



# **Cost Management Handbook**

**The Deputy Assistant Secretary of the Army  
for Cost and Economics  
(DASA - CE)**

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## **Foreword**

This handbook is a living document that will be continuously updated as the Army moves forward in institutionalizing cost management and implementing an Enterprise Resource Planning (ERP) environment. This document is intended to provide a foundation for understanding the role and use of cost management techniques in decision making. It is orientated toward Army mid-level managers and supporting staff personnel who have a role in the decision process.

Army leaders at all levels need to make accurate and timely decisions that capitalize on the resources available to achieve the best results for the warfighter. Good decision-making requires considering the resource implications of decisions within and across functional areas. Cost Management is a key part of the solution, because it collects and links financial (cost) data with non-financial (output and performance data) and presents information in a way directly related to the major mission objectives of the Army. Cost Management will provide Army leaders and managers -- from HQDA to subordinate organizations -- with real-time cost tied to operational and functional data. This will empower leaders and managers to make decisions that directly benefit America's warfighters.

The efficient use of resources achieved through cost management in combination with auditable financial statements enables the Army to gain public trust and understanding of Army programs. This handbook serves as a primer to advance the use of cost management techniques and practices and thereby enhance our management skills and decision making practices. Cost management is not a one-time event, but a continuous process that controls cost while improving operational performance. This is an important culture change within the Army.

The Cost Management Handbook explains cost concepts and methodology, as well as why it is important to Army decision making at all levels. It introduces fundamental concepts required to successfully perform cost management analysis and provides examples on how to apply concepts in the daily decision making process. The release of this handbook is in keeping with the Army's commitment to providing technical assistance, tools, and the best management practices to managers.

## **Background**

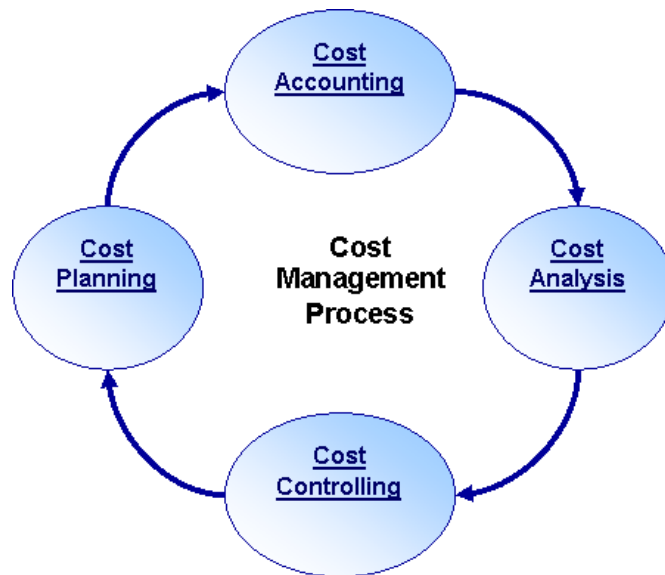
- The Chief Financial Officers (CFO) Act of 1990 contained several provisions related to managerial cost accounting, one of which stated that an agency's CFO should develop and maintain an integrated accounting and financial management system that provides adequate cost information for managers to assess how well their organization and programs are doing towards meeting their strategic goals and objectives.
- The Government Performance and Results Act (GPRA) of 1993, required federal agencies to develop a five-year strategic plan and annual performance plans beginning with fiscal year 1999; and report annually on actual performance compared to goals in an annual audited performance report. This was the first Army-wide reporting on cost management.
- The Federal Financial Management Improvement Act (FFMIA) of 1996 required federal agencies to implement financial management systems that accurately record, monitor, and report on all assets, liabilities, revenues, and expenses (cost).
- The National Performance Review (NPR) institutionalized reforms to create a government that works better and costs less. On the importance of managerial cost accounting, NPR states: "Management isn't about guessing, it's about knowing. Those in positions of responsibility must have the information they need to make good decisions."

- The Clinger-Cohen Act, also known as the Information Technology Management Reform Act (ITMRA) of 1996, emphasized life-cycle cost management of major Information Technology (IT) projects. The Act tightened management accountability for project cost overruns and failure to comply with planned delivery dates and performance objectives, as stated in an agency's IT Strategic Plan.
- In July 1995, the Office of Management and Budget (OMB) and GAO approved and published the Statement of Federal Financial Accounting Standards (SFFAS) No. 4, Managerial Cost Accounting Concepts and Standards for the Federal Government, as recommended by FASAB. Effective October 1, 1997, federal entities were required to implement managerial cost accounting standards.
- In March 1996, OMB Circular A-76 Revised Supplemental Handbook expanded the level of competition for procuring commercial goods and services, by encouraging agencies to execute private sector competition on a level playing field. Private sector contractors versus federal agencies competition spurred efficiency by driving new emphasis on new technologies, capital planning, and management techniques to improve performance while controlling costs.
- Announced in the summer of 2001, the Bush administration implemented the President's Management Agenda to make the government more accountable, transparent and results-orientated. Improved financial management is one of the five government-wide initiatives and its desired outcome includes (1) producing accurate and timely financial information that is used by management to inform decision-making and drive results in key areas of operation (2) receiving an unqualified audit opinion on its annual financial statements, and (3) meeting financial statement reporting deadlines.

## ***Role of Cost Information in Decision Making***

Cost management is a critical component of project or program decision-making. It considers all key quantitative aspects of the consumption of resources. Providing Army organizations the ability to identify, quantify, and value the economic benefits and related costs of alternatives, results in managers being better stewards of the Army's limited dollars. With full cost visibility of organization's business processes, products, and services the Army can manage operations more efficiently and effectively and ultimately maximize value to customers and tax payers.

Cost management encompasses four components: cost accounting, cost analysis, cost controlling, and cost planning. Cost accounting requires capturing and valuating relevant data accurately and timely, and identifying the relationship between cost and operational output and performance data. Cost analysis is the assessment of cost data to enable the decision making process. Cost analysis provides the managers with an understanding of the full cost of products and services. Some of this analysis includes calculating variances, reviewing depreciation, tracking trends, and forecasting. Controlling costs entails taking action based on the analysis. This includes changing targets, moving resources (capacity management), and adjusting output to maximize value of products and services. Finally, once cost control techniques are used, organizations can better plan future costs. The Army will be able to set new cost targets and efficiency goals to continually improve and compute standard rates for calculating the cost of future projects. Figure 1 below depicts the cost management process.



