inventory takers, supervisors and users in the inventory area. There should be no surprises when the inventory team arrives and begins to count. All participants must agree to the plan and the schedule. If there are conflicts, they should be resolved before the inventory begins.

CONDUCTING THE INVENTORY

Once the plan has been developed and agreed to by all participants, and the participants thoroughly briefed, the inventory is ready to be conducted. The most critical element in conducting the inventory is following the plan to the letter. All participants must know their roles and perform them in accordance with the plan.

1. Distribute the plan, including maps or layouts of the inventory area, to all participants and set the schedule. Publish reports showing the number and types of items in a given building or project area that are on the schedule to be inventoried that day, along with their location.

2. Meet with the inventory takers and review the process. Each inventory taker must know the locations and assets he or she is to inventory each day.

3. Brief the inventory coordinators and area supervisors as to the schedule, the locations to be inventoried and their responsibilities. The coordinators are responsible for ensuring the number of assets to be inventoried is reasonable and sufficient personnel are available to complete the inventory in the allotted time.

4. Where appropriate, conduct housecleaning. Supervisors and users in areas to be inventoried must do a complete “housecleaning” before the inventory takers arrive. In an office environment, items should be removed from desk drawers, closets, boxes, etc. so everything is inventoried. Also, there are often items in overheads, under floors, on the roof, etc. If everything to be inventoried is not easily located, both the inventory and the reconciliation will be difficult and time-consuming.

5. Provide instructions to asset holders that no items are to be moved or transferred, nor any records updated, until the inventory in that area has been taken and validated by quality assurance.

6. To ensure items are inventoried, they should be marked by a means unique to the inventory to signify they have been counted.

7. Discrepancies are usually by omission. Double counting can usually be resolved easily, especially since most inventory software programs include the time of inventory.

8. Before moving to the next area, resolve discrepancies with the assistance of the inventory takers, area supervisors, and coordinators.

9. Conduct reviews of progress with area supervisors on a regular basis. Two-way communication between the coordinators and takers of the inventory and the supervisors and workforce in the area must be consistent during the inventory. Meetings should be held daily, or as needed, to discuss problems and resolve them immediately.

THE RECONCILIATION

The reconciliation is arguably the most important phase of the inventory. For consumable items it is a comparison of two sets of records: the actual inventory count and the last recorded on-hand balance. For assets, reconciliation is the location, notification of the accountable organization, and posting of items not found during the initial inventory.

The difficulty encountered during the reconciliation is usually directly proportional to the effectiveness of the organization’s property control system. If records of receipt, movement, transfers and disposition are posted accurately and in a timely manner, the reconciliation is a relatively easy process.

Consumable Item Reconciliation

1. Compare the count with the inventory record balance, then compare the difference and measure it against a previously-established variance. This variance can be either dollar value or count. If the inventory is conducted as part of a contract requirement, prior agreement as to the acceptable variance should be reached with the contracting officer. If the count and record balance are within the acceptable variance the adjusted balance is reflected on the record and there is no further action required. Acceptable variance may be zero.

2. If the variance is not acceptable:
   - Check to ensure all documents have been processed.
   - Double check the identity of the items in question to ensure that they have been correctly identified.
   - If neither of the above resolves the problem, recount the items.
   - If these steps do not resolve the problem, an inventory adjustment is required. If the system is under a contract, approval may be required, depending on the variance error.

If the same items repeatedly cause problems, pay attention to those in future inventories. Count the item(s) persistently. The pattern of issues, the items' potential for theft, etc. could lead to finding the cause.

Typical sources of problems include:

- Poor forms design
- Poorly trained personnel
- Carelessness
- Poor control over transaction documents
- Poor operations control of record posting

Even in the best-run organizations, there will normally be variances, so after reconciliation is completed, levels of approval should be established. Typical levels of approval are shown in Figure 8-1.

Variance	Approval Required
Within acceptable variance	Accept automatically
Up to $100	Storeroom supervisor
$101 to $500	Inventory control supervisor
$501 to $1,000	Production and inventory control manager and plant accountant
Over $1,000	Materials manager and Controller (financial)

Figure 8-1 Approval Levels

Asset Reconciliation

The reconciliation of asset inventories varies, depending on the objectives of the inventory.

If the inventory is strictly location verification, the reconciliation only entails ensuring the asset was inventoried and the location was valid. The inventory takers may assist in the effort.

- Listings of assets inventoried and those not found are generated at the end of the inventory.
- The listings are provided to the owning organization so the users may attempt to locate the missing items. There will be a search for assets that have not been inventoried.
- If an asset is found to be in a different location than shown in the records, it is either moved to its indicated location or the record is adjusted to reflect its new location.

If there are other objectives, like categorization of assets, condition code validations, or utilization reviews, the reconciliation becomes more complex.

If assets are not located during the reconciliation, the using organization must examine its records to determine if the asset has been loaned, transferred, moved, or disposed. If none of these conditions can be documented, an investigation is conducted (unless the asset's value is below a predetermined threshold) and action is taken to adjust the property record.

A report is filed and authorization is requested to adjust the record. The authorization process varies, depending on the value of the asset and the policy of the owning organization. As with consumable items, the value of most items usu-

ally determines who is authorized to approve the record adjustment. Assets with high acquisition cost, contain hazardous material, when items are considered pilferable, or areas with repeated poor inventory results these conditions should all receive particular attention.

If the asset is under contract provisions, the contracting officer or a delegated representative must approve the adjustments.

REPORTING REQUIREMENTS

At the close of the inventory, if the inventoried property is part of a contractual requirement, a report must be generated and provided in accordance with the terms of the contract. If the inventory is conducted at a hospital, university, manufacturing concern, corporation, or other business entity a report is provided to management.

It may not be a fair assessment, but the success or failure of a property manager is often based on the results of inventories.

THE INVENTORY SYSTEM

An inventory system can be as simple as handwritten tickets and a manually-updated record or as complex as a fully-integrated, network-based system that incorporates a range of capabilities.

Property managers can choose from a variety of inventory software programs, from those providing basic location verification to ones providing a wide range of information. Some of these can be customized. The property manager must decide what information is to be collected, what system best suits the needs of the property organization, and how much administrative and technical support will be needed.

DATA COLLECTION

The amount of data to be collected is usually determined by the confidence the property manager has in the property management system. If description, location, type of property, physical characteristics and custody information within the company are considered relatively accurate, the primary objective may be to just verify the location and update the record. If there are accuracy problems with one or more of these data elements, the property manager may want to verify one or many fields in the record.

The capability of today's barcode scanners to store a large amount of information allows the validation of many data fields. It may be useful to pre-load all of the expected barcode numbers into the scanner to validate the property numbers during the conduct of the inventory. If data will also be validated, it would be advantageous to also pre-load expected locations, descriptions, custody information, etc.

The more information to be validated at the point of inventory, the more time the inventory it will take. Providing barcoded locations and other key information for easy reference will speed the process.

Typically, inventories using barcode scanners are conducted by building or by department.

1. Determine a starting point in each room and examine all property to determine if it is tagged.

2. Scan each tag, entering the location (and department if necessary) into the reader.

Personnel unfamiliar with the property being inventoried may be able to make the first pass, collecting the data. However, personnel familiar with the property are necessary during the search for items not located during the first pass.

Note: *Not all items, such as low dollar furniture, will have barcode tags. Tagged items are scanned; untagged items are either entered on a spreadsheet or manually entered into the scanner, or may not be inventoried at all*

OUTSIDE SUPPLIERS OF INVENTORY SERVICES

For any of several reasons, including a lack of internal resources or concerns about conflicts of interest, an organization may choose to hire an outside firm to conduct its inventories.
These firms may provide hardware (scanners, interfaces, personal computers, etc.); software (scanner, PC-based, download programs, etc.); barcode and/or Radio Frequency Identification (RFID) tags, and personnel to conduct the inventory.

The property manager must decide what information is to be collected, the requisite level of confidence in the results, and how much in-house support will be needed.

When an outside firm is hired to conduct an inventory, the property manager must closely monitor their process, support their activities with knowledgeable staff, and conduct quality assurance verification of their results.

SUMMARY

The inventory is an essential process for which the Property Manager is responsible. A successful inventory is an accurate, and highly visible barometer of a sound, efficient property management system.

The role of the physical inventory is to ensure the assets recorded in the property system physically exist, to determine if unrecorded or improperly recorded transactions have occurred, and to identify any excess, defective, or obsolete assets on hand.

Inventory frequency may be set by outside agencies, but when it is not, the responsibility lies with the property manager. Asset value, degree of sensitivity (e.g. hazardous materials), facilities security, and pilferability must be considered and measured against the cost and disruption of an inventory.

When property can be tracked by maintenance or calibration records, moves, and other recorded transactions, inventory by exception may be the preferred method of inventory.

Another alternative to a full physical inventory is statistical sampling based on risk. Statistical sampling is recognized as an acceptable technique in conducting physical inventories. As long as the risk factor is specified in advance and approved in the property control system procedures, items may be randomly sampled and the results of the sample taken as representing the whole. The government requires a 90% confidence level, that is, 90% of the inventory must match the records. If the samples prove deficient, a 100% inventory must be performed and the deficiencies corrected. Other organizations set their own confidence levels.

A successful inventory is not possible without a detailed, specific plan that is followed by all involved. Inventory objectives, the type of property to be inventoried, the time frame, how the inventory will be taken, who will take it, the information to be gathered, and many other questions must be answered and the answers made known to everyone involved.

An integral part of the inventory plan is the quality assurance plan, both as a means of avoiding problems and as a way of immediately and effectively solving those that arise.

The reconciliation is arguably the most important phase of any inventory. For consumable items it is a comparison of two sets of records: the actual inventory count and the last recorded on-hand balance. For assets, reconciliation is the location, notification of the accountable organization, and posting of the items not found during the initial inventory.

The smart property manager can use the inventory and reconciliation process to identify problems in the property control system and use the inventory as a corrective action tool.

CHAPTER NOTES

CHAPTER NOTES



MODULE 2 CHAPTER 9

UTILIZATION

UTILIZATION: (1) THE MAKING USE OF. (2) THE DOCUMENTED USE OF AN ASSET IN THE BUSINESS PROCESS. (3) THE ACT OR PRACTICE OF EMPLOYING SOMETHING. (4) THE LEGAL ENJOYMENT OF PROPERTY THAT CONSISTS IN ITS EMPLOYMENT, OCCUPATION, EXERCISE, OR PRACTICE.

