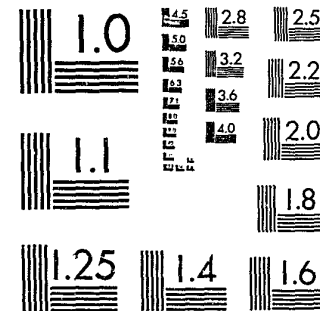


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# A Guide to Effective Prison Industries

## Volume VII

87053

### Cost Accounting Practices For Prison Industries

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# A Guide to Effective Prison Industries

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## Volume VII

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# Cost Accounting Practices for Prison Industries

U.S. Department of Justice 87053  
National Institute of Justice

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The publications included in **A Guide to Effective Prison Industries** are a series of volumes that address topics of relevance to contemporary prison industry operations. The following volumes are included in the series:

- Volume I: Creating Free Venture Prison Industries: Program Considerations
- Volume II: Product Selection and Market Research: Business Processes for Prison Industries
- Volume III: Issues in Management and Organization for Prison Industries
- Volume IV: General Principles of Industrial Engineering for Prison Industries
- Volume V: Applications of Industrial Engineering Principles in a Prison Manufacturing Operation: Furniture
- Volume VI: Applications of Industrial Engineering Principles in a Prison Service Operation: Printing
- Volume VII: Cost Accounting Practices for Prison Industries
- Volume VIII: Legal Problems and Issues in Modernizing State Prison Industries

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<b>FOREWORD</b> .....	v
<b>CHAPTER ONE: THE MANAGEMENT PROCESS AND ACCOUNTING SYSTEM</b> .....	1
Importance of Cost Information .....	1
Organizing the Cost Information .....	2
<b>CHAPTER TWO: JOB ORDER COST SYSTEMS FOR MANUFACTURING OPERATIONS</b> .....	7
Job Order Cost System .....	7
Materials .....	9
Factory Inmate Labor .....	13
Factory Overhead .....	13
<b>CHAPTER THREE: INVENTORY MEASUREMENT AND VALUATION</b> .....	19
Inventory Systems .....	19
Inventory Valuation .....	20
<b>CHAPTER FOUR: INSTALLATION OF JOB ORDER COST SYSTEMS IN CORRECTIONAL INDUSTRIES</b> .....	25
Need for Organizational Commitment .....	26
Preparing a Job Quotation Sheet .....	26
Scheduling Job Production .....	27
<b>CHAPTER FIVE: APPLICATION OF PROCESS COST SYSTEMS IN CORRECTIONAL INDUSTRIES</b> .....	39
Process Cost System .....	39
Installation Procedures .....	40
<b>APPENDIX</b> .....	45
Forms Supplement .....	47

## Table of Contents

## List of Figures

Figure 2.1—Job Quotation Sheet .....	8
Figure 2.2—Job/Lot Ticket .....	10
Figure 2.3—Receiving Report .....	12
Figure 2.4—Stock Record Card .....	14
Figure 4.1—Job Quotation Sheet (example) .....	27
Figure 4.2—Job/Lot Ticket (example) .....	28
Figure 4.3—Monthly Labor Reconciliation Report (example) .....	31
Figure 4.4—Monthly Profitability Summary (example) .....	32
Figure 4.5—Monthly Raw Material Inventory Listing (example) .....	33
Figure 4.6—Monthly Work-In-Process Inventory (example) .....	34
Figure 4.7—Monthly Finished Goods Inventory (example) .....	35
Figure 4.8—Sample Format for Recurring Journal Entries (example) .....	36
Figure 5.1—Monthly Finished Goods Inventory Listing (Process Cost System) .....	40
Figure 5.2—Mattress Shop Schedule of Percentages of Completion by Stage of Completion (Process Cost System) .....	41
Figure 5.3—Monthly Work-In-Process Inventory Listing (Process Cost System) .....	42
Figure 5.4—Monthly Standard Cost Summary of Goods Shipped and Related Variances (Process Cost System) .....	44

## Foreword

There is a growing recognition that prison industries must develop a stronger focus on individual accountability and performance requirements, as well as on production goals and profitability to become viable economic entities. Accordingly, managers at the shop, institution and central office levels within divisions of Correctional Industries will be required to be actively involved in (1) planning, (2) directing, and (3) controlling their operations. To fulfill these three basic responsibilities managers will necessarily require relevant information.

An effective management accounting system is needed for the accumulation, classification and interpretation of cost and revenue data. These data can then be used to assist management in meeting its responsibilities. More specifically, the data can be used for the following three purposes:

1. To support planning and the establishment of policies;
2. To facilitate managerial control; and,
3. To guide the manager's decision making process.

In the first chapter the authors describe the role of the management accounting system as an internal reporting mechanism for planning and controlling routine operations. Chapter Two describes two basic cost accounting systems and the application of the job order cost system to Correctional Industries. The third chapter briefly presents inventory measurement and valuation procedures and makes recommendations for Correctional Industries. Chapter Four describes a job order cost system which was specifically designed for Correctional Industries and outlines the various procedures required to install and maintain this system. Chapter Five, the final chapter, describes the application of the process cost system to certain Correctional Industries' shops and the recommended approach to installing and evaluating the system.

This manual is not intended to cover all aspects of managerial accounting which are applicable to Correctional Industries. It presents an overview of actual cost accounting systems which have been designed and installed in the Correctional Industries environment. They provide the basic framework to capture relevant information which is needed to properly direct, plan and control. Consequently, readers should be able to ascertain the specific principles to be followed and procedures to be developed to adopt more effective systems within their organizations.

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## Chapter One:

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# The Management Process and Accounting System

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### OBJECTIVES OF THE CHAPTER:

1. To provide an overview of the management process
  2. To describe the role of cost information in managerial decisions
  3. To define cost classifications that facilitate decision-making
  4. To discuss briefly the major cost elements involved in manufacturing operations.
- 

## The Management Process and Accounting System

The essence of the management process is decision-making—the act of choosing from a set of available alternatives to attain specific objectives. It encompasses two activities, planning and control. Planning means the selection of objectives and the related resources needed to attain these objectives. Control encompasses the (1) implementation phase of planning and, (2) evaluation through feedback to assure objectives are reached in an optimal manner.

### The Management Process

An effective internal management reporting system formalizes the planning phase through the use of budgets. The system then records and measures actions implemented through source documents (e.g., customer and vendor invoices, receiving reports, raw material inventory issuances, job/lot tickets), and utilizes ledgers to classify these actions. Finally, it formalizes control through performance reports. These performance reports provide the necessary feedback by comparing actual results with planned results and by highlighting variances.

Analysis of performance reports should precipitate the investigation of variances from the plan. Corrective actions should be implemented to bring operations into conformity with the plans or the plans must be revised. This is the notion of "management by exception."

Managers need cost data to make informed decisions. These decisions primarily relate to: planning, pricing, product or service profitability, process efficiency, and manpower performance.

### Importance of Cost Information

The organization's planning function depends on relevant cost information. Plans for marketing strategy need data on cost-volume relationships; development of facilities and evaluation of capital projects require estimates of costs and savings, and financial forecasting is based on projections of costs.

### Planning

## Pricing

It should be emphasized, however, that costs of historical activities will not necessarily reflect the costs of future actions. Therefore, when historical data are used in planning, they usually must be adjusted to reflect future expectations.

The cost of the product or service is an important input to the pricing decision. If the organization makes only one product the total cost of the product is relatively easy to determine. However, each Correctional Industry generally produces more than one product and some of the costs incurred are common to several or all products produced. Common costs need to be allocated to determine realistic costs.

Fluctuations in sales volume may impact on production levels. Different production levels may result in different costs per unit of product because, while some manufacturing costs vary with volume, others remain relatively fixed. Determination of unit costs at several levels of production will require an understanding of which costs vary with volume and to what degree.