**Figure 1. Cost Management Process**

The cost management process created will provide numerous benefits. Cost plays a critical role in regard to effective management. Cost management allows organizations to be able to tell their customers the full cost of providing products or services as well as identify how changes in behaviors (theirs or their customers) affect these costs. Cost management is also important when assessing alternatives to accomplish specific objectives or goals. Basically, it will allow organizations to more effectively bill for services or goods provided to another organization, identify the life-cycle cost of providing services or goods, and implement a measurement basis for continuous improvement (or other long-term) goals. Cost management provides the best information for planning and program execution decisions.

The key benefits of cost management analyses can be generally classified into five types:

- Increased controls
- Better make or buy decisions
- Best practices
- Enables trend analysis
- Performance improvement
- Determination of reimbursements

### ***Cost Defined***

Costing is the expensing of budgetary resources in its basic form. Cost accounting is the central concept of managerial accounting and analysis. In most cases, it represents units of work or goods consumed in a process with the outcome data. The most common purpose in collecting cost is customer billing for goods and services. Information on that aspect of costing for non-Army Working Capital Fund (AWCF) entities can be found in Volume 4, Chapter 11a, Reimbursable Operations, Policy and Procedures, Department of Defense Financial Management Regulation 7000.14 (DFMR).

A full cost approach will be applied in collecting costs associated with a cost object. A cost object is an activity, output, or item whose cost is to be measured as defined by management. To completely



understand full cost, which will be discussed in chapter 1, we must first define the most common cost types. The following non-exhaustive list of cost types needs to be understood:

- Direct costs: A cost such as labor, materials or supplies that can be directly attributed to producing a specific output of an organization, product or service.
- Indirect costs: A cost that cannot be directly attributed to a specific organization, product or service output such as supervisor salary.
- Funded Costs: The value of goods or services received because of an obligation of funds (obligation authority), by the organization performing the work.
- Unfunded costs: A cost that are financed by another organization's or activity's appropriations.
- Variable Costs: A cost that changes with change in output.
- Fixed Cost: A cost that remains the same regardless of the change in output.
- Sunk Cost: A cost incurred in the past that will not be affected by any present or future decision.
- Incremental Cost: The increase or decrease in costs that would result from a decision to increase or decrease output levels.
- Avoidable Costs: A cost incurred on an object that will no longer be incurred due to a decision to change the output.
- Unavoidable Cost: A cost incurred on an object that will be incurred regardless of the decision to change.
- Recurring Costs: Expected costs that occur on a regular/repetitive basis within a relevant period of time (e.g. labor, materials or machine hours).
- Non-Recurring Costs: Expected or unexpected costs that occur as a one-time event in relation to work being performed within a relevant range of time (e.g. equipment setup and engineering design).

## ***Cost Allocation Basics***

The following are generally accepted cost accounting guidelines that may prove helpful when assigning costs across cost objects. These guidelines are broad enough to allow flexibility for agency managers to develop costing methods that are best suited to their operational environment. Practices will evolve and improve as agencies gain experience in using them. Additional guidance can be found in Statement of Federal Financial Accounting Standards number 4: Managerial Cost Accounting Standards and Concepts. Specific policies, rules, methodologies, and examples are provided in Chapter 2 titled *Overhead Assignment and Allocation*:

- Cost assignments should be performed using the following methods listed in the order of preference: (a) directly tracing costs wherever feasible and economically practical (b) assigning costs on a cause-and-effect basis (c) allocating costs on a reasonable and consistent basis.
- A reporting entity and its responsibility segments may incur general management and administrative support costs that cannot be attributed, assigned, or allocated to segments and their outputs. These unassigned costs should not be assigned to outputs and are instead part of the organization costs, and they should be reported on the entity's financial statements as "costs not assigned to programs"
- Federal Accounting Standards Advisory Board (FASAB) believes that as a principle, full cost should

include and assign costs of all resources applied to a program, activity, and its outputs, regardless of funding sources.

- Indirect costs represent the expenses of doing business that are not readily identified with a particular cost object, but are necessary for the general operation of the organization and the conduct of activities it performs. In theory, costs like utilities, accounting, and personnel might be charged directly if meters could record minutes in a cross-cutting manner. Practical difficulties preclude such an approach. Therefore, cost allocation plans or indirect cost rates are used to distribute those costs to benefiting revenue sources.
- For General and Administrative (G&A) (overhead) costs, the higher-level management will determine the cost allocation to benefiting (subordinate) segments.
- Headquarters G&A expenses are allocated proportionate to the beneficial or causal relationships between subordinate activities. They can be allocated collectively or by each service or management function.
- Homogeneous headquarters G&A expenses, such as centralized service functions, should be allocated to each segment on the basis of services furnished to each segment. An example is allocating a personnel administrative center proportionally to each segment based on percentage of individuals serviced and at the same rate for all segments.
- Any measure used for allocation should be reasonable, vary in proportion to the services received, and be practical and logical. “How to” examples can be found in Volume 4, Chapter 19, DFMR.
- Cost that should have been charged to a customer but through error were omitted should be included in total costing. This includes unallowable costs which cannot be included in pricing goods or services, cost reimbursements or settlements due to applicable laws and regulations.
- The federal cost accounting period is October 1 to September 30, matching the fiscal year.
- Costs should be accumulated and allocated in the cost accounting period when expensed; in accordance with Army practices for recognizing accruals, deferrals, and other adjustments.

## ***Labor Tracking***

Labor is a significant component of overall Army costs. In order to support full cost in the Army, it is important to appropriately account for labor and assign costs to the proper cost object (output). The intent is to align resources to work performed and ultimately the end consumer of products and services in an organization. The Labor Tracking (Chapter 3) defines different categories of labor and provides several examples of assignment of labor hours differentiating between appropriate and inappropriate methods. This Chapter is supplemented by Chapter 4 titled *Contracting Cost Tracking* which discusses full cost visibility oversight over contract cost per output. This requirement is increasingly important as the Army continues to lean on contractors for support. In order to compare the costs of products and services across the Army, contractors must report costs in conjunction with the functionality and detail that Army organizations report costs. This information would allow the Army to have complete cost information from which to base management decisions. Chapter 4 also discusses benefits, presents an information template and the process to properly track contracting costs.