INTRODUCTION

The primary objectives of an effective utilization management program are 1) to maximize the use of an asset throughout its useful life and 2) to make it available for reutilization in a timely manner should it become idle. “Useful life” is determined by industry standards and is the hours of operation that can be reasonably expected from an asset, provided the asset is well-maintained.

An effective utilization program is one way for property professionals to demonstrate prudent stewardship of the assets for which their organization is accountable. It is also a key element in preventing or minimizing any unnecessary or unauthorized disposal of assets over which the property function has control.

Utilization encompasses the series of activities involved in placing an asset into use and tracking the asset’s use throughout its life. It is perhaps

the most misunderstood process among property management personnel. It is particularly challenging because there is no defined "best practice" or discipline readily available to guide the management of property utilization. A complicating factor is the degree to which utilization is tracked within an organization may be affected by various factors that include the type of asset and the type of organization managing the asset (e.g. hand tools vs. capital equipment, manufacturing vs. Research & Development, etc.).

Property personnel must combine several basic business concepts and control processes to make certain the following core elements of a utilization management program are in place:

- A method of ensuring assets are utilized for the purpose they were acquired. If assets are to be used for another purpose, there must be a mechanism for requesting and obtaining authorization.
- A mechanism to ensure the level of use assigned to each asset is maximized during the life of the asset.
- A means to identify when an asset is idle and available for shared use or transfer.
- A method of effectively communicating the availability of an asset for shared use or transfer and facilitating its relocation to support the new need.
- An effective process for periodic utilization assessment or review.

The property manager must ensure assets contribute to an organization's profitability, or in the case of a non-profit or not-for-profit organization, its capability.

The property manager must also consider the activities of several departments or functions in developing and implementing a process for reporting that provides highly visible information to management with respect to asset performance. The reports must support the business objectives of the organization, rapidly identify problem areas, and provide recommended solutions.

When used effectively, a utilization management program can be used by the property manager to improve the organization's efficiency, effectiveness and bottom-line performance.
This chapter concludes with a discussion of the reutilization or redeployment of assets. The effective reutilization or redeployment of assets allows organizations to maximize the return on their investment in assets and capital funding.

THE ROLE OF THE PROPERTY MANAGER

All of the property manager's utilization work must be directed toward maintaining and improving the organization's operation and profitability with the assets and material it has. It is the property manager's role and responsibility to establish, monitor, report the results of, and change the process so that it clearly provides value to the organization.

It is important the property manager document the events and report the results of the utilization program to management because a great deal of this activity can happen without management's specifically knowing where the property manager's input was made or what value was added.

Because management is concerned with meeting the organization's business objectives in a cost-effective manner, the property manager must focus on the utilization program's monetary benefits.

Being actively involved in the reporting process (and getting credit for it) demonstrates the value of property management to the organization. The reporting process is also important to determine how the information gathered can be used to make the utilization plan better. The property manager should use this information as a tool and be able to discuss specific situations with management in planning meetings.

As an example, money was wasted on an asset that was leased on a monthly basis is now sitting idle because of a line shutdown. Perhaps an hourly use rate should be arranged for this equipment in the next contract.

Property managers must stay on top of such issues and be able to identify valuable asset-related performance improvements and communicate regularly to upper management.

The property manager must also establish, support, and maintain the utilization program by ac-

tively participating in the management processes that establish and adjust the requirements on which the business is based. Some, but not all, of these processes are:

1. Creating and maintaining the annual business plan
2. Production scheduling
3. Material requirements planning
4. The activities of material overage and shortage teams
5. Capital appropriations scheduling
6. Five-year business planning
7. Creating and maintaining the long-term capital plan
8. Generating new business plans
9. The activities of production performance teams
10. Performing equipment readiness reviews
11. Managing current leases and proposing new leases
12. Managing current agreements that provide property
13. Developing and proposing new agreements that provide property

Note: *There may be other areas that warrant attention, and property professionals should be aware of anything going on that relates to material issues and the management of assets.*

Talk to management in language they will understand. Be prepared with good reports and recommendations. Explain how your program influences the profitability of the company or expands the capability of the organization. Do not be reluctant to take credit; your effectiveness (and your career future) may depend on it.

AUTHORIZED USE

Within the organization's policies and procedures, both the appropriate use of assets and who is authorized to use them must be identified. All assets are acquired for a planned use. If the planned use is described in general terms, the actual utilization will be determined when the asset is put into use.

The use of assets for a purpose not identified in the organization's plan can create shortages and prevent the organization from achieving critical objectives. Using assets provided by another entity for an unauthorized purpose can create cost overruns in the program for which they were provided or create a liability for the organization. For these reasons, and others, the authorization request should include, at minimum, the following:

- A list of the property and its critical attributes (what the item is; components, if any; and tag, serial, and model numbers, etc.); value (acquisition cost, Net Book Value, etc.); and original funding source
- Current title or ownership
- The location of the property
- The accountable department or organization
- The department or organization for which use is requested
- The purpose for which the property is needed and the expected benefits of such use
- The period of requested use, specifically stating the start and end dates

A copy of the written authorization must be maintained in all the pertinent files, and the records for each asset involved should be annotated accordingly.

For loaned property, a procedure must also be implemented for notifying the responsible parties when the end date is drawing near so the appropriate steps can be taken to either extend the loan period or return the item.

Note: *The period the equipment used on a borrowing agreement cannot be longer than the period-of-performance of the owning department's project. Period-of-performance is a contractually specified period for accomplishing a task or project, typically defined with "start" and "stop" dates.*



USE FOR INTENDED PURPOSE

The property manager must conduct periodic reviews to determine if items are being used for the purpose for which they were acquired and to report inconsistencies to management along with their associated impact and/or risk. As has been mentioned:

- Material or assets being used for a purpose not identified in the organization's plan can create shortages and prevent the organization from achieving critical business objectives.

- Using material or assets provided by another entity for an unauthorized purpose can create cost overruns in the program for which they were provided or could create a liability for the organization. If the material or property is in short supply, or not available, it can make the problem more serious and increase liability.

Besides identifying instances of misuse, periodic reviews may discover situations in which material or assets are excess to identified requirements. It may be appropriate to review the minimum/maximum buy (purchase quantity) for those items and adjust the quantities ordered.

POLICIES AND PROCEDURES

The property manager must ensure necessary policies and procedures relating to the control of property are in place, and they support the business objectives of the organization. Policies should inform employees as clearly as possible that assets are provided for business purposes only, are for the support of authorized organizational objectives, and must be periodically justified for retention.

Requirements must be clearly spelled out to the workforce in the procedures to make management objectives clear and prevent conflict in the program. Two important concepts must be conveyed so the process works effectively and provides the necessary information:

- First, property and material must be used only for the purpose for which they were acquired and must be declared excess (see note below) when the original requirement has been met. Procedures must take into consideration, at least with respect to assets, that an item may be satisfying several requirements at the same time.

- Second, complete, accurate documentation must be maintained. It is important the required information be documented because the property manager's task is to measure actual use against planned use. If documentation is incomplete or inconsistent, the reporting process will be compromised.

Note: *The term "excess", when used to describe property, refers to property that is no longer needed for the purpose or program for which it was acquired. An item that is declared excess is presumed to be in good usable condition and available for transfer.*

MEASURING THE EFFECTIVENESS OF THE UTILIZATION PROGRAM

It is impossible to effectively monitor all activity, so the property manager must stay on top of key business issues relating to the organization and measure the areas providing the greatest return. There should also be some general monitoring of actual asset and material use in the program. This can be accomplished with random sampling programs focused on risk and return of investment.

The property manager should also review all issues arising during day-to-day operations and determine if there are any solutions from an asset management perspective that can provide value to the organization. Several examples are shown below, but for the most part doing this requires knowledge of the business operations and some creativity in asserting oneself in these situations.

- When product or job cancellations occur, investigate to see if there is equipment involved:
  - Is leased equipment involved?
  - Can it be returned to reduce cost?
  - Also to reduce cost, are maintenance and calibration schedules adjusted for the inactive equipment?
  - Can work be brought in from other facilities?

- When equipment breakdowns occur:
  - What caused the event?
  - Is the maintenance plan working effectively to prevent recurrence?
  - Is the asset meeting the manufacturer's advertised availability rates?
  - Is there any recourse with the manufacturer?

- When programs slow down:
  - Are all the assets still needed?
  - Can required calibration and/or maintenance be re-scheduled into the downtime to make the assets more productive when the work comes in?
  - Can the work be outsourced?
  - Is it possible to lease instead of own?
  - What are the cost benefits of these alternatives?

- When the business or product base change:
  - Are all of the buildings or equipment still needed?
  - Should assets be sold and replacement assets leased?
  - Can the function be outsourced?

All proposals should include clear, concise statements of facts, alternatives, and their impact on the organization.

REUTILIZATION

A reutilization program identifies items that are excess (as defined above), idle, or no longer needed by one function or department within an organization, and manages the transfer of the assets to a location that has a known requirement. Such a program is extremely important to the organization and its ability to maximize return on assets.

A reutilization program is perhaps the one program the property manager can establish that provides instant visibility and acceptance of the property function.

One of the property manager's toughest obstacles when setting up a reutilization program is the fact people and departments take ownership of their assets and are generally not willing to share. This cannot be tolerated and must be addressed with management because it has a dramatic impact on efficiency and profitability.

Some obvious benefits of property reutilization programs are they:

- Stimulate the identification and prompt reporting by departments of excess property
- Preclude unnecessary acquisitions of new property by a department when excess property is available in another department to meet the need
- Transfer excess property to fill authorized program requirements that might otherwise be limited by inadequate funding
- Reduce the risk of unauthorized utilization

To have a reutilization program that works effectively, the property control system must accurately identify excess, obsolete items (which may still be fully adequate for certain purposes) as well as property that is no longer required.

Reutilization programs should be established up front in the record system, along with the utilization programs, and must clearly identify any potential candidates for reutilization so reutilization becomes institutionalized within the business process.

One way to monitor potential candidates for reutilization is to enter a status of "Standby" in the property record. This status identifies property with a future requirement, but is not needed at the present time.

The standby status, coupled with the dates the property will be idle, provides important information to the reutilization effort. Often assets are received in advance of scheduled project work or there are lulls in production that free up assets for a period of time. Users of the database will readily be able to identify assets available for reutilization and take action to borrow them.