## Product or Service Profitability

Knowing the profitability of the Division of Correctional Industries or the profitability of an individual shop may not help when management is considering adding or dropping a product or altering the product mix. In this instance management needs to know how much each product contributes toward overhead and profits.

## Manpower Performance

The organization needs to evaluate the performance of individuals as well as groups of individuals. To perform this evaluation management needs to be able to measure performance in terms of costs and outputs. Budgets or standard costs per unit usually provide acceptable bases for performance evaluations.

## Organizing the Cost Information

Correctional Industries incur many different kinds of costs, such as materials, civilian and inmate salaries, supplies, power, maintenance, freight-out, rent, etc. These costs need to be organized so that they can be used in the planning and controlling activities. Cost data should be classified according to the following three categories:

1. By function, e.g., manufacturing, marketing and administration.
2. By organizational unit, e.g., wood working, upholstery, refinishing, sign shop, dairy, livestock, farms, etc.
3. By product, service, or crop within the organizational unit.

Most organizations use functional categorization as a natural first step in collecting cost information. We will examine the typical functional costs which Correctional Industries incur.

## Manufacturing Costs

The manufacturing process includes all activities required to convert material into finished product.

The three major elements in the cost of a manufactured product are:

- Direct material
- Direct labor
- Manufacturing overhead

Materials and labor which can be traced directly to the finished product are called **direct costs**. Other shop and institutional manufacturing related costs are required to complete the production process but cannot be associated with a specific product. Examples of these costs include the depreciation of machines used in production, the factory building housing production facilities, shop and institutional supervisory salaries, inmates engaged in maintenance work, etc. These costs of production are called **overhead expenditures**, or indirect costs. The application of both direct costs and overhead costs to the cost of production is usually referred to as full absorption costing. This method is required by generally accepted accounting principles and therefore is required for external reporting purposes.

Another method of costing production, called "direct costing", is sometimes used for internal reporting purposes. Under direct costing only the variable component of manufacturing overhead is included in the cost of the product. Fixed manufacturing costs, rather than included in the cost of the product, are expensed in the period they are incurred.

## Selling and Administrative

Selling expenses cover the cost of making sales and delivering products and include the salaries of people performing the marketing function, sales commissions, advertising, freight and similar costs.

Administrative expenses include costs incurred in the direction, control and administration of Correctional Industries such as the Director, the central office and staff salaries, and all other central office and supporting expenses.

Selling and administrative expenses are not applied to the cost of production. They are considered expenses of the period in which they are incurred.



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## Chapter Two:

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# Job Order Cost Systems for Manufacturing Operations

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### OBJECTIVES OF THE CHAPTER:

1. To briefly describe the two basic cost accounting systems: the job order and process cost systems
2. To discuss in detail the application of the job order cost system to Correctional Industries including a detailed explanation of the related source documents:
  - The job quotation sheet
  - The job/lot ticket
  - Other source documents relating to materials, direct inmate labor, and factory overhead

## Job Order Cost Systems for Manufacturing Operations

---

All costs need to be properly accumulated to facilitate decision-making. Cost accounting systems should be designed to collect the total costs in order to support the activities of planning and control. The following discussion provides an overview of the systems that can be used for accumulating product costs by a manufacturing organization.

## Cost Accounting Systems

There are two basic types of cost systems:

1. Job order cost systems, and
2. Process cost systems.

Job order cost systems provide a separate record of the cost of each particular quantity of product that passes through the factory. They are appropriate for situations where products are readily identified by individual units or batches, each of which requires differing skills and material inputs. In contrast, process cost systems accumulate costs for each of the product lines or processes in a factory. They are appropriate for a continuous manufacturing process, geared to produce a quantity of similar units in a series, all of which require the same amount of skill and inputs.

## Cost System for Manufacturing Operations

Correctional Industries are generally engaged in manufacturing operations where products are (1) made to customers' specifications and the identity of the individual job is maintained or, (2) standard products are made in batches and not on a continuous basis. In these instances, a job order cost system is considered more appropriate than a process cost system.

## Job Order Cost System

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Source documents which record and accumulate material, labor and overhead costs form the basis of the job order cost accounting process. The following documents are most commonly used: job quotation sheets; job/lot tickets; purchase orders; receiving reports; supplier invoices; raw material inventory stock record cards; raw material issuance slips; and time cards.

The job quotation sheet and the job/lot tickets are individually described in the following paragraphs as they are the two key documents utilized in the cost system. The remaining source documents are covered as we describe the material, labor and manufacturing overhead cost elements of product costs.

### JOB QUOTATION SHEET

The job quotation sheet identifies the various costs (including direct material, direct inmate labor, and factory overhead) that will be incurred to complete

#### Job Quotation Sheet

(List each product type on a separate sheet)			
Date _____	Customer _____	Quote # _____	
Description of Item to be Sold _____			
<b>Materials to be Used</b>			
Description	Quantity	Unit Cost	Total Cost
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
TOTAL ESTIMATED MATERIAL COST			(A) _____
<b>Labor Operations</b>			
List each step or operation needed to complete job	(2) Time Allotted (Hours)	(3) Estimated Labor Rate	Total Labor Cost Column 2 x Column 3
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
_____	_____ x	_____	_____
TOTAL ESTIMATED LABOR COST			(B) _____
<b>ADD: MANUFACTURING OVERHEAD</b>			
Indirect Inmate labor	_____ %	Total Estimated Labor Cost	_____
Shop manufacturing	_____	_____	_____
Institutional supervision	_____	_____	_____
Total Manufacturing Overhead	_____ x	_____	_____ (C)
PRODUCT COST		(A) + (B) + (C)	_____ (D)
<b>ADD: SG&amp;A ALLOCATION</b>			
Central Office SG&A	_____ x	_____	_____ (E)
Total Cost		(D) + (E)	_____ (F)
ADD: Profit at 10% of Total Cost: .10 x (F)			_____ (G)
QUOTED SALES PRICE (F) + (G)			_____
APPROVED: _____			
Supervisor		Superintendent	

Figure 2.1— Job Quotation Sheet

the specific job. It also identifies each job's share of Industries overall selling and administrative expenses. Thus it summarizes the basis for the selling price as quoted to the customer. A typical job quotation sheet is illustrated in Figure 2.1.

The job quotation sheet is a key document in the job order cost system for three important reasons:

**First**, for all new products the job quotation sheet can be used by the production manager at the central office to support the marketing manager in his negotiations with customers. This will not only help the marketing manager to negotiate selling prices which will generate reasonable profits to Correctional Industries, but will also help to avoid the very serious problem of accepting orders at selling prices that may not cover direct manufacturing costs.

**Second**, identification of materials and required labor operations serve as a framework for material withdrawal from the storage areas and for scheduling inmate direct labor.

**Finally**, the document permits comparisons to be made between actual costs incurred and the original estimate.

### JOB/LOT TICKET

The job/lot ticket provides a running record of all direct material and direct labor costs expended on a job. A typical job/lot ticket is illustrated in Figure 2.2. The job/lot ticket shows where costs were incurred, the reason they were incurred, when they were incurred and who authorized them.

Before a job is completed, the job/lot ticket provides sufficient details to summarize the work-in-process inventory. On completion of a job, the data on the related job/lot ticket is totaled to determine the cost of the job. It then provides the basis for monthly adjustments to finished goods inventory, and ultimately at the time of sale, to cost of goods sold.

A space is provided on side one of the job/lot ticket for the shop supervisor to specify any unusual production considerations which need to be brought to the attention of the labor force before the job is begun. Additional space is provided below for comments while the job is in process to explain the reason for excessive material or labor usage on the job. This justification will facilitate any necessary variance analysis after the job is completed.