## ***Standard Rates***

Standard rates provide managers with a tool for developing estimates of current and future costs. Prior to the start of the fiscal year, standard rates are used to build the following year’s budget and to

perform capacity analysis. During budget execution, standard rates (rather than the financial accounting transactions) are used to generate the operating costs for cost management purposes. These rates are also used to perform cost variance analysis, evaluate productivity, and highlight emerging cost trends for management review, evaluation, and action. Chapter 5 titled *Standard Rates* explains the need for standard rates and provides examples of standard rate computations.

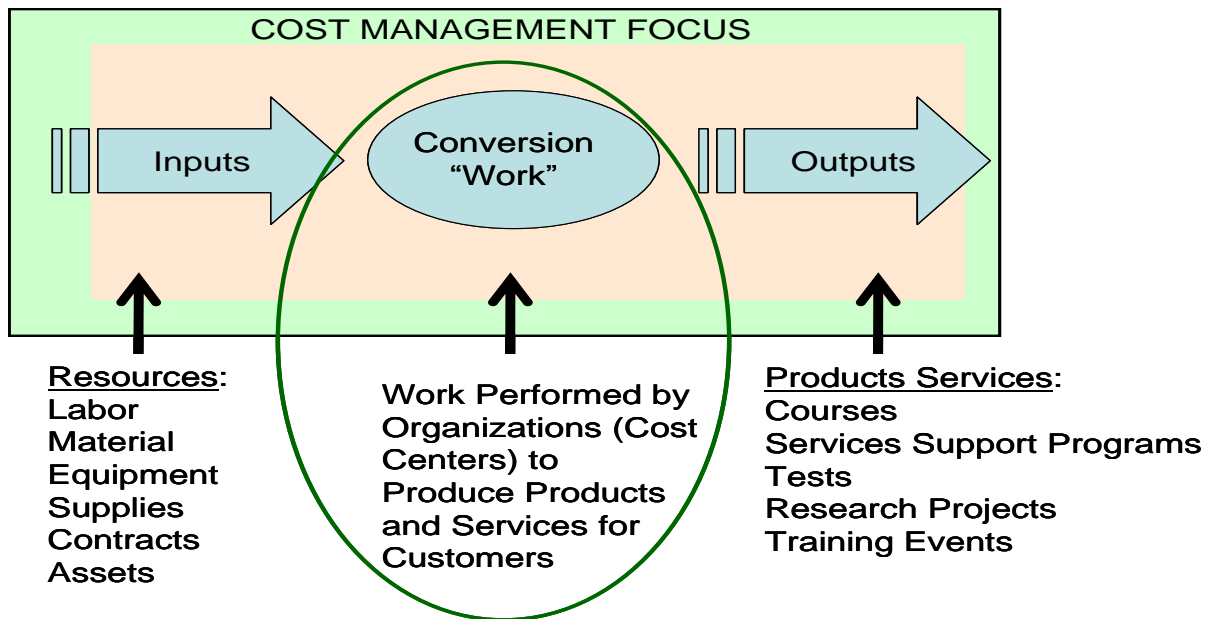
Chapter 6 titled *Cost Depreciation* also discusses standard rates. Since depreciation is often tied to billing, it is considered a standard rate. Depreciation methods for costing are relevant and must accurately reflect the useful life of assets. This requires the use of usage based depreciation (for costing purposes) on equipment and systems that depreciate based on usage and not at a standard rate each year. Chapter 6 discusses which types of assets depreciate in a straight line method and which assets should be depreciated based on usage and examples are provided to illustrate calculations.

### **Cost Object Standards and Principles**

Cost objects represents an entity to capture financial and non-financial information (e.g. quantity and cost of inputs, full cost and quantity of outputs) necessary strategic and operational decision making. This information is intended to support managers in their day-to-day decision making by presenting a more easily-analyzed view of how resources are being consumed in those plants or programs they oversee. Cost objects are used to capture all of the resources that are used or consumed to produce those products and services through work performed by or for the cost object which represents the organization performing the work. Each cost objects must be able to capture the full cost of all inputs regardless of funding source, fund center, program element, MDEP, appropriation or agency. Since cost objects are a representation of organizations performing work, the work being performed or the output of the work, they must be able to capture expenses from multiple funding sources in order to accurately reflect the full cost of operations.

Figure 2 illustrates the focus of cost management and how cost objects are defined and related. Cost Management records how inputs are employed in the creation of goods and services at the production level. Quality cost management relies on the accurate representation of all costs from all sources.

**Figure 2. Cost Management Focus**



Chapter 7 Master Data for the Army Cost Model discusses different types of cost objects including definitions, key principles, and standards for their classification and usage. Cost objects typically include Cost Centers, Projects & Work Breakdown Structure (WBS) elements, Internal Orders, Business Processes (Activities), Primary & Secondary Cost Elements, Activity Types, and Statistical Key Figures (Quantities).

### ***Other Information***

At the end of this document you will find a list of documents referenced. Appendix A contains a glossary with useful definitions. Appendix B contains a list of acronyms used in this document.

# Chapter 1

## 1.0 Full Cost

### 1.1 *Key Principle*

Full cost ensures that managers consider all relevant cost information when making important decisions. The Army relies on cost data to program future needs and to justify and defend budget submissions to the Office of the Secretary of Defense (OSD) and Congress. Failure to properly accumulate and report full costs jeopardizes operations since the Army cannot articulate the impact of budget reductions or measure the increased capability that will result from a funding increase. Additionally many Army commands charge other commands or government and commercial entities standard rates for work performed. It is imperative that these rates include all the components of the full cost incurred by these organizations when performing work for customers. Without full cost information it is impossible to manage capacity and identify the causes of cost savings or overruns and therefore management is unable to take appropriate action.

### 1.2 *Policy*

The full cost method will be used to calculate the true costs of products and services in the Army.

The absorption costing method will continue to be used for programming and budgetary purposes.

Full Cost shall include all relevant cost associated with the benefit (labor, materials, equipment, etc) received in producing the respective product, service or project. To include but not limited to:

- Direct and indirect, funded and unfunded, fixed and variable cost
- All Labor - Military, Civilian, Contract, Volunteer, Borrowed, Shared labor
- Costs provided by Army and Non-Army activities as a free good to the end user (e.g. installation support to tenants, centralized training).