Reutilization is the first step in the disposition process. The disposition process should include a review of all items declared excess to determine if there is a current need in another department. The process should include a review of other departments' open requests for property and provide for the transfer of the assets to the requesting departments.

Note: *Excess property differs from property classified as Standby in that excess property is property no longer needed in the performance of the contract or function for which it was acquired. Reutilization should be documented for reporting purposes because funds that were earmarked for the acquisition of items already available in the system can be used to satisfy other outstanding requirements. A double win!*

Screening: Another important step is to review future work due in and proposals that may have requirements for items which are candidates for reutilization. In addition to saving money on the acquisition of equipment, doing this will prevent emergency ordering and any possible delays in product delivery, thereby providing additional cost savings.

The property managers of each location, division or organization should work together by sharing information with respect to excess property that could be used at another location within the organization. This process is called internal screening. Screening is the process of comparing property on hand against a known or anticipated requirement so internal screening would be screening within the company or organization having ownership of the property. When the internal screening at any location does not identify a need, the item should be reviewed by the other organization locations as a way to defer or avoid the cost of buying a new asset.

The property manager must deal with several issues and/or restrictions affecting the potential transfer when items are transferred between locations. For example, there may be limitations or restrictions that stem from terms and conditions associated with the initial source of funding for the asset.

There should be an overall corporate plan to guide how these transactions are to take place. Because most issues deal with compensation and cost, the policy must clearly state what happens to any remaining book value or depreciation on the asset, who will pay for transportation, taxes, etc.

While these are difficult issues, they must be solved. Needless to say, the policy should be a guideline and there should always be an avenue for negotiation. It is in the best interest of the organization to reutilize all assets and achieve the highest return possible.

Reutilization: the key points: By way of summarizing this discussion of reutilization, the developer of a property utilization/reutilization program should consider the objectives shown in Figure 9-1.

Objectives
Reduce or eliminate unnecessary expenditures for duplicate assets.
Reduce costs in the areas of storage, security, and physical inventory.
Reduce the risk of unauthorized utilization.
Stimulate the identification and prompt reporting of excess personal property.
Transfer excess property to fill authorized program requirements that might otherwise be limited by inadequate funding.

Figure 9-1: Objectives of a Utilization/ Reutilization Program

The most effective way to promote a reutilization program is to provide incentives so there are benefits to the user for declaring the item excess and to the prospective owner for obtaining or accepting the item. The property manager can create a scorecard and report reutilization statistics to upper management by department or division. An effectively marketed program will result in friendly competition.

SUMMARY

The primary objectives of an effective utilization management program are 1) to maximize the use of an asset throughout its useful life and 2) to make it available for reutilization in a timely manner should it become idle.

It is the property manager's role and responsibility to establish, monitor, report on and, if necessary, change this process so it provides value to the organization in a way that is visible to management.

The property manager must also establish, support, and maintain the utilization program by actively participating in the many management processes that establish and adjust the requirements on which the business is based.

A utilization management program must provide a means to:

- Ensure assets are used for the purpose for which they were acquired
- Authorize and track utilization for any different purpose
- Maximize the degree of use of each asset
- Identify when an asset is idle and available for shared use or transfer
- Communicate information potential users
- Facilitate necessary relocation
- Periodically review and assess the utilization of each asset

Because all assets are acquired for a planned use, both the appropriate use of assets and who is authorized to use them are identified in the organization's policies and procedures. Any unauthorized or inappropriate use could result in program shortages, increased costs, and, in the case of assets provided by another entity, in liability for the organization.

Both to provide value to the organization and to provide visibility for the property function, the utilization program should be regularly monitored for effectiveness. General monitoring of asset use should be performed, along with the measuring of areas providing the greatest return.

An effective *reutilization* program can provide immediate and significant, benefits to the organization and enhanced visibility and acceptance for the property function.

The property manager should play an active role in identifying and pursuing opportunities to increase asset utilization and reduce the cost of acquiring and holding assets. All proposals to management should include clear, concise statements of facts, alternatives, and their impact on the organization.

CHAPTER NOTES

CHAPTER NOTES



MODULE 2 CHAPTER 10

CONSUMPTION

CONSUMPTION: (1) THE PROCESS OF INCORPORATING MATERIAL INTO AN END ITEM OR OTHERWISE USING IT IN THE PERFORMANCE OF A DOCUMENTED BUSINESS OBJECTIVE. (2) THE MEASUREMENT OF THE ACTUAL USE OF CONSUMABLE ITEMS AGAINST PLANNED USE.

INTRODUCTION

As both “consumption” and “utilization” relate to “use” it is beneficial to distinguish between the two.

- Relating to property management, non-expendable or non-consumable property is “utilized.” It doesn’t lose its identity when used. Within the categories or types of property, fixed assets, controlled expense items, tooling, and test equipment are utilized.
- Assemblies, components, parts, raw and processed materials, and small tools and supplies are “consumed” in their planned use during the achievement of business objectives.

To meet the goal of benefiting the “bottom line” (whether it is net profits or some other measure) requires comparing the actual use of consumables and those items deemed expendable to the planned use as established by the project or organization. Because needs frequently change, the planning process is dynamic and planned use must be constantly reviewed and adjusted.

CONSUMPTION PROGRAMS

Effective consumption programs provide valuable information to support the planning, production, and day-to-day operations of a business. While consumption programs are primarily designed to protect against the loss or theft of inventory, effective programs can improve manufacturing efficiency, reduce product cost, and prevent production shutdowns caused by material outages.

Similar benefits can be gained by organizations outside of manufacturing. For clarity, this chapter is written to address consumption in manufacturing, but most of the points apply equally well to non-manufacturing business entities.

A solid consumption program is based on three activities:

1. Identifying requirements
2. Reviewing and adjusting requirements as project changes occur
3. Providing accurate data to project managers

To be effective, the process established for managing consumption must ensure material acquired is appropriately stored, controlled, and issued for use in accordance with the needs of the project.

Note: *For the purposes of this discussion, "material" may include small tools or supplies that are expended during normal use.*

The Consumption Process
The consumption process consists of the issuance of material, actual use, unused material, and return to stores

Issuance of material: The issuance of material should be in reasonable and proper quantities for the work being performed. This is generally controlled through a system ensuring materials are issued for authorized requirements and only to authorized personnel. Issue documentation must provide an audit trail showing the material was appropriately authorized and properly consumed.

Actual use: The actual use or incorporation of material, or expenditure of material into a higher assembly or end item or through testing, must support contractual, research, or business requirements. Actual use must be properly documented and compared to planned use.

Unused material: Unused material consists of those portions of material which were issued for planned consumption and because the quantity issued exceeded the quantity needed, or the requirement was altered after the material was issued, all of the material was not used. This material must be returned to stock, in a timely manner, and the inventory control and financial records appropriately annotated. Unused material that remains from a work effort which no longer has a requirement for that material is known as residual inventory.

Return to stores: Parts that have been removed or recovered from repair work, rework, testing, or cannibalization are returned to stores for future use or disposal, depending on their condition, and inventory records appropriately updated.

REQUIREMENTS

Establishing Requirements
The consumption process measures the actual use against the planned use of material identified as being required for the making of items via manufacturing or research and development processes. Requirements are established during the planning and design of products and can be adjusted throughout the life of the project or production run. Adjustments are particularly common in R&D environments.

This phase is evaluating the demand for resources and should include both dependent and independent demand, which includes forecast considerations. Generally, inputs to this process include independent demand forecasts, the master production schedule, external orders, the product structure and inventory data (materials on hand, etc).

Note: *Dependent demand is the demand for any item that is needed to make another item (e.g. table legs for a table). Independent demand is the demand for items for example equipment, office and operations supplies, or anything else for which the dependency cannot be directly linked to products or products produced.*

Engineering drawings are flowed to bills of materials and parts lists. These are then used to generate the materials requirements the system needs. When materials requirements are established in the system (which today is almost universally computerized and integrated), the system is able to create orders which result in the purchase or manufacturing of needed parts or material.

Typically, the master scheduling and material planner functions are responsible for interpreting engineering demand and translating it into requirements.

The material planner is responsible for monitoring the requirements and consumption, a task that is particularly important because requirements often change.

The master scheduler is responsible for production scheduling, material scheduling, materials management and inventory control for the manufacturing operation. The master scheduler works closely with project managers and manufacturing management to achieve the highest levels of customer service with minimum inventory investment and maximum production efficiency.

The Effect of Materials Availability and Yield on Requirements

Manufacturers' yield statistics for low-value or unpredictable-use items such as specialized drill bits or product-specific coatings are important in establishing the quantity needed in the production of finished goods.

For raw and processed materials such as plate, sheet, and bar stock, evaluations and decisions should be made with respect to the expected yield. It is important for maintaining cost control that material yield be maximized, but it is critical to have all the material needed to support production.

The uncertainty arises because the size and shape of raw or processed materials, or even the cutting or machining process used, can affect the number of items that can be produced from a given quantity of material. These factors are commonly called attrition factors. For many materials and uses, historical consumption records should be available to assist in forecasting the amount needed.

Here is an example: the product calls for 12 one-foot pieces of 3/8" round metal bar stock. For the purposes of this example, this bar stock is available only in 12 foot lengths.

It would appear, based on the engineering drawing, that one 12 foot length is required. However, the cutting process removes ¼" with every cut, meaning the last piece would be only 9 ¼" long. To prevent a production shutdown, a second bar must be purchased for this job—unless material from an earlier job is known to be in inventory.

So it is extremely important the organization's property control system includes processes for establishing valid requirements that take into account the steps necessary to make parts and materials ready, in an efficient and cost-effective manner, for production use.

MEASURING CONSUMPTION AGAINST REQUIREMENTS

Constant attention is required in monitoring requirements vs. consumption. It requires communication from marketing (or project management for non-profits), engineering, and master scheduling to the material planner. It also requires communication from the material planner to procurement, inventory management and property management.

To effectively measure consumption against requirements, it is critical to establish the necessary data and material records, along with the processes necessary for using, updating, and monitoring the data.

From requirements planning through issuing and returns to stores, the information required must be accurate and timely. The data can (and will) change often and must not be permitted to become outdated.

When demand changes (whether because of a design change or a change in the production schedule), the requirements data must change, complicating the measurement. Now the purchase of items or quantities must change, receipt will be of different items or quantities, issues will change, and a return to stores may occur.