The following discussion describes the basic principles and procedures commonly employed in the procurement, storage and issuance of raw materials together with the remaining documents utilized in the cost accounting process.

### Materials

#### MATERIAL PROCUREMENT

Sometime before the manufacturing process begins for a particular product the shop initiates a purchasing requisition. This requisition should describe



Required Completion Date _____					
Lot # _____ Customer _____		Job # _____			
Production Date _____		Type of Product _____		No. of Units _____	
<b>Material Used</b>					
Description	Issuance Approved By	Date Issued	Quantity	Unit Cost	Total Cost
<b>TOTAL MATERIAL COST</b>					(A) _____
<b>PRIOR TO COMMENCING JOB:</b> Record in the space below any unusual production considerations: e.g., manufacturing sequence for new product, unusual material requirements, quality control considerations, etc.  <hr/> <hr/> <hr/>					
<b>WHILE JOB IN PROCESS:</b> Explain in the space below justification for excessive material or labor used on the job.  <hr/> <hr/> <hr/>					
<b>FINISHED JOB/LOT INSPECTED AND APPROVED BY:</b> _____					

See Other Side for Labor Costs

appropriate specifications to assure the adequacy of the materials for their intended use. The appropriate state and/or Correctional Industries purchasing agent issues the necessary **purchase orders** to suppliers after having completed relevant quotation/bidding procedures. The materials are received in the shop or in a central warehouse. Upon receipt they are inspected and a **receiving report** is prepared indicating the description of the materials, the quantity received, the signature of the individual receiving the materials and the date of his acceptance. A receiving report is presented in Figure 2.3.

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[illegible]

## MATERIAL STORAGE

**A stock record card file** is essential to maintain control over raw materials inventory. Quantity balances on hand for critical raw material inventory items should be routinely compared with previously determined reorder quantities to avoid costly stock-outs. Both minimum and maximum inventory levels should be established by management based on expected usage, the time necessary to requisition, order, and receive delivery of material, plus an allowance for protection against stock-out. To assure the accuracy of

## Receiving Report

[illegible]

### Figure 2.3—Receiving Report

quantities on hand as recorded on the stock record cards, it is recommended that on a regular basis (for example, over a 90-day period), every raw material inventory item is physically counted and compared with the balance on hand. Differences should be investigated and adjusted on the stock record card.

The stock record card can also be used to maintain a record of the historical month-end cost on hand data which is useful for comparison with the current year monthly inventory level. Pertinent vendor information is recorded on the reverse side of the stock record card to facilitate the purchasing function. The need for strict control of raw material inventory is generally limited to a relatively small number of items which contribute most significantly to product costs. Production supplies such as glue, thread, and other incidental items are not usually subject to the same degree of control.

## MATERIAL ISSUANCE

When a job is started, the materials necessary for production are issued to the shop on the basis of the job quotation sheets which are authorized by the shop supervisor. A job quotation sheet is presented in Figure 2.1. The stock-room clerk verifies the issuances of the requested materials by initialing the

job/lot ticket. Each issuance is also supported by a prenumbered raw material issue slip prepared by the stockroom clerk and posted daily to the stock record card.

Any raw material inventory item returned to the stockroom is recorded and deducted from the job/lot ticket; a prenumbered return slip is also prepared from which the quantity returned is posted daily to the stock record card.

The formality of the requisition process inhibits unauthorized issuances of inventory and facilitates inventory control.

The two principal objectives in accounting for inmate labor are:

1. Determination of the correct amount to be paid to each inmate for the payroll period; and
2. Provision for an appropriate separation of inmate labor costs into direct labor costs (allocated to individual job orders) and indirect inmate labor costs (one component of factory overhead).

### Factory Inmate Labor

## TIME CARDS

Time cards (or time sheets) are often used to record the actual time worked by inmates who are paid an hourly wage. The time cards are the basis for payroll computations. Some Correctional Industries use attendance records and assume inmates work the standard number of hours for each day they are present. Others pay inmates based on the normal workday regardless of attendance. Each of these systems fail to reveal that during a particular day an inmate may work on several jobs for differing periods of time. However, the job/lot tickets maintain a complete record of the hours worked by inmates on individual jobs, and this permits the determination of the direct labor cost component for each job.

A daily reconciliation of total inmate hours worked (obtained from time cards) with direct labor hours charged to individual jobs (obtained from respective job/lot tickets) provides the amount of indirect inmate labor hours and accordingly the indirect inmate labor costs.

Factory overhead includes all manufacturing costs, except direct materials and direct labor. In the Correctional Industries environment it is meaningful to separate the total factory overhead into three components:

### Factory Overhead

1. **Indirect inmate (resident) labor** represents the portion of inmate labor not directly traceable to individual jobs including, but not limited to, custodial, clerical, mechanics, training of new direct labor, etc.
2. **Shop manufacturing overhead** represents all other indirect costs incurred in the production process at the individual shop level including indirect materials or supplies, electricity and fuel expenditures, shop supervisory salaries, depreciation of shop facilities or rent, etc.

[illegible]

**Figure 2.4—Stock Record Card  
(Side 1)**

3. **Institutional supervision overhead** represents all costs incurred at the institution level by the industries manager/superintendent and his office on behalf of the shops, including, but not limited to, salaries and fringe benefits.

It is customary to **apply** factory overhead to production by using a predetermined factory overhead rate (factor).

The factory overhead rate (factor) is determined by relating the amount of overhead expected to be incurred in the forthcoming period (called budgeted overhead) to the expected activity in the shop during that period expressed on a basis that will equitably apply overhead to products manufactured.

The more common bases are expected production units, expected direct labor hours, expected direct labor cost, and expected direct machine hours. The basis chosen will depend on the specific production process.

VENDOR'S NAME & ADDRESS PHONE NO. AND F.E.I.N. NO.		VENDOR'S ITEM NUMBER AND/OR DESCRIPTION	
1.			
Phone #			
F.E.I.N.			
2.			
Phone #			
F.E.I.N.			
3.			
Phone #			
F.E.I.N.			
4.			
Phone #			
F.E.I.N.			
5.			
Phone #			
F.E.I.N.			

**Figure 2.4—Stock Record Card  
(Side 2)**

In the Correctional Industries environment, direct labor cost is generally considered the most appropriate measure of activity. The following formulas describe the computations for each of the factory overhead factors to achieve full absorption costing:

a. <b>predetermined indirect inmate labor factor</b>	=	$\frac{\text{budgeted indirect inmate labor cost for the shop}}{\text{budgeted direct inmate labor cost for the shop}}$
b. <b>predetermined shop manufacturing overhead factor</b>	=	$\frac{\text{budgeted manufacturing overhead for the shop}}{\text{budgeted direct inmate labor cost for the shop}}$

$$\text{c. predetermined institutional supervision overhead factor} = \frac{\text{budgeted supervision overhead cost at the institutional level for all shops}}{\text{budgeted direct inmate labor cost for the total institution}}$$

As an example, let us assume the following cost data for a hypothetical Correctional Industry Shop for the forthcoming period:

Estimated direct inmate labor costs for shop	\$ 30,000
Estimated indirect inmate labor costs for shop	25,500
Estimated manufacturing overhead costs for shop	64,500
Estimated institutional supervision overhead	10,000
Estimated total direct inmate labor costs for all the shops in the institution	\$200,000

Using the formulas defined above and the assumed data, the component manufacturing overhead factors are computed as follows:

a. Indirect inmate labor factor	=	$\frac{\$25,500}{\$30,000}$	=	85% of direct labor cost
b. Shop manufacturing overhead factor	=	$\frac{\$64,500}{\$30,000}$	=	215% of direct labor cost
c. Institutional supervision overhead factor	=	$\frac{\$10,000}{\$200,000}$	=	5% of direct labor cost
Total manufacturing overhead factor	=		=	<u>305%</u> of direct labor cost

## Chapter Three:

# Inventory Measurement and Valuation

## Inventory Measurement and Valuation

### OBJECTIVES OF THE CHAPTER:

1. To discuss two basic systems used in measuring inventories:
  - The periodic inventory system; and
  - The perpetual inventory system
2. To describe the three methods most commonly used to cost (or value) inventories:
  - First-in, first-out (FIFO)
  - Last-in, first-out (LIFO)
  - Weighted average

## Inventory Measurement and Valuation

The importance of valuing/costing inventory is to determine the true cost of goods sold. To determine cost of goods sold, three amounts must be known: (1) beginning inventory; (2) purchases during the period; and (3) ending inventory. The ending inventory of one accounting period is the beginning inventory of the next period. Therefore, the beginning inventory amount will be available from the prior period. The amount of purchases for the period will be accumulated in the accounting system and should represent all raw materials received during the period. Determining the value of the ending inventory is a two-step procedure:

#### Step One: Inventory Measurement

Determine the actual physical quantity of each type of inventory on hand.