Full Cost analysis shall be used (but not limited to) for evaluations Analysis of Alternatives, Make vs. Buy Decisions, Benchmarking or Comparative Analysis, Efficiency & Effectiveness, Resource Utilization, and other similar analyses.

### 1.3 *Introduction*

Full cost is the sum of all costs, regardless of funding source, required by a cost object to include all direct materials, direct labor, and support activity costs assigned to a product. Full cost includes the costs of resources consumed that contribute directly or indirectly to the output and the costs of supporting services. Full cost information helps users determine relevant costs of specific activities, goods and services. The full cost of an output produced is the sum of (1) the costs of resources consumed that directly or indirectly contributes to the output, and (2) the costs of identifiable supporting services provided by others within the reporting entity, and by other reporting entities. Full cost

should incorporate the full cost of goods and services that it receives from other entities even though the receiver who benefits may not have paid for or funded the goods and services.

To provide an illustration of capturing costs and how full cost flows from an organization to a customer see figures 1.1 and 1.2 below. Figure 1.1 depicts the process used to capture full costs. Expense elements are directly attributable to a cost center. The cost center typically will group expenses by activity type (labor pool, equipment usage, and facility usage). Each activity type will have a cost driver, which allows the cost center to attribute costs to cost objects (internal orders, work breakdown structure (WBS) elements, or business processes) based on usage.

**Figure 1-1. Process for Capturing Cost**

## Process for Capturing Cost

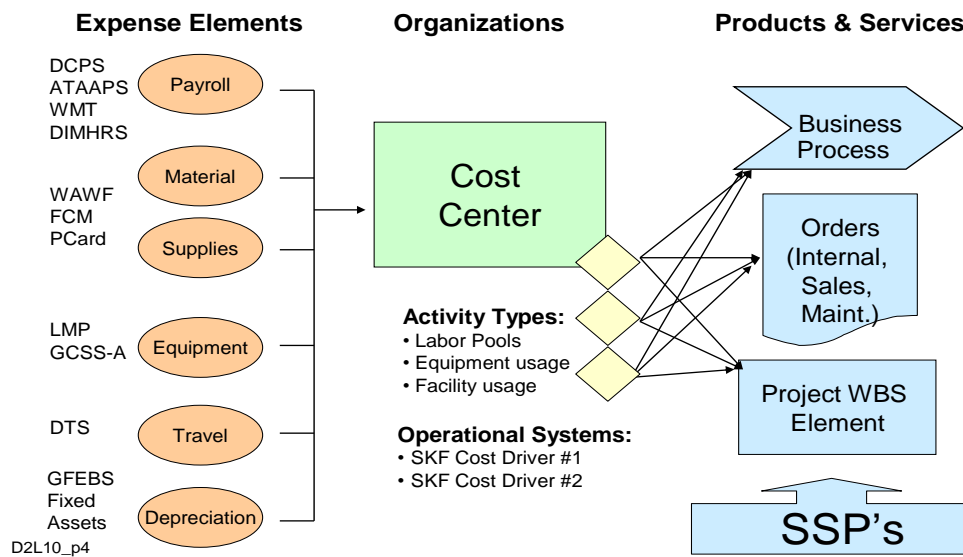
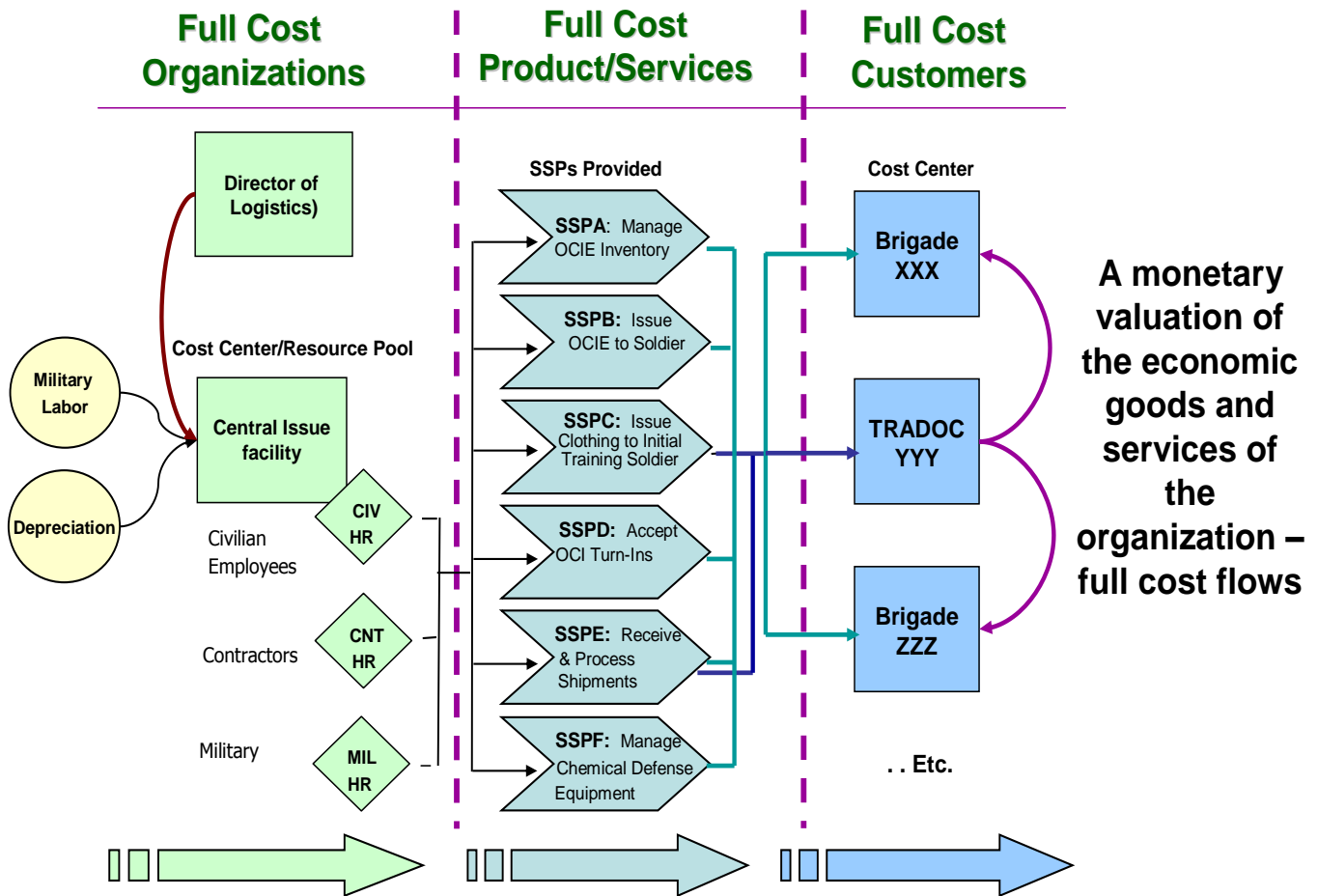