Items may be issued against valid requirements at any time, but when requests for parts or material exceed established requirements they must be promptly identified, investigated, and reported so shortages can be prevented.

When the investigation yields proper explanations for excessive use, the attrition factors used for ordering purposes can be adjusted. If it is permissible, changes may be made to the manufacturing process to reduce consumption.

Note: *Excess consumption is any consumption of material exceeding normal levels and requirements for planned production plus attrition.*

CONTROLLING ISSUES

Issues-Raw Material
Raw materials are disbursed from inventory on authority of a valid fabrication shop order, normally a defined number of working days in advance of the scheduled start date. All production orders are first screened to determine if available remnants can satisfy the requirements. Full stock sizes of material should only be issued to satisfy needs that cannot be met from remnants stores.

All materials are issued to First Cut Operation (or an organizational equivalent) and usable remnants are returned to remnant stores. Materials are issued to fill orders per the Bill of Material Requirements file and the list of parts required to make the product.

Issues-Allocation
Common Production Orders should be generated when the cost is not specifically assignable to an individual job or task, or where the cost cannot readily be separately assigned to several jobs at the source, (e.g. batch processing). Items controlled in this manner are identified in the parts list as allocation items. Material issued in this way is generally charged to a specific code. The costs are allocated to the product work order on an approved allocation basis.

Issue-Transfers
When issue documents for any inventory account item are processed into the inventory record, transfers should be processed by both units and dollar amounts and tracked accordingly.

Credit
Using departments that determine they have material excess to their needs are responsible for the return of that material to stock. The return of the material should create a credit posting to adjust the applicable product order.

Support material product furnished to subcontractors to produce company-designed items should be specified in purchase orders or subcontracts, with the amount of material based on the bill of material requirements plus a negotiated allowance for attrition. The Materials Department (or the function responsible for materials control) should monitor shipments of material. It is important to have any unused material returned for credit so attrition factors and yield statistics can be maintained accurately.

Expendable Property
Some items that are not typically considered material, like small tools (drills, abrasives, etc.) must also be tracked and monitored. They are consumed through normal wear and are tracked as consumable items. Excess or unusual use should be investigated and corrective action taken.

CONSUMPTION ANALYSIS

The purpose of a consumption analysis is to determine whether the proper quantities of material are being consumed as identified by planning, contractual, or other measurable requirements.

When consumption of material is above and beyond the established requirements it is considered excessive. A review must be performed to identify the reasons for the unplanned rate of consumption and adjustments made accordingly.

The possibility of unreasonable consumption primarily exists when larger quantities are issued. Both exhausting the stock of materials prior to project completion and excessive overages of materials at project completion are symptomatic of unreasonable consumption.

Unreasonable consumption of either kind directly affects the bottom line. However, consumption analysis reviews can be extremely complicated and should not be casually undertaken.

SUMMARY

In all property environments, the careful monitoring and reporting of consumption by the property manager is a highly visible, and challenging, value-added function.

Effective consumption programs provide valuable information to support the planning, production, and day-to-day operations of a business. While consumption programs are primarily designed to protect against the loss or theft of inventory, effective programs can improve efficiency, reduce costs, and prevent production shutdowns (or critical loss of function, in the case of hospitals, universities, research institutions, and the like) caused by material outages.

A solid consumption program is based on three activities:

- Identifying requirements
- Reviewing and adjusting requirements as needs change
- Providing accurate data to management

Constant attention is required in monitoring requirements vs. consumption. It requires communication from marketing (or project management for non-profits), engineering, and master scheduling to the material planner. It also requires communication from the material planner to procurement, inventory management and property management. From requirements planning through issuing and returns to stores, the information required must be accurate and timely.

The data can (and will) change often and must not be permitted to become outdated. Requirements change, whether they products or services; the yields from given quantities of materials or supplies may have to be adjusted based on experience.

To effectively measure consumption against requirements, the property manager must establish the appropriate data and material records, along with the necessary processes for using, updating, and monitoring the data.

CHAPTER NOTES

CHAPTER NOTES



MODULE 2 CHAPTER 11

PROPERTY DISPOSITION

PROPERTY DISPOSITION: (1) THE PROCESSES INVOLVED IN THE REMOVAL OF PERSONAL PROPERTY FROM USE AND FROM PROPERTY RECORDS. THEY INCLUDE REUTILIZATION, DONATION, SALE, ABANDONMENT, AND DESTRUCTION. (2) THE ACTION TAKEN TO REMOVE SPONSOR-OWNED PROPERTY FROM ONE'S ACCOUNTABILITY.

DISPOSAL: THE PHYSICAL REMOVAL OF DISPOSITIONED PROPERTY FROM AN ORGANIZATION'S FACILITIES.

INTRODUCTION

Even the most efficient organization must deal with excess property, whether private, public, educational or governmental. Therefore, it is imperative that the property function, which is responsible for the disposition of property, seek ways to manage excess property that are cost-efficient and maximize return on investment. A walk-through of the organization's facilities will usually result in excess materials and idle equipment being found. These dormant assets represent an untapped source of revenue. Property managers should encourage property custodians and management personnel to regularly walk their areas in an effort to spot underutilized or idle assets.

There are various reasons property may become excess to the needs of an organization:

- Program changes or more effective processes may render some or all of the current inventory unnecessary.
- For several reasons, the quantities of property purchased may exceed the needs of the program or project.
- Changes in the level of personnel due to restructuring or down-sizing.
- As technology advances, current property may become obsolete.

Note: *Excess assets can be equipment, material, or by-products and wastes generated by an organization during the conduct of business*.

Whatever the reason, it is vital to the efficiency and cost-effectiveness of any organization to maintain optimal levels of needed property, in an organized and controlled manner.

THE STEPS OF THE DISPOSITION PROCESS

There are four basic steps that begin the disposition process. Specific instructions for each step are driven by the organization's policies and procedures.

Step 1: The using department or function completes turn-in documentation and notifies Property they have excess.

Step 2: Excessing personnel arrange for pick-up and prepare storage room for the item(s).

Step 3: The items are transported to the warehouse and placed in a secure holding area.

Step 4: The items are physically reviewed for usability:

- Usable items are put on the reutilization screening list.
- Scrap-condition items are placed in the appropriate bins for sale or recycling, or into a trash bin if there is no scrap value. Scrap (particularly metal scrap) usually has value, and it should not be looked upon as waste.
- Sensitive items are handled according to policies and procedures.

From here, usable property is screened for reutilization and reutilized (or held in storage if a future need has been identified) or sold, donated, or destroyed as required by the circumstances.

The dispositioning of property must be undertaken with care. While hazardous items are routinely scrutinized, there are other, less-obvious issues that can lead to compromised security or even liability for the organization:

- Computer hard drives, servers, and other data storage devices may contain proprietary or sensitive information. Personnel may be unaware of multiple hard drives in some computers. Proprietary data may remain on hard drives even though they have been wiped by a software program designed to remove data. For security purposes, the Information Technology (IT) department should be responsible for making certain all sensitive data is removed from computers. For best results floppy discs and compact discs (CD) should be shredded.
- The items to be dispositioned may be of special or unique design and development.
- The property may contain sensitive data in locations not obvious to excessing personnel. For instance, an instrument with a recorder may still have printed documents within the cabinet, or a CD may remain in a CD drive.
- The property may contain items overlooked or were inadvertently sent with the property by the former user, such as papers, work materials, aerosol cans, or other materials.

Excessing personnel must work with persons who have technical knowledge and understand the equipment, which may be of unique design or contain software or data. Computer software is normally licensed only to the purchaser, and the purchaser is not allowed to transfer the software to another entity.

REUTILIZATION

A commonly-applied principle in the field of property management is "excess shall be the first source of supply." This principle simply means organizations should ensure they review available excess property before procuring new items. The maximum return on investment for the organization that purchased an item is realized

when the excess item can be used in-house for another purpose.

Property Management should partner with Procurement to ensure available excess property is effectively reviewed for usability before new property is acquired. This is known as “screening” for property.

Successfully matching excess property with areas of need is the challenge faced by any reutilization program.

There must be good communication between the parties with an immediate or anticipated need for property the screening departments and external organizations that have (or will have) excess property.

A user-friendly system for advertising or listing available excess property and for searching for available property is central to the success of a reutilization program. The Property Management Office (PMO) is usually responsible for developing and implementing policies and procedures for the internal screening process that the disposition group will implement. The PMO is encouraged to publicize success stories which will encourage departments and functions to acquire excess property.

RECYCLING

Recycling has become a vitally-important practice throughout government, industry, towns and cities, and non-profits in the last decade. Depending on the nature of a business, the recyclable items available, and the raw materials that can be recovered from the business, recycling can generate income and reduce waste streams. Many organizations have effective recycling programs including cafeteria waste, paper, cans, glass, plastic, etc. that have been generated by the workforce, and production scrap, scrap metal, electronics, toner cartridges, textiles, leather, oils, chemicals, drums, spent batteries, tires, rubber and many other materials that are the normal result of doing business.

Whether it is done through a recycler or via some other method, recycling excess property can be cost-effective (or even profitable). In addition, it is a very responsible method of disposal. Recycling allows excessing personnel to dispose of property that may only have materials value, receive revenues, and avoid the costs of waste management.

The environmental benefits of recycling include resource conservation, solid waste reduction, environmental protection, energy conservation and social and economic development. Recycling can boost the public image for any organization and raise team spirit by employee participation. Recycling is a win-win for any organization.