#### Step Two: Inventory Costing

Assign a unit cost for each type of inventory on hand.

The quantity of each type of inventory multiplied by the unit price paid for each item represents the dollar value of the inventory (i.e., the inventory cost).

A brief discussion of the two systems that are generally used in measuring inventories is presented. It is followed by the three most commonly applied inventory costing procedures.

## Inventory Systems

There are two principal systems for measuring inventories: (1) periodic and, (2) perpetual.

In the **periodic system**, no detailed records of inventory are maintained during the year. An actual physical count of goods remaining on-hand is taken at the end of each period. The quantity of units of each type of goods

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on-hand is multiplied by its respective purchase price per unit to obtain the dollar cost of inventory on-hand. Under the periodic method the balance of goods on-hand and the value of the goods is not known until the inventory count is taken and the pricing is completed.

Under the **perpetual system**, a detailed record is maintained for each raw material inventory item on-hand indicating (a) the quantity and unit cost of each purchase, (b) the quantity and the unit cost issued to production, and (c) the quantity and total cost on-hand at any point in time. The record is maintained on a transaction-by-transaction basis throughout the period. Even with a perpetual system there is a need to perform test counts to insure the stock record cards are being accurately maintained. Periodic counts should be performed during the accounting period to verify the accuracy of the stock record cards. The perpetual inventory method has three important benefits:

1. It facilitates the job of counting inventory by spreading out the counts rather than concentrating the physical count at the end of the period.
2. It helps to disclose inventory shortages or other irregularities.
3. It permits more timely preparation of financial statements by eliminating the need for a physical count to determine inventory costs each time interim financial statements are prepared.

## Inventory Valuation

For inventory purposes, cost may be determined by specific identification or by the association of the flow of cost factors:

1. First-in, first-out method (FIFO)
2. Last-in, first-out method (LIFO)
3. Weighted average (average cost) method

In describing an inventory cost method the primary objective is the selection of the method that under the circumstances most clearly reflects periodic income. Generally, the identity of goods and their specific related costs are lost between the time of acquisition and the time of sale. This has resulted in the development and general acceptance of these methods to provide a practical basis for the measurement of periodic income. Each of the methods is briefly described below:

### FIFO METHOD

The FIFO method of costing inventory is based on the assumption that costs should be relieved from inventory in the order in which they were incurred. Consequently, the ending inventory is assumed to be composed of the most recently incurred costs. In industries which tend to dispose of inventories in the order of acquisition, the FIFO approach will reflect the physical flow of merchandise through the enterprise and is the most accurate reflection of the cost of the materials used to manufacture the product. The FIFO method is easy to compute and is the only assumed cost flow that produces identical results whether applied on a periodic or perpetual basis. Under this method, inventory is represented by the most recently incurred costs; therefore it bears a relatively close relationship to current replacement prices. FIFO is the best approximation of the results that would be obtained by the specific identification method.

### LIFO METHOD

The LIFO method assumes that the most recently acquired inventories are sold first—irrespective of the physical flow of goods. The LIFO method of determining inventory requires more complicated record-keeping. During periods of increasing costs the reported income will be lowest under the LIFO method since the most recently incurred costs are expensed. The ending inventory is assumed to be composed of the earliest incurred costs.

### WEIGHTED AVERAGE COST METHOD

This method assumes that costs should be relieved from inventories and charged to cost of sales through the use of a costing method which averages the unit production costs. Essentially, it is a compromise between the FIFO and LIFO methods.



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# Chapter Four:

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## Installation of Job Order Cost Systems in Correctional Industries

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### OBJECTIVES OF THE CHAPTER:

1. To describe the various activities required to install and successfully implement a job order cost system including:
  - The need for organizational commitment to successfully install and maintain the system
  - Preparation of the job quotation sheet
  - Scheduling job production
  - Accumulation of cost data on the job/lot ticket
  - Reconciling direct and indirect inmate labor to the total inmate labor expense
2. To describe how the data generated by the system for each job is transferred to the shop's monthly profitability summary
3. To summarize the benefits derived from the job cost system

It should be emphasized that job order cost systems can be very complex with multiple variance categories both for material and labor and can result in extensive paperwork requirements. These complex systems are costly, require experienced cost accountants for their implementation and maintenance, and, therefore, are not recommended for the correctional environment. For this environment we recommend a simplified job order cost system which is described in the following pages.

The system described in this Guide has been specifically designed for the unique needs of Correctional Industries. This job order cost system has been implemented in the State of Illinois. Illinois has made substantial progress toward improving its planning and control functions as a result of the data generated by the job order cost system.

This system informs the central office of what is going on at the shop level. It bridges the geographical separation between shops and the central office by providing a vehicle for pinpointing and communicating problems. It expresses these problems in the form of material and labor variances—what was expected compared to what actually happened.

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## Installation of Job Order Cost Systems in Correctional Industries

Need for Organizational Commitment

There is a natural tendency in any institutional system or, for that matter, in any organization, to maintain the status quo, and generally to distrust and even resist any system which pinpoints problems. A job order cost system imposes the burden of having to solve identified problems and, ironically, may make the system initially unattractive. Therefore, it is important to recognize that the system cannot be successfully installed and utilized without the total commitment and support of the Director and line and staff managers.

Having determined that the required commitment can be gained from top managers, the next phase in implementing the job order cost system is to assign one person on the central office staff the full-time responsibility of installing the cost system in each of the shops. A job order cost system is both a production and an accounting tool. Accordingly, the "Installer/Cost System Auditor" may report either to the Production Manager or the Chief Financial Officer.

At the shop level, each supervisor should be assigned the actual responsibility of installing the job order cost system with the assistance of the "Installer". The supervising industries managers must insure that each shop supervisor accomplishes a timely and proper installation. These managers will be held accountable for the information to be generated by the system. Accordingly, the burden is on them to assure that accurate data is being accumulated by the system.

The first step at the shop level is to develop a bill-of-materials for each item in the product line which details the raw materials required for production together with the most recent cost data. Similarly, a list should be prepared which records each work operation required to manufacture every product, the approximate time to complete each production operation, and the expected labor rate of the inmate performing the task.

Preparing a Job Quotation Sheet

The job quotation sheet details the established cost of material and labor. These costs are assumed to be readily attainable, and, therefore, are referred to as standard costs. Standard costs establish performance expectations and provide a mechanism to evaluate the efficiency of operations. At the completion of the job the actual costs incurred can be compared with the standard costs and variances from expectations can be determined.

The indirect inmate labor, shop manufacturing and institutional supervision overhead factors are computed using the formulas described in Chapter Two, on pages 15 and 16. The central office selling and administrative cost allocation factor is similarly computed by dividing the estimated central office selling and administrative costs for the period by the individual shop's estimated direct inmate labor cost. These factors are totaled and multiplied by the estimated direct inmate labor and the results used as an estimate of the factory overhead and selling and administrative costs which must be covered in the selling price. The total direct materials, direct labor, factory overhead and selling and administrative costs represent the total estimated cost to manufacture and sell the product. These total costs, plus any targeted profit, should result in a satisfactory selling price.