Figure 1.2 depicts an example of how full cost flows from an organization to customers. At the organizational level (column 1), full cost includes unfunded cost to the organization like depreciation and military labor. The organization will use a cost driver, like labor hours, to determine the assignments or allocations of these costs to products and services (column 2). Then each of these products and services are provided to customers or cost centers (column 3). Figure 1.2 shows how costs are captured and allocated at all three levels. It is based on an IMCOM example (for the central issue facility), but the same general process is used for all organizations.

Figure 1-2. Cost Model



### 1.4 Costs

To comprehend full cost, the various cost types must be understood (they are defined below). Full cost encompasses all types of costs: direct, indirect, funded, unfunded, variable, fixed, sunk, incremental, avoidable, and unavoidable. ALL costs that are used to produce a unit of output (product or service) are required to be attributed to that output no matter what the classification of the cost. The following costs are encompassed in full cost, but full cost is not limited to these costs.

Direct Costs: A cost such as labor, material or supplies that can be directly attributed to producing a specific output of an organization, product or service. Direct costs usually include:

- salaries and wages
- direct labor employee fringe benefits
- consultant services for product or service
- travel of direct labor employees
- materials, supplies and equipment purchased directly for use on a specific product, program, contract, product, or service output
- communication costs such as long distance telephone calls identifiable within a specific award or activity
- various costs associated with office space, equipment, facilities and utilities that are used exclusively to produce the output

Indirect costs: A cost that cannot be directly attributed to the production of the organization's product or service output. Indirect costs are typically fixed costs, and overhead costs. Indirect costs are not usually affected by changes in output levels. They represent the expenses of doing business that are not readily identified with a particular grant, contract, project function or activity, but are necessary for the general operation of the organization and the activities it performs. Examples of indirect costs include utilities, and support personnel (i.e. comptrollers, supervisors, etc). These costs are usually assigned or allocated based on their relationship to output (for a full explanation of how to distribute these costs see Chapter 2, *Overhead Assignment and Allocation*)

Funded costs: The value of goods or services received because of an obligation of funds (obligation authority), by the organization performing the work. These costs are typically costs incurred by the same organization that is producing the output. The organization is consuming its own appropriation dollars to produce a product or service.

Unfunded costs: Costs that are financed by another organization's or activity's appropriation. These costs are typically costs incurred by a different organization than the one producing the output. In a sense, the organization is consuming another organization's appropriated dollars to produce a product or service. Some examples include the use of military labor or foreign national labor and depreciation; this is an example of receiving the benefit without "footing" the bill.

Variable costs: Cost that change with the change in output. Typically, these costs are direct costs that vary with output. So as outputs increase (or decrease) these costs increase (or decrease). Some examples of variable costs include:

- Wages of hourly employees
- Materials
- Supplies
- Utilities (those that are affected by output)
- Usage-based depreciation

Fixed costs: Costs that remains the same (do not vary) regardless of the change in output. A few examples of costs that do not vary with output or fixed costs are: rent, utilities (that are not affected by output like cost of cable per month), straight-line



depreciation, and salaries of employees. While, in practice, all costs vary over time and no cost is a purely fixed cost, the concept of fixed cost is necessary in short-term cost accounting.

Sunk costs: Costs incurred in the past that will not be affected by any present or future decision. The costs of resources that have already been committed and cannot be changed by any current action or decision are sunk costs. For example, a worn-out piece of equipment bought several years ago is a sunk cost because the cost of buying it cannot be reversed.

Incremental costs: The increase or decrease in costs that would result from a decision to increase or decrease output levels. In general, incremental costs include any additional costs required to produce the next unit of output. This cost information is helpful when deciding to contract work out, undertake a project, or increase, decrease, modify or eliminate an activity or product.

Avoidable costs: A cost incurred on an object that will no longer be incurred due to a decision to change the output, such as contract labor to operate the test range.

Unavoidable costs: A cost incurred on an object that will be incurred regardless of the decision to change output, such as straight line depreciation on equipment.

Recurring Costs: Expected costs that occur on a regular/repetitive basis within a relevant period of time. These costs are not necessarily tied to a particular day of the month (like a utilities bill), but can also be event-triggered (materials needed at a certain point in the production cycle). Some examples of recurring costs include:

- Labor
- Materials
- Machine Hours
- Equipment Maintenance

Non-Recurring Costs: Expected or unexpected costs that occur as a one-time event in relation to work being performed within a relevant range of time. Some examples of these costs include:

- Equipment Setup
- Engineering Design
- Production Equipment Purchase

## **1.5 Benefits of Full Cost**

Full cost information is useful in measuring efficiency and cost-effectiveness. The principle of full cost encourages managers to think of the Army as one large integrated organization instead of separate businesses focused on their own mission, and funds. More so than budgetary and financial reports, cost reports will be used to examine business efficiency across the Army.

Organizations will be able to identify unutilized capacity. Unused capacity is the excess of practical capacity over actual outputs. Most activities lend themselves to capacity

management; these activities have units of measure such as: labor hours, machine hours, square footage, etc. These activities are consumed and used to produce the Army's products and services. However, these activities are not always fully utilized creating idle capacity and an opportunity for savings or reorganization of resources. Full cost methods enable organizations to identify idle capacity and the opportunity to improve efficiency.