METHODS OF DISPOSAL

When property is not reutilized or recycled, for whatever reason, it is disposed. Property disposal is something of a careful balance for an organization. If excess property is maintained for an extended period it can become a non-value-added expense—but if it is disposed of too soon, it will not be available to meet possible future needs. Figure 11-1 demonstrates this concept:

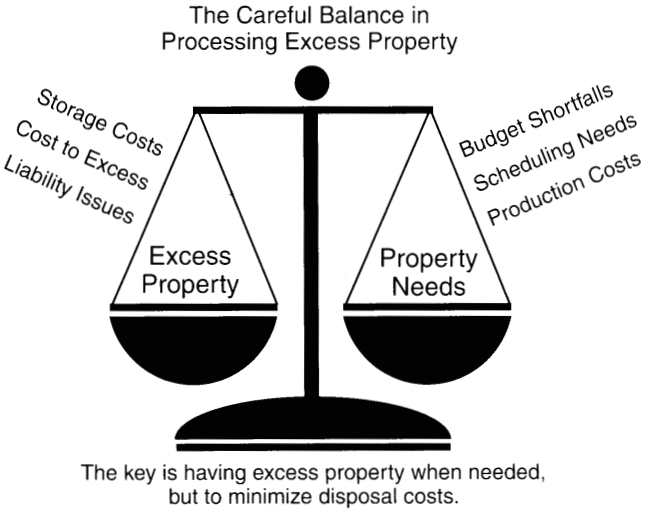


Figure 11-1 Processing Excess Property

The PMO must deal with a myriad of complexities when disposing of equipment and material via donation, sale, destruction, or abandonment. Each type of property, contractual agreement and funding source may have differing regulatory requirements. To ensure compliance and cost-effective property management, the PMO must continuously research how to dispose of property effectively, efficiently, and as required by federal, state, and local laws and regulations and per the

organization's policies and procedures.

The first and most important steps that property management personnel must take in evaluating excess property for disposal are determining what the property is, who owns it, where and how it was used, and other applicable characteristics.

It is then necessary to determine which laws and regulations govern handling and transportation as well as scrapping, destruction, burial, or processing as waste. Examples of restrictions include those applicable to the disposal of certain hazardous materials (e.g. radioactive materials, poisons, biologically-contaminated property, etc.), export-controlled property, specially-designed property or materials that could contain trade secrets, and security-related items (e.g. military controlled items).

Particular care must be taken with:

- Hazardous materials
  - Chemicals or chemical residues (e.g. mercury, acids, corrosives, lead, beryllium, etc.)
  - Biological materials
  - Refrigerants or other gases
  - Asbestos-containing components
  - Oils containing PCBs (polychlorinated biphenyls)
  - Pharmaceuticals
- Pressurized cylinders
- Classified, technologically sensitive, or proprietary data or information. This may sometimes be contained in the make, shape or components of an item. It is not limited to written or stored data.
- Export-controlled property and technology
- Licensed materials (e.g. computer software)
- Radiologically contaminated items, radiation-emitting items (x-rays or lasers), and materials that produce natural radiation
- Property presenting other safety hazards

Most such property can be legally and safely disposed of, but it is imperative property personnel charged with disposal be diligent in fully understanding what is being disposed of and what the applicable laws and regulations require. This is in addition to what may be called for by the organization's policies and procedures.

Using the Internet to search for applicable federal, state and local regulations can be useful and beneficial. Most regulatory information is readily available, but may be complex and difficult to understand.

Depending on the circumstances, it may be best to consult with an expert in the applicable field. For large organizations with various resources and experts, one suggestion is to form a team whose members have specific knowledge of the applicable laws and regulations and can make visits to the excessing area to review items. They are also an invaluable resource in the writing of sales contracts, disclaimers, Memorandums of Understanding (MOU) or other documents applicable to the disposition and disposal of property.

Depending on the assets being disposed of the team may include representatives from:

- Legal
- Environmental Management
- Industrial Hygiene
- Transportation
- Health and Safety
- Export Control

and others as appropriate.

When the disposal group receives property that presents these special concerns, it is not appropriate to assume that destruction is the only option. There are usually several safe and legal options available to disposal personnel. In some cases, removal of some portion of the property will remove the concern without destroying the usefulness of the property.

If the property presents special concerns (e.g. hazardous materials, export-controlled, etc.); it is prudent to make the recipient aware and to have the recipient sign a disclaimer as a record of this disclosure. If the property is export-controlled, the release to a non-citizen must be authorized in conformance with U.S. Department of Commerce export control laws.

In some instances, it may be advisable to have the recipient sign a document containing an indemnity clause and to certify the property will be disposed of in accordance to federal, state, and local laws. As mentioned above, the legal department or a business lawyer should be consulted for guidance.

TRADE-INS AND EXCHANGE SALES

Trade-ins
One very effective way to dispose of property is through trade-in. In property trade-in, used property is offered to the vendor from whom similar equipment (in most cases) is being purchased. The vendor should offer market value or better than market value for the used item. For instance, a used computer server might be traded in on the purchase of another computer server.

If the property has very little commercial value, the trade-in may be the most effective means of disposal, offering the highest rate of return.

The trade-in process must involve the procurement function, the department with the property to trade in, and the department (which may be the same one) with the need for the new property item. It is imperative that property management dispositioning personnel also be involved in this process.

The primary role of disposal personnel in the trade-in process is:

1. Ensuring the organization is authorized to conduct a trade-in on this property and/or to obtain written authorization as may be required.
2. Ensuring the value being offered by the vendor is fair market value (an appraisal may be needed).
3. Retiring the property from the property system.
4. Creating appropriate records of the trade-in for reporting purposes.

Exchange Sale
Exchange sale is similar in some ways to the trade-in; however, it does not necessarily take place at the time of a particular procurement nor involve the same vendor.

When property is disposed of via exchange sale, property personnel sell an item of property and maintain the revenues in an account to be used for future procurements of similar or like items. An example might be to sell two forklifts for a total of $15,000. When the organization is in need of a new forklift, the $15,000 received in revenues is used in the procurement of the new forklift.

Property management should conduct a cost analysis to determine if an exchange sale will result in the best return for the organization. When conducting the cost analysis, all administrative and overhead costs should be included.

As with the trade-in, excessing personnel should be involved in the exchange sale process to ensure proper authorization is received, that it is in the best interests of the organization, and records are correctly maintained.

SALES

Sales Considerations
The selection of the most advantageous type of sale is important to the success of a property sales program. To maximize sale proceeds, consideration must be given to:

- The type of property
- The quantity being sold
- The condition of each item
- The market area
- The location of the property in relation to the market area
- Transportation requirements and handling costs relative to value
- The cost of the preparation and conduct of the sale
- Past sales experience
- Time and space constraints at the property storage location
- The total cost of the sale in relation to the anticipated proceeds

Types of Sales
There are many different types of property sales available to organizations. Most common types include:

Annual or Term Contract: This type of sale is useful when an organization produces a large quantity of the same type of materials for disposal (e.g. scrap metal, plastics, used oils, used batteries, used tires, electronics etc.). This type of sale may also be used for establishing contracts with recyclers. When the value of an item is the material content only, selling to a recycler of the material is a very effective option. Recyclers have cost-effective methods of recovering the

material, and markets to which they can sell the end product, thereby reducing both the volume of landfill waste and the use of natural resources. Examples of recyclables are metals, plastics, glass, electronics.

Auction: The selling of property to the highest bidder, who may be present or bidding remotely or by proxy. Auctions can be contracted out to specialty auction houses or conducted by the organization, using trained and certified auctioneers. This type of sale promotes a good organizational image and positive public relations because the auctions can be open to the public.

- An *on-line* auction lists the property for sale to the highest bidder for a period of time, allowing bidders possibly from anywhere in the world.
- *Live on-line* auctions allow bidders to submit bids on-line real-time during the auction period.
- Live auction. The traditional form of auction. Bidders or a proxy (a representative of the bidder) are present. Lots are called up and bid on, often without an inspection period. The auctioneer manages the bidding and awards the winning bid, then moves on to the next lot.
- *Spot bid sale*. The spot bid method allows buyers to place bids on items during the sale. The bids are written rather than called by an auctioneer. Successful bidders are notified the day of the sale.
- *Silent auction*. In a silent auction, buyers inspect the property being sold and submit sealed, written bids. The advantage to the seller is that the bidder submits a single maximum bid amount, which can then be compared to other maximum bids.

Fixed-Price Sale: Property is offered for sale at a set amount. If an organization has established a store which is open to employees or to the public, the items are pre-priced. On-line auction sites may allow the selling of items at a fixed price. The fixed-price sale allows items to be sold rapidly and is favored for items commonly needed and have a known market value.

Negotiated Sale: The negotiated sale is conducted between the seller and one buyer, who is often a vendor of the items to other organizations. The negotiated sale is especially useful for property with special concerns or when the buyer is required to meet certain requirements (e.g. Nuclear Regulatory Commission licensed, certified program, special insurances, etc.). In the negotiated sale, the seller and buyer come to an agreement on the price, based on the value of the item and the requirements for the sale.

Marketing for Sales

The most critical aspect of ANY sale is customers. Without customers the sale is 100% guaranteed to fail. The key to marketing is clearly communicating to the appropriate audience. With the availability of computers and easy-to-use software packages, anyone can design, publish and distribute marketing media in a very inexpensive, timely fashion.

Figure 11-2, provides recommended media to use for effective advertising and the types of information best suited to each type of advertising.

Maintaining a list of existing customers is essential for future advertising. Separating customers into areas of special interest will aid in advertising special items (e.g. electrical, machines, vehicles, chemicals, office equipment, etc.).

If a mailing list is used, it must be well-maintained. If a postcard or e-mail notification is returned due to a bad address, the name should be purged from the database for future mailings. Out-of-date names and addresses result in wasted resources and diminish the organization's credibility with customers.

DONATIONS

As an alternative to reutilization, donations are an effective and beneficial method of disposal. There are many non-profit and other worthy causes that have need of available excess property. These include public and private schools, volunteer fire departments, rehabilitation centers, and special education programs. It is the responsibility of property management to ensure these recipients are legitimate and they responsibly handle property as directed by federal, state and local laws.

TYPE OF MEDIA	MARKET	SALES INFORMATION
Postcards	Existing Customers	Sale logistics and brief description of items for sale. Ideal for routine repetitive sales. Establish a brand* for the postcard for easy recognition. May be costly if professionally produced, but can be produced internally.
Electronic Flyers	Existing Customers	Very attractive electronic flyers can be sent to an electronic mailing list at little cost.
Brochures	Existing Customers and Targeted Companies	Pictures of specialty items for sale, detailed description of items. Ideal for the sale of specialty items. May be expensive if professionally produced, but can be produced internally.
Electronic Media	New Customers	Advertising opportunities may exist on company electronic bulletins or community bulletins at no cost.
Newspaper Ad	New Customers	Sale logistics and brief description of items for sale. Ideal for routine and specialty sales. The smallest possible ad should be designed for cost savings. Past ad effectiveness should be considered.
Community TV Stations	New Customers	Sale logistics and brief description of items for sale. Ideal for routine and specialty sales. This may or may not have a cost. The advertisement should be submitted per the time table established by the TV station.
Community Newspapers	New Customers	Sale logistics and brief description of items for sale. Ideal for routine and specialty sales. These papers are not published as frequently as commercial newspapers and it may be difficult to advertise specific information about the upcoming sale.
Trade Magazines or Specific Website	New Customers	Useful for finding customers for special property items. Sale logistics and brief description of items for sale.
Websites	Existing Customers and New Customers	A website should be established for advertising all sales activities and posting pictures of items for sale. Ideal for routine and specialty sales.