The same procedure is followed for each new product introduced to the product line. For shops such as the print shop, where each job generally requires a different combination of materials and labor, a job quotation sheet will probably be required for most jobs.

Job Quotation Sheet

(List each product type on a separate sheet)

Date 11/21/80 Customer Dept. of Mental Health Quote # 118MH

Description of Item to be Sold Coveralls, Long Sleeve (White Twill)

Materials to be Used

Description	Quantity	Unit Cost	Total Cost
6.75 oz. Twill	3.0 yds. x	\$ 2.11	= \$ 6.33
Muslin	.5 yds. x	.67	= .34
1¼" Elastic	.5 yds. x	.08	= .04
Steel Buttons	6 each x	.01	= .06
5% Misc.	x		= .34
TOTAL ESTIMATED MATERIAL COST			7.11 (A)

Labor Operations

List each step or operation needed to complete job	(2) Time Allotted (Hours)	(3) Estimated Labor Rate	Total Labor Cost Column 2 x Column 3
Layout & cutting	1.00 x	.20	= .20
Tagging	.12 x	.25	= .03
Sewing	5.55 x	.25	= 1.22
Picking & folding	.25 x	.20	= .05
Packing	.32 x	.25	= .08
TOTAL ESTIMATED LABOR COST			1.58 (B)

ADD: MANUFACTURING OVERHEAD	%		
Indirect inmate labor	36	Total	
Shop manufacturing	220	Estimated	
Institutional supervision	82	Labor Cost	
Total Manufacturing Overhead	338 x	1.58	= 5.34 (C)
PRODUCT COST		(A)+(B)+(C)	= 14.03 (D)

ADD: SG&A ALLOCATION			
Central Office SG&A	96 x	1.58	= 1.52 (E)
Total Cost		(D)+(E)	= 15.55 (F)
		ADD: Profit at 10% of Total Cost: .10 x (F)	= 1.56 (G)
		QUOTED SALES PRICE (F)+(G)	= \$17.11

APPROVED: J. Jones Supervisor

E. Smith Superintendent

Figure 4.1—Job Quotation Sheet (example)

A properly prepared job quotation sheet provides a vital tool to the individual responsible for the negotiation of selling prices.

A completed job quotation sheet is presented in Figure 4.1 to illustrate this procedure.

A completed job quotation sheet which has been approved by the shop supervisor is then numbered and used for the withdrawal of materials and for production scheduling. As the materials are issued by the inventory control clerk, the description, quantity and unit cost are recorded on the job/lot ticket. The job/lot ticket presented in Figure 4.2 summarizes the actual costs incurred on the job. As materials are issued, the inventory control clerk signs and dates the job/lot ticket to verify the issuance. He then prepares pre-

Scheduling Job Production

## Job Lot Ticket

Required Completion Date <u>1/6/81</u>	
Lot # <u>3</u> Customer <u>Dept. of Mental Health</u>	Job # <u>2049</u>
Coveralls, Long Sleeve (White Twill)	
Production Date <u>12/6/80</u> Type of Product <u></u>	No. of Units <u>100</u>

Material Used					
Description	Issuance Approved By	Date Issued	Quantity	Unit Cost	Total Cost
6.75 oz. Twill	E. Fuller	12/6/80	360 yds.	2.11	\$759.60
Muslin	E. Fuller	12/8/80	78 yds.	.67	52.26
1 1/4" Elastic	E. Fuller	12/9/80	5 1/2 yds.	.08	4.08
Steel Buttons	E. Fuller	12/9/80	600 each	.01	6.00
5% Misc.	E. Fuller	Various	—	—	41.10
<b>TOTAL MATERIAL COST</b>					<b>\$863.04 (A)</b>

**PRIOR TO COMMENCING JOB:**  
Record in the space below any unusual production considerations: e.g., manufacturing sequence for new product, unusual material requirements, quality control considerations, etc.  
Exercise care when cutting muslin because muslin in stock was purchased from a new supplier

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**WHILE JOB IN PROCESS.**  
Explain in the space below justification for excessive material or labor used on the job.  
Bad cut by new cutter causing additional 60 yds. to be used.

---



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**FINISHED JOB/LOT INSPECTED AND APPROVED BY:** L. Richards 12/13/80

**Figure 4.2—Job/Lot Ticket (example)  
(Side 1)**

numbered issuance slips to support the withdrawal entry on the appropriate stock record cards.

Any work order which requires more than one week to produce should be split into components (lots) equal to one week of production time. As an example, assume that work order number 108 requires 50 executive desks to be manufactured in the furniture shop and that an estimated 25 can be produced in one week. Two job/lot numbers should be assigned, 108-1 and 108-2. This procedure enables potential production problems to be pinpointed early.

The number of hours worked by inmates each day is recorded on the respective job/lot tickets. The difference between the total hours worked by inmates each day and the total direct labor hours charged to specific jobs is to be recorded as indirect hours. This information should be summarized daily for each shop in the format outlined in the Monthly Labor Reconciliation Report

## Job Lot Ticket

Lot #	3	Customer	Dept. of Mental Health		Job #	2049
Type of Product	Coveralls, Long Sleeve (White Twill)				No. of Units	100
<b>Direct Labor</b>						
(1) Day Worked	(2) Name of Worker	(3) Operation	(4) Hours Worked	(5) Hourly Labor Rate	Total Labor Cost Column 4 x Column 5	
12/6	P. Smith	cutting	77.6	.25	19.40	
12/8	L. Jones	tagging	8.5	.25	2.13	
12/9	F. Myers	sewing	517.5	.25	129.38	
12/9	J. Manton	picking & fold.	27.5	.20	5.50	
12/10	G. Toomey	packing	37.5	.25	9.38	
<b>TOTAL DIRECT LABOR COST</b>					165.79	(B)
			Percent %	Actual Direct Inmate Labor Cost		
<b>ADD: MANUFACTURING OVERHEAD:</b>						
Indirect Inmate labor	36	x	165.79	=	59.68	(C)
Shop manufacturing	220	x	165.79	=	364.74	(D)
Institutional supervision	82	x	165.79	=	135.95	(E)
Actual product cost of Job/Lot	A + B + C + D + E			=	1,589.20	(F)
<b>ADD: SG&amp;A ALLOCATION</b>						
	96	x	165.79	=	159.16	(G)
Total cost of Job/Lot	F + G			=	1,748.36	(H)
Selling Price (17.11/unit x 100 units)				=	1,711.00	(I)
Profit (Loss) on Job/Lot	I - H			=	\$ (37.36)	(J)
<b>ENTERED ON MONTHLY PROFITABILITY SUMMARY OF FINISHED JOBS:</b>						
DATE:	12/13/80	LINE NO.	2			
See Side 1 for Material Costs						

**Figure 4.2—Job/Lot Ticket (example)**  
(Side 2)

as illustrated in Figure 4.3. This monthly summary will provide the support for a bookkeeping journal entry to adjust indirect and direct inmate labor to the proper amounts.

If additional material or labor over that originally estimated is needed to complete a particular job, the reason should be recorded on the job/lot ticket as soon as it is determined. Explanations which describe the production inefficiencies due to inmate callouts, operations being performed by inexperienced inmates due to turnover, raw materials which do not meet specifications of the job, etc., will be valuable information and facilitate subsequent investigations and explanations of variances.

When the job is complete, direct material and labor recorded on the job/lot ticket should be totaled. The actual direct labor is then multiplied by each of the overhead factors as an estimate of that particular job's fair share of the estimated overhead. The cost categories are then added together to de-

termine the total cost. The estimated profit or loss on the job can now be computed by subtracting the total cost from the selling price.