In addition to the benefits explained above, full cost also:

- Increases efficiency of program evaluation and authorization
- Improves cost awareness
- Allows an organization to set more effective fees for government goods and services
- Enhances management's ability to make cost comparisons

## **1.6 Full Cost and Absorption Costing**

It is important to understand the difference between full cost and absorption costing. Full cost is the inclusion of all and only those costs related to generating the output and absorption costing is the inclusion of all costs (no matter the relation) to generating output. The key difference between full cost and absorption costing is in the way overhead costs are allocated. For Army cost management purposes, the full cost approach will be used to accurately reflect the costs of production and services. However, for budgetary purposes the Army will continue to use absorption costing. To demonstrate the difference, Example 1 is provided below:

***Example 2.1:** Over an 80 hour work week, an employee dedicated 35 hours to project A, 35 hours to project B, 2 hours for a town hall meeting, and 8 hours for required annual training. Assume the employee's standard labor rate is \$30 per hour.*

*Full cost: Project A for the period, cost \$1,050 (35 hours \* \$30 per hour), Project B cost \$1,050 and there was 10 hours of non-productive time, costing the organization \$300 in unallocated overhead. This method is good for management decision and analysis because it provides the full cost of each project and overhead. This information can be used for cost management.*

*Absorption costing: Project A and Project B cost a total of \$2,400 (80 hours \* \$30) or \$1,200 for each project. With this method, the non-productive hours are allocated to the projects proportionally. This method is useful for budget justification but not for internal management decisions because the actual cost of projects A & B are overstated.*

## **1.7 Responsibility Segment Costs**

A responsibility segment is an organization, product, project, service or program for which operational managers require financial and nonfinancial information in support of their decision making responsibilities.

As this relates to the Army's Enterprise Planning System (ERP, i.e. GFEBs) this can include any cost object or groups of cost objects that are utilized in support of the Army's Cost Management function to include cost centers, projects/ work breakdown structure (WBS) elements, internal orders, business processes or real estate objects. Responsibility segments may vary in definition and requirement based on management's need by command and strategic objective.

As the Army's Cost Model Structure continues to develop and change the concept of the responsibility segment within the Army it will further evolve to meet the dynamic needs of Army decision makers. There exists no singular definition limiting what entities the Army may consider as responsibility segments. All cost objects entities meet the requirement for categorization as responsibility segments in their support of Army cost management practices.

This definition of responsibility segment conforms to requirements set forth in applicable federal regulatory publications, pamphlets, and policy statements. The Financial Accounting Standards Advisory Board's Statement of Federal Financial Accounting Standards Number 4 (Para. 78, Jul05) defines responsibility segments as such:

"A responsibility segment is a component of a reporting entity that is responsible for carrying out a mission, conducting a major line of activity or producing one or a group of related products and services. In addition responsibility segments usually possess the following characteristics:

1. Their managers report to the entity's top management directly.
2. Their resources and results of operations can be clearly distinguished from those of other segments of the entity."

Since a responsibility segment is classified as a part of a reporting entity, there is no minimum organizational level requirement for an organization, project or program to be considered a responsibility segment. Likewise there is no standard level of financial account classification that regulates responsibility segment classification. A responsibility segment is purely a part of a reporting entity that is monitored by a superior agency at some level.

## Chapter 2

### 2.0 Overhead Assignment and Allocation

#### 2.1 Key Principle

Without knowing the full cost of products and services, the Army's billing, planning, and budget information may not be completely accurate. Overhead cost assignment and allocation is important to identify the full cost of outputs as well as reflect the cost flows of organizations. By gaining an understanding of total costs and resource consumption, organizations will have visibility over product and service costs, customer costs, and understand how behaviors influence cost. With this information, managers will be able to more efficiently control and estimate costs and optimize the Army resources.

#### 2.2 Policy

The assignment method shall be used when possible

Allocation method can be used if the assignment method is not possible. The following lists priority order of relationship or basis that should be used to identify an allocation amount.

- Cause and effect relationship between sending and receiving cost objects
- Reasonable and consistent basis

#### 2.3 Introduction

This chapter discusses how to assign and allocate overhead costs to products and services. Before the specifics on calculations and methods can be explained, the definitions of overhead, assignment, and allocation must first be understood. Overhead costs have been defined in section 2 Overhead Definition. Once overhead costs are identified the next step is to determine if the cost can be assigned or allocated. This determination is made based on the cost relationship to the output (direct or indirect). Overhead costs can be **assigned** to an output if there is a **direct, quantitative relationship** between the sending cost object and the receiving cost object. For assignment to be correct there must be a mechanism that is capturing the sender quantity. An example is provided below:

***Example 2.1:** A cost center has overhead costs of \$220 for the period. It has been determined that the production of 1 widget costs \$10 in overhead (administrative costs). Note the capacity of the organization is 22 widgets per period ( $\$10 \times 22 = \$220$ ). Let's say the cost center received two orders during the period, each for 10 widgets. Since a direct quantitative relationship was established between the overhead costs and the widget production (output), the assignment method should be used. As a result, \$100 in overhead costs from the sending cost object should be assigned to each widget order or receiving cost object ( $\$10$  per widget \* 10 widgets per order). For this process to work, a mechanism that captures the number of widgets per order must be operational.*

If there is **no direct, quantitative relationship** between the cost sender and the cost receiver then it must be determined if the overhead costs can be **allocated**. For

overhead costs to be allocated, a relationship between the sending cost object and the receiving cost object(s) based on a percentage must be established. These percents are used to allocate all overhead costs because there is no direct relationship between sending and receiving cost object. For allocation to be accurate there must be a method for establishing a relationship in order to calculate the percentages for allocation. The percents are usually based on a quantitative figure like number of hours worked or amount of space occupied. In addition, there must be a mechanism in place to capture the units for which the percentages are based. An example is provided below:

**Example 2.2:** *A cost center has overhead costs of \$220 for the period. During the period there were two orders that required 20 hours of work; one required 11 hours and the second required 9 hours. Therefore the first order would be allocated 55% (11 hours/ 20 total hours) of the overhead costs, or \$121. The second order would be allocated 45% (9 hours/ 20 total hours) of the overhead costs, or \$99. For this method to work there must be a mechanism in place to track the number of hours worked per order.*