* Branding is a trademark or distinctive name identifying a product or a manufacturer, making it recognizable among other competitors.

Figure 11-2 Marketing Methods

Although organizations do not normally receive any monetary returns for donated property, donations can help to create positive public relations with a community. For-profit organizations may also be able to count donations as a deduction on their tax returns.

DESTRUCTION

If the only option is destruction, it should be done by the most economical and beneficial method.

Note: *"Destruction" means the ruining of the structure, organic existence, or condition of an item of property by tearing down, crushing, burning, burying, mutilating, etc.*

Before destruction is ordered, if the property has usable parts or components, people with needs for these spare parts should be notified. A determination should first be made as to whether the cost of removal is less than the value of the salvageable components.

Establishing sales contracts with buyers who are able to recycle property for the material value may make it possible to meet destruction requirements at no cost or with the return of revenues. See the Sales section of this chapter for Contract Sales.

RETIREMENT

Retirement is the documenting and moving of active property to inactive status in the property record system.

After the property is physically disposed of, the record must be retired, completing the property's life cycle. Property records are never deleted, but are retired to an inactive status.

Retiring an asset owned by an organization sets off financial processes triggered by the property management system. Retiring an accountable asset should not affect an organization's financial statements.

Note: *Retirement will be further discussed under Accounting in other NPMA literatures.*
When property subject to depreciation is disposed of, the original cost is removed from the asset account and the cash account is increased for the amount of cash the property sold for, if any. The accumulated depreciation to date is charged to the accumulated depreciation account and a gain or loss on the property is recorded.

For example, an 8-year-old asset originally acquired for $20,000 with a useful life of 10 years sold for $7000. The following would be recorded either by the property system or manually:

If that same asset had to be unexpectedly scrapped at the end of eight years, and no cash was realized from its disposal, there would have been a loss of $4000.

As with other aspects of retirement, there is much more to depreciation and other retirement-related financial processes. They are discussed in detail in other NPMA literature.

Debit	**Credit**
Cash: $7000 Accumulated Depreciation: $16,000 ($2000 per year depreciation times 8)	Property, Plant Equipment: $20,000 Gain or Loss: $3000 gain

SUMMARY

The dispositioning of property is the property function's responsibility. Every organization, no matter how careful its planning, must deal with excess property. Whether private, public, educational or governmental, organizations do not want to tie up money and resources in property no longer needed. This means the property function must help maximize return on investment by actively seeking cost-effective ways to manage excess property.

A commonly-applied principle in the field of property management is that "excess shall be the first source of supply". This simply means organizations should have an effective way to review and, where possible, reutilize available excess property before acquiring new items.

Property management should partner with Procurement to ensure available excess property is screened before new property is acquired. To do this effectively, there must be good communication between the parties with an immediate or anticipated need for property the screening departments and external organizations that have (or will have) excess property.

When property cannot be reutilized, for whatever reason, it is disposed of by donation, sale, destruction, or abandonment. Property disposal is something of a careful balance for an organization, because if excess property is maintained for an extended period it can become a non-

value-added expense—but if it is disposed of too soon, it will not be available to meet possible future needs. Determining the appropriate time to dispose of property is also the responsibility of the property function.

The PMO must deal with a myriad of complexities when disposing of equipment and material. Each type of property, contractual agreement and funding source may have differing regulatory requirements, which requires continuous research into the effective and efficient disposal of property as required by laws and regulations and per the organization's policies and procedures.

The sale of property via trade-ins, exchange sales, annual or term contracts, auctions, fixed-price and negotiated sales, or recycling provides opportunities to recover some of the cost. Choosing the type of sale that provides the best return must take into consideration the nature, quantity, and location of the property, organizational staff capabilities, the time required, and who and where the customers are.

Marketing for sales is important, because the most critical aspect of ANY sale is the customer. The key to marketing is identifying the appropriate audience and clearly communicating to that audience via print media, the Internet, email, or television. Organizing, marketing, and conducting sales are often part of the property function's responsibilities.

Donation as an alternative to reutilization can be an effective and beneficial method of disposal for any organization, by helping create positive public relations with a community. For-profit organizations may also be able to count donations as a deduction on their tax returns.

REFERENCES

Environmental Protection Agency (EPA)
http://www.epa.gov

General Services Administration (GSA)
http://www.gsa.gov

Export-Control Guidelines
http://www.gpo.gov/bis/index.html

U.S. Drug Enforcement Administration
http://www.dea.gov

CHAPTER NOTES

CHAPTER NOTES

ACRONYMS

AAA	Asset Approval Authority	FIFO	First In – First Out
ADPE	Automatic Data Processing Equipment	FMR	Federal Management Regulation
AS/RS	Automatic Storage and Retrieval Systems	GASB	Governmental Accounting Standards Board
BAFO	Best and Final Offer	GBL	Bill of Lading, Government
CBL	Bill of Lading, Commercial	HAZMAT	Hazardous Materials
CFO	Chief Financial Officer	ICC	Interstate Commerce Commission
CFR	Code of Federal Regulations		
COTS	Commercially Off-The-Shelf	IMO	International Maritime
CPPA	Certified Professional Property Administrator	IT	Information Technology Organization
DoD	Department of Defense	IUID	Item Unique Identification
DOT or USDOT	U.S. Department of Transportation	JFMIP	Joint Financial Management Improvement Program
FAQ	Frequently Asked Questions	JIT	Just In Time
FAR	Federal Acquisition Regulation	KD	Knocked down
FF	Folded flat	LIFO	Last In – First Out

LDD	Loss, Damage and Destruction
MILSTD	Military Standard
MIS	Management Information System
MOU	Memorandum of Understanding
MRP	Material Resource Planning system
NASA	National Aeronautics Space and Administration
NSN	National Stock Number
PC	Personal Computer
PCBs	polychlorinated biphenyls
PMI	Periodic Maintenance and Inspection
PMO	Property Management Office
PO	Purchase Order
RFID	Radio Frequency Identification
SKU	Stock-keeping Units
SME	Subject Matter Experts
SU	Setup
UID	Unique Identification
UN	United Nations

G L O S S A R Y

THIS GLOSSARY CONTAINS TERMS THAT WILL BE ENCOUNTERED IN THE MANUAL. IN ADDITION, SELECTED TERMS ARE INCLUDED THAT ARE NOT USED IN THIS MANUAL, BUT ARE CLOSELY RELATED TO THE SUBJECT MATTER.

ABC Inventory — An inventory conducted by type. Property is divided into at least three levels by usage, criticality or value (or a combination) and inventoried at different frequencies.

Accessory Item – An item that facilitates or enhances the operation of equipment, but is not essential for its operation.

Accountability (Property) — to possess and have use of the property of another with delegated duties and responsibilities, subject to penalty in case of default.

Accounting — A codified set of processes for maintaining financial records of business transactions.

Acquisition — (1) the act of acquiring. (2) acquiring by contract with appropriated funds of supplies or services through purchase or lease, whether the supplies or services are already in existence or must be created, developed, demonstrated, and evaluated.

Active Contract — Any contract which has been awarded and on which any element of contract performance, payment, or administrative closing action is outstanding.

Administrator — One legally vested with the right of administration.

Ad Valorem — According to the value. Independent valuation of property based on actual value for taxation or other purposes.

Allowable Costs — A cost that is reasonable, allocable, within accepted standards, or otherwise conforms to generally accepted accounting principles, specific limitations or exclusions, or agreed-to terms between contractual parties.

Analysis — A separating or breaking up of any whole into its parts so as to find out their nature, function, relationship, etc.

Assembly — A number of parts or subassemblies joined together.

Asset — Anything owned having monetary value.

Asset Approval Authority (AAA) — Any individual authorized to approve the expenditure of organization funds for the acquisition of property.

Automatic Data Processing Equipment (ADPE) — Digital and analog computer components and systems, irrespective of type of use, size, capacity, or price; all peripheral, auxiliary, and accessorial equipment used in support of digital and/or analog computers, either cable connected, or "self standing," and whether selected or acquired with the computers or separately; Punched card machines and systems used in conjunction with or independently of digital or analog computers; and digital and analog terminal and conversion equipment that is acquired solely or primarily for use with a system which employs a computer or punched card machines.

Auxiliary Item — An item without which the basic unit of equipment cannot operate.

Backlog — The value or volume of unfilled orders or unprocessed work in a normal flow.

Barcode — An automatic identification technology, facilitating ease of inventory using barcode scanners.

Bench Stock — Low cost, high usage, non-sensitive consumable material issued to work areas. Quantities of such stock do not normally exceed that amount that would normally be consumed within a 30 day period, or as established in the property control system.

Best and Final Offer (BAFO) — A final proposal submission by all offerors in the competitive range submitted at a common cut-off date at the request of the contracting officer after conclusion of negotiations.

Bill of Lading, Commercial (CBL) — A contract between the shipper and the carrier whereby the carrier agrees to furnish transportation service subject to the conditions printed on the reverse side of the bill of lading.

Bill of Lading, Government (GBL) — A government document used to procure freight and cargo transportation and related services from commercial carriers for the movement of material at government expense.

Business Systems Analysis — to break a business subject (property or material processes) into manageable components for examination in order to improve the process.

Calibration — The act of standardizing or determining the deviation from a standard so as to ascertain the proper correction factors.

Cannibalization — The removal of components rendering the parent unit unusable.

Capital Asset — Any tangible asset or property used in the conduct of the business and not intended for sale as a part of normal operations.

Capital Type Rehabilitation — Work that is clearly above and beyond normal recurring maintenance, such as major repairs, replacement, and rehabilitation of deteriorated property.

Cardinal Changes — Changes beyond the scope of the contract. A change which has the effect of making the work as performed essentially not the same work as the parties bargained for when the contract was awarded.

Causality — The interrelationship of cause and effect; principle that nothing can exist or happen without a cause.

Classified — Containing information withheld from general circulation for reasons of National Security.