After completing these computations the following information should be posted from the job/lot ticket to a monthly profitability summary.

DESCRIPTION	SOURCE
Completion date of the job	job/lot ticket
Description of the finished product	job/lot ticket
Job/lot number	job/lot ticket
Sales price	job quotation sheet
Direct materials cost	job/lot ticket
Direct labor cost	job/lot ticket
Overhead estimates	
• Indirect resident labor	job/lot ticket
• Factory manufacturing overhead	job/lot ticket
• Institutional supervision overhead	job/lot ticket
Central office selling and administrative costs allocated	job/lot ticket
Net profit or loss	job/lot ticket
Estimated or standard direct materials	job quotation sheet
Estimated or standard direct labor	job quotation sheet

The data described above have been posted to a sample monthly profitability summary in Figure 4.4. The material and labor variances are determined by computing the difference between the standard and actual material and labor costs. If the actual cost exceeds the standard, the variance is unfavorable. Conversely, if the actual cost required to complete the product was less than estimated, the variance is favorable. By providing a comparison of the estimated and the actual cost for each job the monthly profitability summary becomes a key management device to control production operations.

In order to convert the list of jobs completed during the month to a profitability statement for the month, it is necessary to deduct those jobs completed during the month which are on hand at month end and to add those jobs completed in a prior month but shipped during the current month. When each line of the monthly profitability summary is added down and the totals of each column are added across, the bottom line represents the shop's estimated income or loss for the period.

A major benefit of the recommended job order cost system is that the labor and material variances can be known soon after the job is complete. Accordingly, any required investigation and corrective action can be initiated quickly.

Another important feature of this system is that raw materials, work-in-process, finished goods, materials and labor variances, and cost of goods sold (direct materials and direct labor) are available as a natural by-product. No physical inventory counts are required. Each shop's raw material inventory is determined simply by copying the cost on-hand from the stock record card to a preprinted list as illustrated in Figure 4.5.

## Monthly Labor Reconciliation Report

Shop

Garment

Institution

Montgomery

Month, year

1/81

Date	Total Direct		Indirect		Total	
	Hours	Cost	Hours	Cost	Hours	Cost
1	112	\$ 28.00	28	\$ 7.00	140	\$ 35.00
2	106	26.50	32	8.00	138	34.50
3	118	29.50	26	6.50	144	36.00
4	109	27.25	19	4.75	128	32.00
5	94	23.50	20	5.00	114	28.50
6	—	—	—	—	—	—
7	—	—	—	—	—	—
8	98	24.50	36	9.00	134	33.50
9	124	31.00	38	9.50	162	40.50
10	113	28.25	30	7.50	143	35.75
11	110	27.50	26	6.50	136	34.00
12	96	24.00	24	6.00	120	30.00
13	—	—	—	—	—	—
14	—	—	—	—	—	—
15	121	39.25	40	10.00	161	49.25
16	116	29.00	37	9.25	153	38.25
17	111	27.75	32	8.00	143	35.75
18	102	25.50	30	7.50	132	33.00
19	109	27.25	21	5.25	130	32.50
20	—	—	—	—	—	—
21	—	—	—	—	—	—
22	126	31.50	24	6.00	150	37.50
23	121	30.25	28	7.00	149	37.25
24	101	25.25	26	6.50	127	31.75
25	86	21.50	38	9.50	124	31.00
26	79	19.75	33	8.25	112	28.00
27	—	—	—	—	—	—
28	—	—	—	—	—	—
29	102	25.50	20	5.00	122	30.50
30	101	25.25	24	6.00	125	31.25
31	130	32.50	30	7.50	160	40.00
Total cost of inmate labor per shop record	2485	\$621.25	662	\$165.50	3147	\$786.75
Total inmate salaries per central office/ Department of Corrections payroll records						\$844.00
Difference						57.25
Prepared by						
Date						

Figure 4.3—Monthly Labor Reconciliation Report (example)

The job/lot tickets for all products in the shop at the end of the accounting period are segregated into two categories: (1) work-in-process, and (2) finished goods. The total direct material, direct labor, indirect labor, factory manufacturing overhead and institutional supervision overhead are summarized from each job/lot ticket for both work-in-process and finished goods on schedules as illustrated in Figures 4.6 and 4.7 respectively.

The raw materials, work-in-process and finished goods schedules, as well as the monthly profitability summary, should be submitted to the Industries Manager by the third working day following each month end. This information should be reviewed for reasonableness together with the explanations for significant unfavorable variances. After the Industries Manager satisfies himself that the information presented is reasonable and that the shop supervisors have adequately explained all significant variances, copies are forwarded to the central office. The Production Manager should perform a similar review, including clerical checks, and provide copies to the Chief Fiscal

[illegible]

**Figure 4.4—Monthly Profitability Summary (example)**

Month Ending 12/31/80

Date 1/3/81

GARMENT, MONTGOMERY Shop

**Shop** \_\_\_\_\_

MONTHLY RAW MATERIAL INVENTORY LISTING

Institution \_\_\_\_\_

Check Source of Quantity Information: ☒ Perpetual Inventory ☐ Physical Count

Page 4 of 8

Prepared by L. Rich

(Side 1)

(Side 2)

Month Ending 12/31/80

Date 1/3/81

GARMENT, MONTGOMERY Shop

Shop \_\_\_\_\_

MONTHLY RAW MATERIAL INVENTORY LISTING

Institution \_\_\_\_\_

Check Source of Quantity Information: ☒ Perpetual Inventory ☐ Physical Count

Page 8 of 8

Prepared by L. Rich

33



## Monthly Work-In-Process Inventory

[illegible]

**Figure 4.6—Monthly Work-In-Process Inventory (example)**

Officer. These schedules will be used to prepare the recurring monthly journal entries for each shop to adjust raw materials, work-in-process, and finished goods as well as the materials and labor variances. An illustrative format for these journal entries is presented in Figure 4.8.

Since these entries are required each month, the suggested format simplifies the recording process by eliminating the need to rewrite the account descriptions for each of the five journal entries. The actual raw materials purchased/received and the actual inmate wages incurred during the month, plus the effect of these five journal entries, will represent the direct materials and direct inmate labor costs required to produce the goods sold. The ultimate test that the system is working properly is to compare the direct material and labor costs presented on the monthly profitability summaries with the adjusted general ledger balances for these accounts.

It should be emphasized that the general ledger and monthly profitability amounts for direct material and labor will probably never be identical. The differences, however, should not be significant. A substantial excess of direct material or labor per the general ledger over the monthly profitability summary would indicate that all the material/labor costs are not being recorded on the job/lot ticket or that job/lot tickets are not being utilized for all jobs.

## Monthly Finished Goods Inventory

[illegible]

**Figure 4.7—Monthly Finished Goods Inventory (example)**

After installing a job order cost system, internal auditing procedures should be initiated. Use of an audit program will facilitate uniform and consistent reviews among the shops.

The job of the cost system auditor is to identify problems in the job order cost system, to correct any erroneous cost information and to assist responsible civilian and inmate Correctional Industries employees so as to prevent recurring problems.

In conclusion, the job order cost system recommended for use in Correctional Industries can provide vital data for the planning and control functions but requires joint participation at the shop, institution and central office levels to properly install and maintain the system.