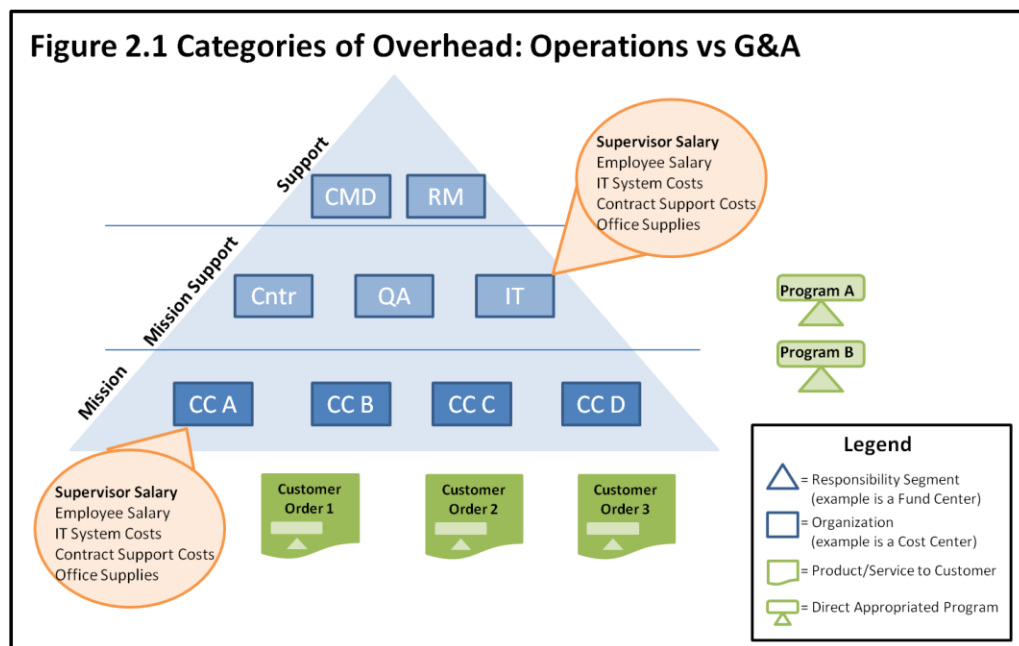
While both methods described above are acceptable, the assignment of overhead costs is more accurate. The allocation method supports the absorption method, which is not always necessary. Remember, not all costs need to be allocated or assigned (see chapter 1 for full explanation of full cost and absorption costing). Other negative aspects of the allocation method are: (1) it requires a larger demand on resources during period closing when resources are already strained and (2) if business assumptions are not updated frequently it can further hinder the accuracy of the allocation. The assignment method is the better option and should be used where possible unless the quantities cannot be tracked or are cost prohibitive in comparison to the benefit derived. A detailed discussion of all assigned and allocated methods used in GFEBs follow.

## **2.4 Overhead Definition**

Costs that are incurred but are not clearly associated with specific units of a product or service; includes all costs other than direct material and direct labor. The definition of “overhead” touches upon the concept of direct vs indirect; which is about proximately to the product/service. Before addressing this aspects of costs, the macro categories of overhead should first be defined.

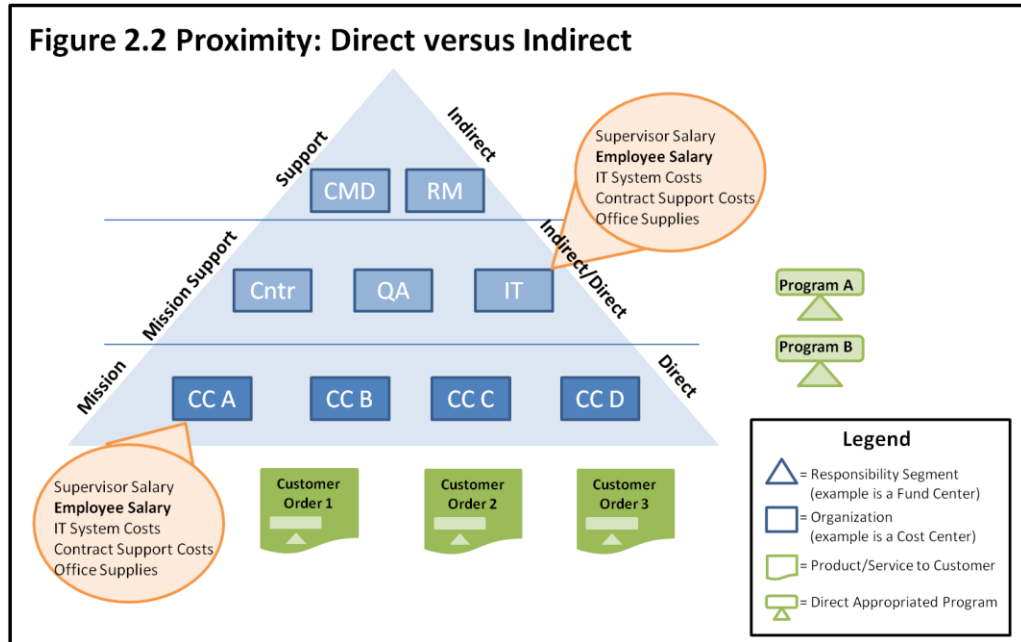
Overhead includes two major categories of cost, Operations overhead and General and Administrative (G&A) overhead. Operations overhead includes costs that are not 100 percent attributable to the product/service but are generally associated with the recurring management or support of the product/service. General and administrative overhead includes salaries, equipment, space, and other resources related to headquarters management, accounting, personnel, legal support, information management, and similar common services performed external to the activity of generating the product/service, but in support of the product/service. Therefore terms such as Operations versus G&A express proximity within an organizational structure to the end product/service provided.

Figure 2.1 provides an example of a responsibility segment which contains a multi-level organizational structure providing products/services to external customers and to direct appropriated programs. Two specific organizations have their expense types listed; which happen to be the same kinds of expenses. For this example, the dark blue organizations (Mission focused) representing Cost Centers A through D, which generate the products/services consumed by the direct programs and customers. The shared service organizations (Mission Support) such as Contracts Management, Quality Assurance, and Information Technology provide infrastructure and internal services to all organizations. The support related organizations provide oversight and management to internal and external stakeholders. Looking within this structure at the types of expenses, Supervisor Salary fits the definition of an overhead since the costs “are not clearly associated with specific units of a product or service.” Supervisor Salary for CC A being a Mission related organization fits the definition of an Operational Overhead and Supervisor Salary for the IT shared Service organization fits the definition of a G&A Overhead. Mission related organizations tend to contain Operational Overheads where Mission Support and Support related organizations tend to contain G&A Overheads.