Clause — A distinct article in a formal document, e.g., contract clause.

Cognizance — Have surveillance over, the right and power to hear and decide controversies.

Compliance — Satisfying the steps defined in all established and implemented processes that support the mission and objectives of the organization.

Condition Code — A symbol, which signifies the physical operational condition of property.

Confidential — That information of which the unauthorized disclosure could reasonably be expected to cause damage to the National Security.

Constructive Change — An oral or written act or omission by an authorized government official that is of such a nature that it is construed to have the same effect as a written change order.

Consumed — The loss of identity of an item by incorporation into a higher assembly, or through use and ultimate disappearance as a known item or substance.

Consumption — The process of incorporating material into an end item or otherwise using it in the performance of a documented business objective. Also, the measurement of actual use of consumable items against planned use.

Contract — An agreement between two or more competent parties to do or not do something not prohibited by law, for legal consideration; involving both an offer and an acceptance. A promise, or set of promises that the law will enforce.

Contract Administration — In the broadest sense, it encompasses all activity by the government and the contractor from the time the contract is awarded until the contract work has been completed and accepted, payment is received and disputes are resolved. In this sense contract administration deals with all relationships between the parties that grow out of contract performance.

Contracting make binding decisions relative to a contract or Officer -- One legally vested with the right to with the vested power to execute a contract.

Contractor — A commercial firm or enterprise working under contract or one who works under contract.

Contract Termination Inventory — A 100% inventory conducted at the end of a contract prior to disposition of residual assets and material.

Corrective Maintenance — Maintenance required return property to such condition that it may be effectively utilized for its designated purpose.

Cost-reimbursement — Cost-reimbursement types of contracts provide for payment of allowable incurred costs, to the extent prescribed in the contract.

Criterion — An evaluative item of a property system function subject to analysis by the appropriate method.

Custodial Records — Written memoranda of any kind, such as requisitions, issue hand receipts, tool checks, and stock record books, used to control items issued from tool cribs, tool rooms, and stockrooms.

Custody — To have charge and control, as to be in possession of the property.

Cycle Counting — The sampling of selected items frequently and testing their record accuracy.

Cyclical Inventories — Inventories that are conducted on a continuous basis with a fixed beginning and end using “inventory-by-exception” methodology.

Defect — A condition in which a functional segment, a sample item or sample item element of a property control system contains one or more deficiencies.

Demurrage — An expense, charge, rent improved for retaining returnable (reusable) containers, i.e., gas bottles, carboys.

Depreciation — The amount of cost charged to current operating budget for assets capitalized by the organization and charged to expense over a period of time.

Destruction — To ruin the structure, organic existence, or condition, to destroy.

Detail — A small or subordinate part of a subassembly or assembly; an individual component. A non-standard part.

Discrepancies Incident to Shipment — All deficiencies incident to shipment of property to or from an organization's facility whereby differences exist between the property purported to have been shipped and property actually received. Such deficiencies include loss, damage, destruction, improper status and condition coding, errors in identity or classification, and improper consignment.

Disposal — The act of getting rid of property.

Disposition — That action taken to physically transfer property from one's accountability.

Document — An original or official paper relied on as the basis, proof, or support of information contained in a property system. A piece of writing conveying information.

Donee — A recipient of a gift. The recipient of surplus property without consideration.

Dunnage — Lumber or other material used to brace and secure cargo to prevent damage.

Element Defect — A single sample item element of data that is either erroneous or omitted as part of a criterion.

End Item — An item identified in a contract or order as a deliverable product.

Engineering — That organization or function charged with the design and development of a product, etc.

Equipment — Moveable property needed for the performance of a task or useful in effecting an end.

Estimate — A calculated anticipated amount as distinguished from an actual outlay or figure.

Excess — Those costs charged to the operating budget during the current period. Includes the depreciation for the current period or the total costs for low- value, short-life assets.

Excess Property — Property no longer required.

Expendable — Property which can be consumed or become scrap as a result of intended use, i.e., drill bits, sanding wheels.

Expense — Those costs charged to the operating budget during the current period. Includes the depreciation for the current period or the total costs for low- value, short-life assets.

Fabricated — Assembled or built. May include numerous production functional operations.

Federal Agency — Any executive department, military department or defense agency, or other agency or independent establishment of the executive branch of government.

First Article — Preproduction models, initial production samples, test samples, first lots, or pilot samples submitted for testing and evaluation for conformance with specified contract requirements before or in the initial stages of production.

Fixed Price — The fixed-price family of contracts provides for a firm price or, in appropriate cases, an adjustable price.

Fleet — Any group of ships, trucks, buses, airplanes, etc. acting together or under one control.

Flowdown — The movement of property or data usually to a level of lesser authority or, in the case of property, to some follow-on (continued) contract or effort.

Free on Board — This term is used in conjunction with a physical point to determine – (1) The responsibility and basis for payment of freight charges; and (2) Unless otherwise agreed, the point where the title for goods passes to the buyer or consignee.

Gained by Inventory — Property brought into control and accountability without second party transfer documentation.

Hardware — Physical components or apparatus including major items of equipment.

Hazardous Material — Any used or unused personal property, including scrap and waste, that is ignitable, corrosive, reactive, or toxic because of its quantity, concentration, or physical, chemical, or infectious characteristics. The property can be in a solid, liquid, semiliquid, or contained gas form and may cause or significantly contribute to an increase in mortality or serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Identification — The physical marking of property and/or in some cases its container. To provide the means by which one or more of the following can be ascertained: ownership, classification, part, serial, contract or unique organization designation.

Individual Item Record — A separate card, form, document or specific line(s) of computer data used to account for one item of property.

In House — Descriptive verb, indicating an organization having the capability to accomplish a task without outside assistance, such as fabricating a part or designing and implementing a property management system.

Intangible Property — Knowledge derived from study, experience, or instruction, or knowledge of a specific event or situation. Property that is not tangible.

Inventory — Inventory consists of all items on hand.

Item Defect — A reviewed sample item containing single or multiple element discrepancies having significant impact.

Judgment Sampling — The process by which a number of items or areas are selected from the population for analysis without meeting standard random selection and sample size criteria.

Kitting — Material applied to assembly or work operations in Material Stores in advance of actual product schedule need.

Latent Defect — A defect not discoverable even by the exercise of ordinary and reasonable care.

Lease — Grant or rights by a lessor to a lessee to possess and use real or personal property for a period of time in exchange for rent or other consideration.

Lease-purchase, or capital leasing — This agreement spreads out the terms of payment for equipment. At the end of the payment period, the purchaser obtains title to the equipment, but has been able to use the equipment and to spread equipment payments over time to ease the financial burden of making large acquisitions.

Life-Cycle Costing — A method of using depreciation, maintenance, operating cost, and resale value as the basis to evaluate replacement cost.

Line Items — A single line entry on a reporting form that indicates a quantity of property having the same description and condition code from any one organization or at any one reporting location.

Logistics — The procurement (provisioning) maintenance and transportation of supplies, services, facilities, and equipment required to accomplish a given task, in addition to control and accounting for them.

Lot — An aggregation of documents, records, articles, or actions selected for review due to common characteristics. Also referred to as universe or population. For evaluation of the lot, all characteristics for which a lot is tested must be common to all units within the lot. Often used in sales.

Low Value Capital Equipment — Equipment with a value just above the point of capitalization which receives accounting treatment different from higher value equipment.

Made on Assembly — Property consisting of bits and pieces which becomes a configured, identifiable end item upon assembly.

Maintenance — 1) the act of maintaining (to keep in an existing state; preserve from failure or decline) 2) something that maintains 3) the upkeep of property or equipment.

Managerial Personnel — Includes the organiza-

tion's directors, officers, and any of the managers, superintendents, or equivalent representatives who have supervision or direction of all or substantially all of the organization's business, all or substantially all of the organization's operation at any one plant or separate location at which business is being performed, or a separate and complete major industrial operation connected with performing a contract.

Manifest — A document specifying, in detail, the items carried on a transportation conveyance for a specific destination.

Material — Property that may be incorporated into or attached to a deliverable end item or that may be consumed or expended.

Materiality — The state or quality of being material or physical.

Material Requirements List — A type of bill of material used in material requirements planning systems.

Material Requirements Planning — A purchasing system that provides for the efficient acquisition of materials by analyzing, timing, and combining purchases required for all work performed by a contractor.

Metrics — Measurement tools developed to analyze and evaluate the status of a System.

Moveable Property — Tangible property other than real property or tangible intellectual property; it is moveable and visible.

Movement — Relocation from one area to another, such as from building to building or moved to an employee's home and property ownership remains with the organization. When changing the accountability of equipment between departments, it is still considered movement, whether the asset physically moves or not.

Negotiated Sales — Sales as a result of agreements between participating parties.

Off-the-Shelf Item — An item produced and placed in stock by an organization, or stocked by a distributor, before receiving orders or contracts for its sale. The item may be commercial or produced to a governmental specification.

Operating Lease — An agreement that does not involve the lessee obtaining ownership of the equipment. The vendor retains ownership, and the lessee obtains the use of the technology for a specific amount of time. An operating lease must meet standards set by the Government Accounting Standards Board (GASB).

Operator Maintenance — Maintenance tasks of a minor nature, including preventive maintenance, performed by equipment operators at the most convenient time; i.e., before, during, and after operations.

Organization — An entity or unified group that is organized for a specific business purpose, such as a corporation, university, health-care facility, state or local government, or agency, that owns and possesses property.

Organization Store — This method of sale provides a retail type store for employees.

Owner — One who has the legal or rightful title to property.

Periodic — Occurring or recurring at regular intervals, in property management often refers to inventories.

Physical Inventory — (1) The actual inventory itself. (2) The determination of inventory quantity by actual count. Physical inventories can be taken on a continuous, periodic, and annual basis.

Plant — A facility or item of real property dedicated to a specific function, i.e., manufacturing, power generating, educational.

Prime — The term applied to the elements in contracting involved with the initial contract. From a prime a number of subs may be generated.

Prime Contractor — A person who has entered into a prime contract.

Privity of Contract — The contractual relationship that exists between two parties; i.e., Government and prime contractor, or prime contractor and subcontractor.

Procedures — A detailed written description of the organization's operation for the control, use, and care of property while in the contractor's possession. It should identify individuals or components of the contractor's organization having specified and delineated functions and authorities for property management, precisely what must be done by whom. It should provide coverage for each element of control that applies to the type and use of the property provided under the contract. Suspense controls should exist for timephased obligations, submission of reports, timescheduled maintenance, and/or physical inventory.