Sample Format for Recurring Journal Entries

Journal Entries	Shop _____		Institution _____			
	Month end / /		Month end / /		Month end / /	
	DR	CR	DR	CR	DR	CR
1. Indirect inmate labor cost	165.50					
Direct inmate labor cost		165.50				
—to record indirect portion of shop's inmate labor						
2. Raw Material Inventory	3,114.86					
Direct materials		3,114.86				
—to adjust the shop's raw material inventory to the month end balance						
3. Work-in-process inventory	437.07					
Direct materials		357.94				
Direct inmate labor		18.13				
Indirect inmate labor		5.20				
Factory manufacturing overhead costs absorbed		39.87				
Institutional supervision overhead costs absorbed		14.93				
—to adjust the shop's work-in-process inventory to the month end balance						
4. Direct materials	3,857.50					
Direct inmate labor cost	475.25					
Indirect inmate labor cost	171.27					
Factory manufacturing overhead cost absorbed						
adjustment	1,046.65					
Institutional supervision overhead absorbed	390.11					
Finished goods inventory		5,941.28				
—to adjust the shop's finished goods inventory to the month end balance						
5. Direct material variance	367.16					
Direct labor variance	49.90					
Direct materials		367.16				
Direct inmate labor		49.90				
—to record material and labor variances incurred in December's production and adjust direct materials and direct labor to standard						

Figure 4.8—Sample Format for Recurring Journal Entries (example)

Chapter  
Five:

Application  
of Process  
Cost Systems  
in Correctional  
Industries

---

## Application of Process Cost Systems in Correctional Industries

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### OBJECTIVES OF THE CHAPTER:

1. To briefly discuss the appropriateness of process cost systems for certain shops within Correctional Industries
2. To describe the activities required to install and successfully implement a process cost system

### Process Cost System

We have described in Chapter Four a job order cost system designed for the Correctional Industries environment which utilizes both actual and standard/estimated costs. In this chapter we consider the appropriateness of the process cost system for certain Correctional Industries.

A process cost system is used when production is a continuous process in which the individual job identity is lost. Any shop which produces single products, each indistinguishable from others, and all requiring the same amount of skill and attention, is a candidate for a process cost system. Tag shops, soap shops and saw mills meet these criteria and, accordingly, are the most common shops where the process cost system is more appropriate than the job order cost system. Production in these shops is the same for all sales orders, therefore, there is no need to keep track of the costs of each individual order.

On the other hand, a print shop or furniture refinishing shop generally would not meet these criteria because each order can be expected to have different material and labor requirements.

A major advantage in using the process cost system (instead of the job order system) is that it requires less documentation and is easier to maintain. The product is the same and detailed cost records are not needed. However, using a process cost system may result in the loss of feedback and loss of control over individual batches of jobs. This could be a significant disadvantage over a job order system.

If each product line or the entire production of the shop is defined as a process, the process cost system will generate material and labor variances for the process as a whole. Could there be circumstances where the absence of job cost data might not be a significant disadvantage in the Correctional Industries environment?

Any shop which meets the following prerequisites and which does not otherwise need the job order system to maintain control over materials or for production scheduling should consider using a process cost system:

1. Predetermined product line, i.e., customer orders are selected from a catalogue of established products;
2. Implemented job order cost system and attainment of targeted direct material and labor costs, i.e., the shop has implemented the job order cost system and the initial production problems

3. Small number of different products in the product line and/or there are relatively few jobs in the work-in-process and finished goods state at any point in time; and
4. Relatively constant product mix and sales volume from month-to-month.

The recommended approach to installing a process cost system is to first implement the job order cost system following the procedures described in Chapter Four. When the variances for individual jobs and for the overall shop are not significant, and if the shop is attaining its targeted costs, the estimated cost summarized on the job quotation sheet represents a good approximation of the currently attainable standard cost to manufacture the product.

## Monthly Finished Goods Inventory

[illegible]

40

Since job/lot tickets are not utilized under the process cost system an alternative method must be used to determine work-in-process and finished goods inventories. A physical count of all completed units for each product must be performed and recorded on a finished goods schedule as illustrated in Figure 5.1. These quantities are multiplied by the standard unit cost of direct material, direct labor and manufacturing overhead. Each component is then totaled to determine the finished goods inventory. Work-in-process must also be physically counted and the percentage of completion estimated for both materials and labor. In order to facilitate a uniform approximation of these percentages from month to month, it is recommended that a schedule be developed. An example of this schedule for a mattress shop is illustrated in Figure 5.2.

Date _____		Institution _____				
Shop _____		MATTRESS SHOP				
Product Description	Cost Category	Production Operations/Stage of Completion				
		Cutting Material	Binding & Sewing	Stuffing	Borders	Tufting
Mattress:	Direct labor	25%	38%	51%	86%	100%
	Direct material	41%	96%	97%	100%	100%
Pillows:	Direct labor	50%	70%	95%	100%	100%
	Direct material	52%	53%	99%	100%	100%

Prepared by \_\_\_\_\_

41

## Monthly Work-In-Process Inventory

[illegible]

**Figure 5.3—Monthly Work-In-Process Inventory Listing (Process Cost System) (Side 1)**

### Monthly Work-In-Process Inventory

[illegible]

**Figure 5.3—Monthly Work-in-Process Inventory Listing (Process Cost System) (Side 2)**

After counting the number of units at each stage of completion, the appropriate percentages and standard costs are recorded and extended on a schedule such as the one illustrated in Figure 5.3. The final journal entry required for the accounting period is to record the material and labor variance. Under the job order system this entry was determined from the monthly profitability summary. Under the process cost system this entry is computed by comparing the actual cost of materials and labor with the related standard costs. The actual cost is generated from the general ledger account balances after entering the adjustments for raw materials, work-in-process and finished goods inventory which we have described above. The standard cost of materials and labor is computed by multiplying the standard unit costs of each product type times the related number of units shipped during the month. Figure 5.4 illustrates a schedule to compute these standard material and labor costs and the related variances.

In conclusion, the process cost system should be utilized in those shops which have a single production process as well as any other shop which meets the four prerequisites listed on pages 39 and 40. Once installed, the process cost system should be maintained as long as the overall material and labor variances remain insignificant and the profit margin is preserved. Should variances become significant, the job order cost system should be re-established in order to pinpoint the problem areas.

### Monthly Standard Cost Summary of Goods Shipped and Related Variances

[illegible]

**Figure 5.4—Monthly Standard Cost Summary of Goods Shipped and Related Variances (Process Cost System)**

# Appendix



All of the forms described in the manual are included in this supplement in order to facilitate their adoption throughout Correctional Industries.

## Forms Supplement Section

Form 101—Job Quotation Sheet .....	49
Form 102—Job/Lot Ticket (Side 1) .....	51
Form 102—Job/Lot Ticket (Side 2) .....	52
Form 103—Receiving Report .....	53
Form 104—Stock Record Card (Side 1) .....	55
Form 104—Stock Record Card (Side 2) .....	56
Form 105—Monthly Labor Reconciliation Report .....	57
Form 106—Monthly Profitability Summary .....	59
Form 107—Monthly Raw Material Inventory Listing .....	61
Form 108—Monthly Work-In-Process Inventory .....	63
Form 109—Monthly Finished Goods Inventory .....	65
Form 110—Sample Format for Recurring Journal Entries to be Maintained by Each Shop .....	67
Form 111—Monthly Finished Goods Inventory .....	69
Form 112—Schedule of Percentages of Completion by Stage of Completion .....	71
Form 113—Monthly Work-in-Process Inventory (Page 1) .....	73
Form 113—Monthly Work-in-Process Inventory (Page 2) .....	74
Form 114—Monthly Standard Cost Summary of Goods Shipped and Related Variances .....	75

Job Quotation Sheet

(List each product type on a separate sheet)

DateCustomerQuote #

Description of Item to be Sold

Materials to be Used

Description	Quantity	Unit Cost	Total Cost
	x	=	
	x	=	
	x	=	
	x	=	
	x	=	
TOTAL ESTIMATED MATERIAL COST			(A)

Labor Operations

List each step or operation needed to complete job	(2) Time Alloted (Hours)	(3) Estimated Labor Rate	Total Labor Cost Column 2 x Column 3
	x	=	
	x	=	
	x	=	
	x	=	
	x	=	
TOTAL ESTIMATED LABOR COST			(B)

ADD: MANUFACTURING OVERHEAD

	%	Total Estimated Labor Cost	
Indirect inmate labor			
Shop manufacturing			
Institutional supervision			
Total Manufacturing Overhead	x	=	(C)
PRODUCT COST		(A) + (B) + (C)	= (D)

ADD: SG&A ALLOCATION

Central Office SG&A	x	=	(E)
Total Cost		(D) + (E)	= (F)
ADD: Profit at 10% of Total Cost: .10 x (F)			(G)
QUOTED SALES PRICE		(F) + (G)	=

APPROVED:

Supervisor

Superintendent

Job Lot Ticket

Required Completion Date

Lot #CustomerJob #

Production DateType of ProductNo. of Units

Material Used

Description	Issuance Approved By	Date Issued	Quantity	Unit Cost	Total Cost
TOTAL MATERIAL COST					(A)

PRIOR TO COMMENCING JOB:

Record in the space below any unusual production considerations: e.g., manufacturing sequence for new product, unusual material requirements, quality control considerations, etc.

WHILE JOB IN PROCESS:

Explain in the space below justification for excessive material or labor used on the job.

FINISHED JOB/LOT INSPECTED AND APPROVED BY:

See Other Side for Labor Costs

Lot # \_\_\_\_\_ Customer \_\_\_\_\_ Job # \_\_\_\_\_

Type of Product \_\_\_\_\_ No. of Units \_\_\_\_\_

Direct Labor

(1) Day Worked	(2) Name of Worker	(3) Operation	(4) Hours Worked	(5) Hourly Labor Rate	Total Labor Cost Column 4 × Column 5

TOTAL DIRECT LABOR COST \_\_\_\_\_ (B)

	Percent %	Actual Direct Inmate Labor Cost	
ADD: MANUFACTURING OVERHEAD:			
Indirect inmate labor	×	=	(C)
Shop manufacturing	×	=	(D)
Institutional supervision	×	=	(E)
Actual product cost of Job/Lot		A + B + C + D + E =	(F)
ADD: SG&A ALLOCATION	×	=	(G)
Total cost of Job/Lot		F + G =	(H)
Selling Price		=	(I)
Profit (Loss) on Job/Lot		I - H =	(J)

ENTERED ON MONTHLY PROFITABILITY SUMMARY OF FINISHED JOBS:  
DATE: \_\_\_\_\_ LINE NO. \_\_\_\_\_  
See Side 1 for Material Costs

Receiving Report

Vendor \_\_\_\_\_

Shipper (if not vendor) \_\_\_\_\_

Shipped Via \_\_\_\_\_ Waybill No. \_\_\_\_\_

No. & Kind of Packages \_\_\_\_\_

Function No. \_\_\_\_\_

Date \_\_\_\_\_

P.O. No. \_\_\_\_\_

O.F.D. No. \_\_\_\_\_

Req. No. \_\_\_\_\_

Amount Received Quan.    Unit	Obj. Code	Cat. Code	Catalog Number	Unit Cost	No. of Units	Total
TOTAL						

The merchandise listed above complies with the specification, or request, except as noted.

Received By \_\_\_\_\_

Units Checked By \_\_\_\_\_

Date

Addressee \_\_\_\_\_

Vendor's Invoice \_\_\_\_\_

Date

53

Shop \_\_\_\_\_  
Institution \_\_\_\_\_  
Description \_\_\_\_\_ Unit \_\_\_\_\_ Code \_\_\_\_\_ Minimum Quantity on Hand \_\_\_\_\_

Month	Previous Year	Current Year	Month	Previous Year	Current Year
JULY			JANUARY		
AUGUST			FEBRUARY		
SEPTEMBER			MARCH		
OCTOBER			APRIL		
NOVEMBER			MAY		
DECEMBER			JUNE		

[illegible]

VENDOR'S NAME & ADDRESS  
PHONE NO. AND F.E.I.N. NO.

VENDOR'S ITEM NUMBER  
AND/OR DESCRIPTION

1.	
Phone #	
F.E.I.N.	
2.	
Phone #	
F.E.I.N.	
3.	
Phone #	
F.E.I.N.	
4.	
Phone #	
F.E.I.N.	
5.	
Phone #	
F.E.I.N.	

Monthly Labor Reconciliation Report

Shop _____ Institution _____ Month, year _____						
Date	Total Direct		Indirect		Total	
	Hours	Cost	Hours	Cost	Hours	Cost
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						
Total cost of inmate labor per shop record						
Total inmate salaries per central office/ Department of Corrections payroll records						
Difference						
Prepared by						
Date						



Shop \_\_\_\_\_ Institution \_\_\_\_\_

**Job Order Cost System Form 106**

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Date \_\_\_\_\_

Shop

**Shop** [Shop](#)

Institution \_\_\_\_\_

**Check Source of Quantity Information:** ☐ Perpetual Inventory ☐ Physical Count

Page\_\_\_\_\_ of \_\_\_\_\_

Prepared by\_\_\_\_\_

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**Job Order Cost System Form 108**

95

_____ Shop _____ _____		Date _____
		Shop _____
Month Ending _____		Institution _____
		Page _____ of _____

Type of Product	Job/Lot No.	Customer # or Stock #	Material Cost (4)	Direct Labor Cost (5)	Indirect Inmate Labor Cost (6)	Factory Manufac- turing Overhead (7)	Institutional Supervision Overhead (8)	Total Factory Cost of Finished Goods as of Month End  9 = 4 + 5 + 6 + 7 + 8

Prepared by \_\_\_\_\_

Sample Format for Recurring Journal Entries

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Shop _____ Institution _____						
Month end / /      Month end / /      Month end / /						
Journal Entries	DR	CR	DR	CR	DR	CR
1. Indirect inmate labor cost Direct inmate labor cost —to record indirect portion of shop's inmate labor						
2. Raw Material Inventory Direct materials —to adjust the shop's raw material inventory to the month end balance						
3. Work-in-process inventory Direct materials Direct inmate labor Indirect inmate labor Factory manufacturing overhead costs absorbed Institutional supervision overhead costs absorbed —to adjust the shop's work-in-process inventory to the month end balance						
4. Direct materials Direct inmate labor cost Indirect inmate labor cost Factory manufacturing overhead cost absorbed adjustment Institutional supervision overhead absorbed Finished goods inventory —to adjust the shop's finished goods inventory to the month end balance						
5. Direct material variance Direct labor variance Direct materials Direct inmate labor —to record material and labor variances incurred in December's production and adjust direct materials and direct labor to standard						

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69

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## Monthly Work-In-Process Inventory

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Month Ending _____					Shop _____					
Date _____					Institution _____					
Work Order Number	Product Description	Quantity Shipped 3	Standard Direct Materials Unit Cost 4	Total Standard Cost of Materials Sold $5 = 3 \times 4$	Actual Direct Material Cost per General Ledger 6	Direct Materials Variance $7 = 5 - 6$	Standard Direct Labor Unit Cost 8	Standard Cost of Labor Sold $9 = 3 \times 8$	Actual Direct Labor Cost per General Ledger 10	Direct Labor Variance $11 = 9 - 10$

Prepared by \_\_\_\_\_

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**HOWARD R. RENZI**

Howard Renzi is a partner in Renzi, Pinti, & Co., the certified public accounting and management consulting firm which has provided cost accounting assistance to a number of the Free Venture States. Prior to co-founding Renzi, Pinti, & Co., he was an instructor at Temple University's School of Business, served as a Controller in private industry and has several years experience with an international CPA firm. He holds an M.B.A. from Columbia University and is a graduate of the United States Naval Academy.

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**END**