Procurement — To acquire or to make available. The function responsible to buy or make available material, equipment, or tooling.

Property — something or a number of things in which one has the rights and interests subject to ownership; moveable items as well as real property.

Property Control System — The system that identifies an organization's internal management program encompassing the protection, preservation, accounting for, and control of property from its acquisition through disposition. The property control system consists of both the property control procedures and the application and compliance with those procedures.

Property Control Function — A business unit, within an organization, responsible for defining, implementing and maintaining an infrastructure and related processes that ensure the adequate control, protection, preservation and maintenance of the organization's property.

Property Custodian — An authorized representative of a supervisor or manager, who is tasked with the custodial responsibility of managing property for an organization or subordinate department. Property custodians may have the authority to update property records, support inventories and transfer property within the organization for their supervisor.

Property Manager — The individual designated by the organization to provide leadership to the organization in the management and use of assets.

Property Management System — A set of facts, principles, rules, etc. classified or arranged in a regular, orderly form so as to show a logical plan linking the various parts.

Property Records — Records that include information reflecting the status of property.

Property System Function — A major portion of a contractor's property control system; e.g., property management, acquisition, receiving, identification, records, movement, storage, physical inventories, reports, consumption, utilization, maintenance, subcontractor and/or alternate location control, and disposition.

Property System Functional Segment — A portion of a property system function of property control that may be separately identified and contains similar properties, procedures, and conditions of control that can be isolated for purpose of analysis.

Purposeful Sampling — The process by which known, suspected, or reported conditions of a critical or substantial nature are used to select areas, items, or actions for review to determine the possible adverse systemic impact. It is closely related to judgment sampling in that a purely random sample is not drawn.

Real Property — Land and rights in land, ground improvements, utility distribution systems, and buildings and other structures. Real property is tangible property other than moveable property or tangible intellectual property.

Reasonableness — The quality or state of being reasonable; conformity to the dictates of reason.

Receiving — (1) The process of equipment or materials being accepted into an organization or facility. (2) The point at which an organization's obligation, liability, and accountability begins.

Records — Data providing pertinent information regarding a specific subject such as property.

Recycling — The recovery of raw materials from property for the purpose of using them again.

Refurbish — To renovate or return property to, at or near, its original condition.

Release — Broadly defined to include "spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing" of hazardous substances. Also, includes the abandonment or discarding of barrels, drums or

any other container of hazardous substances. Such an act triggers CERCLA liability.

Remedy — Steps taken to restore the area or site. Such steps could involve preventing the migration of contamination, cleanup of released hazardous substances and associated contaminated materials; recycling, reuse, diversion, destruction and segregation of reactive wastes; repair or replacement of leaking containers; and on-site treatment or incineration.

Removal — Represents the initial stage of cleaning up after a release. This action not only takes place after a hazardous substance has been released into the environment, but also prior to such a release.

Repair — To restore to a sound or good state after wear, partial destruction, or injury.

Repairable — In a state that normal repair is reasonable from a standpoint of cost, accessibility, and technical involvement.

Repairable Item — An unserviceable item that can be reconditioned or economically repaired for reuse.

Requirements Determination — Identifying needs for assets and materials through the planning process. May also refer to identifying needs for a property or asset management system to help meet organizational goals and objectives.

Residual — Property remaining for which no known requirement exists.

Residual Value — The proceeds, less removal and disposal costs, if any, realized upon disposition of a tangible capital asset. It usually is measured by the net proceeds from the sale or other disposition of the asset, or its fair value if the asset is traded in on another asset. The estimated residual value is a current forecast of the residual value.

Response — Action taken to address the release or threatened release of a hazardous substance, whether it be by the parties responsible or by enforcement agencies.

Responsibility (Property) — having responsibility for actions related to property such as maintenance, control, record-keeping. More general than Accountability, this is tied to being accountable to someone else for property.

Reutilization — The program that identifies excess, idle or items no longer needed by one discipline within an organization and manages the transfer of the assets to another location that has a documented requirement.

Risk — The exposure to the chance of injury or loss; a hazard or dangerous chance: to run risks. In system analysis, a measure of those instances where a sample will not be an accurate representation of the lot. For example, a sampling plan having a 90 percent confidence level means that a sample will not be an accurate representation of the lot 10 out of 100 times.

Risk of Loss — Liability or responsibility for bearing the cost of loss, damage or destruction of property.

Routing — To send by a selected order.

Salvage — Property that, because of its worn, damaged, deteriorated, or incomplete condition or specialized nature, has no reasonable prospect of sale or use as serviceable property without major repairs, but has some value in excess of its scrap value.

Sample — A number of items; e.g., documents, records, articles, or actions, selected from a lot for a review in order to draw inferences regarding to the status of the lot.

Sample Item — A single document, record, article or action from the sample.

Sample Item Element — A single element from a sample item subject to evaluation; e.g., name or nomenclature, description, National Stock Number, quantity received, quantity issued, balance on hand, etc.

Scrap — Excess property that has no value except for its basic material content.

Screen — To review or compare property on hand against a known or anticipated requirement.

Sealed Bid — This method of sale can be used for individual assets or for assets that have been lotted for sale. Potential bidders are provided the opportunity to review the assets at designated locations and times and offer bids on the assets by terms of a solicitation.

Secret — That information of which unauthorized disclosures would reasonably be expected to cause serious damage to National Security.

Self-Insurance — The assumption or retention of the risk of loss by the contractor, whether voluntarily or involuntarily. Self-insurance includes the deductible portion of purchased insurance.

Sensitive Items — Those items that regardless of value could easily be adopted for personal use or converted to cash. Also property for which the theft, loss, or misplacement could be potentially dangerous to the public safety or community security, and which must be subject to exceptional physical security, protection, control, and accountability.

Severable — Capable of being severed or separated without undue harm to the parts and without undue cost.

Serviceable or Usable Property — Property that has a reasonable prospect of use or sale either in its existing form or after minor repairs or alterations.

Service Groups —Those functional areas responsible for establishing any scheduled service, such as preventive maintenance or calibration.

Shipping — The movement of parts/property from one major geographical area to another, usually via commercial carrier, or from one store to another is considered shipping. This is opposed to internal or in store movement.

Source Data — A fundamental document or record of transaction.

Source Document — A document that serves as a basis for posting information to the records of property to provide an auditable record of all transactions, evidencing acquisition, receipt, consumption, utilization, maintenance, physical inventory, and disposition; e.g., purchase or fabrication order, receiving report, stores requisition, record of equipment usage, record of maintenance performed, inventory ticket, and shipping documentation.

Spares — Those pieces of property that duplicate existing items but which are designed as replacements, as required, and are normally kept in reserve.

Standards — Rules or bases of comparison used in judging capacity, quantity, content, extent, value, or quality; levels of excellence or attainment regarded as a measure of adequacy.

Statistical Sampling — A technique by which evaluation of attributes or transactions, or facts or conditions obtained from randomly selected samples forms the basis for determining the degree to which an entire lot conforms to standards.

Stock Record — A perpetual inventory record which shows by nomenclature the quantities of each item received and issued and the balance on hand.

Storage and Warehousing — The activities related to receiving, storing, and shipping materials to and from production or distribution locations.

Storage Aids — Those materials used to facilitate the storage and handling of materials with a view toward personnel safety, production, and ease in handling.

Stratification — The layering of inventory by level for inventory purposes. Usually accomplished by value but can also be by usage or criticality. Subassembly -- An assembled unit designed to be incorporated with other units in a finished product.

Subcontract — Any contract entered into by a subcontractor to furnish supplies or services for performance of a prime contract or a subcontract. It includes but is not limited to purchase orders, and changes and modifications to purchase orders.

Subcontractor — Any supplier, distributor, vendor, or firm that furnishes supplies or services to or for a prime contractor or another subcontractor.

Supplies — All property except land or interest in land. It includes (but is not limited to) public works, buildings, and facilities; ships, floating equipment, and vessels of every character, type, and description, together with parts and accessories; aircraft and aircraft parts, accessories, and equipment; machine tools; and the alteration or installation of any of the foregoing.

Surveillance — To review or watch over. Generally in the form of a formal or informal review of procedures and/or implementation and related activities.

System — A regularly interacting or interdependent group of items forming a unified whole.

System Analysis — An analysis of all applicable functions of an organization's property control system for the purpose of obtaining overall knowledge of performance and comparison to generally accepted best property management practices.

Systemic — Pertaining to, affecting, or found throughout an organization's overall property control system.

Tagged Property — Property identified within an organization's property control system that by its nature (value, sensitivity, and special measure of control) qualifies to receive a unique tag, usually a bar-code for identification and tracking.

Tangible Intellectual Property — tangible property that is intellectual in nature, including software, technical data, printed information, and legal documents (such as claims, debts, insurance policies, stock certificates, and evidence of indebtedness).

Tangible Property — Property having physical existence and hence capable of being valued monetarily. Property other than intangible property.

Termination — To bring to an end. As related to contracts, to discontinue prior to the scheduled completion.

Unit — A single quantity or a determinate quantity (as of length, time, value, etc.).

Unit of Measure — The determination as to the specific measurable quantity, i.e., each, lot, feet, pounds.

Use — When applied to material and property it means engaging the asset or material into the business process for value.

User-defined Fields — Data fields in a Property Management System that can be labeled and used as desired.

Utilization — The documented use of material or an asset in the business process compared to the planned use.

Valuation — The act of estimating the value or worth; appraisement; evaluation; as, the just valuation of property.

Value-added — In property management, the activities involved in analyzing the business process to eliminate waste. Waste is defined as anything that does not add value to the product or service, whether material, equipment, space, time, energy, systems, or human activity of any sort.

Vehicle Pool — The assignment of vehicles to pools rather than individuals; removing culture and emotion to impact the fleet size problem; increasing utilization and availability with corresponding reductions in per-vehicle costs.

Work-in-Process — Material that has been released to manufacturing, engineering, design or other services under the contract and includes undelivered manufactured parts, assemblies, and products, either complete or incomplete.

NOTES

NOTES






4025 Tampa Road, Suite 1203, Oldsmar, FL 34677
Tel: (813) 475•6998 • Fax: (813) 749•0812 • www.npma.org