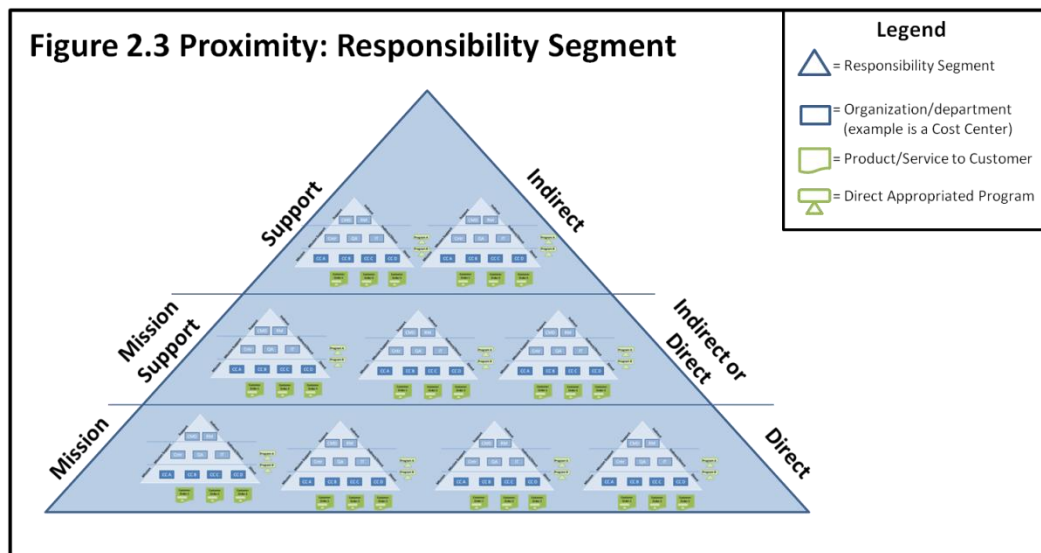


The proximity of these costs to the final outputs is depicted with the terms Direct versus Indirect and express the nature of the relationship of the resources consumed by the product/service provided. Figure 2.2 expands upon figure 2.1 to add in the preponderancy of the traceability characteristic to the responsibility segment example. For example, the preponderancy of Support organization’s costs is indirectly associated with the output of the products and services since there is no correlation to the work performed within those organizations and the generation of the actual products/services. Mission Support organizations may be either Indirect or Direct in nature. For example, if the Quality Assurance organization actually charges the hours worked to the individual customer orders then Employee Salaries would be considered a Direct Costs. However if the Quality Assurance organizations does not

track their hours to the individual orders, for example, they are concerned with process quality not product/service quality, then the Employee Salary costs would be consider an Indirect. Mission related organizations have the importance of costs as direct costs.



The difficulty with terms such as Direct and Indirect is that they are defined within the context of the final output of the responsibility segment and change as outputs change. Figure 2.3 demonstrates a responsibility segment as defined perhaps as a command.



Cost Pools are utilized to associate costs, particularly overhead costs, with the final products/services. A cost pool is a grouping of expense types within or across multiple departments and/or activities. A responsibility segment's complexity and desired cost

model accuracy, drives the number of cost pools required to generate the full costs of the segment's products/services. For example, The Army's external product/service is a readied Brigade. To determine the cost of a Brigade one could take the total costs of the Army (one large cost pool) and divide by the # of Brigades. This results in a fully costed Army product however it provides little insight into how to manage the costs, increase efficiencies, and will undoubtedly prove rather inaccurate when comparing types of Brigades, etc.

Once a cost pool is defined, the method for tracing costs to the final cost object receiver (another organization or the customer order, etc.) can be Direct or Indirect based on the relationship of the resources in the cost pool to the receiver object. Figure 2.4 demonstrates taking the CC A department and pooling together the various resources into two different cost pools. Cost Pool #1 pools together employee related costs of Salary and Benefits. Cost Pool #1 will be utilized to determine a Labor Hour Rate. Since each employee will track their time to the product/services being performed this will result in a Direct Labor Hour Rate (see Chapter 5.0 Standard Rates for more information.) Cost Pool #2 will be utilized to pool together all non-employee related costs which are shared across more than one product/service. These costs therefore are indirect to the product/service and a method for determining how to assign to the product/service must be determined. (Note that the preponderancy of the costs within a mission related department is to be Direct, however there are often some overheads for each department which are considered indirect costs.) The method for this example is to utilize the number of labor hours the employees will work; creating an overhead rate for each direct labor hour worked.

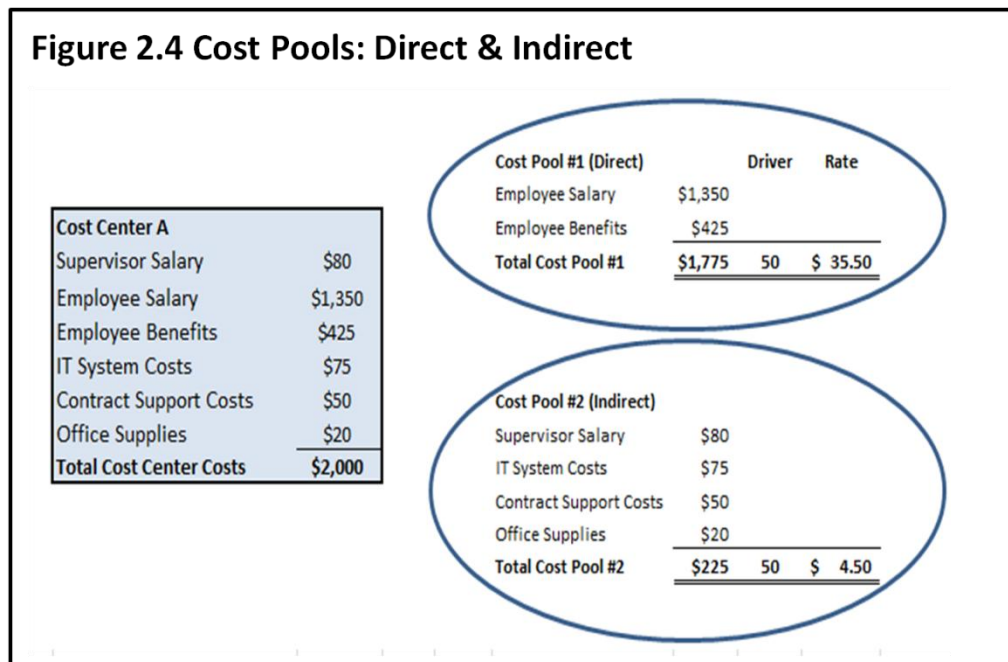
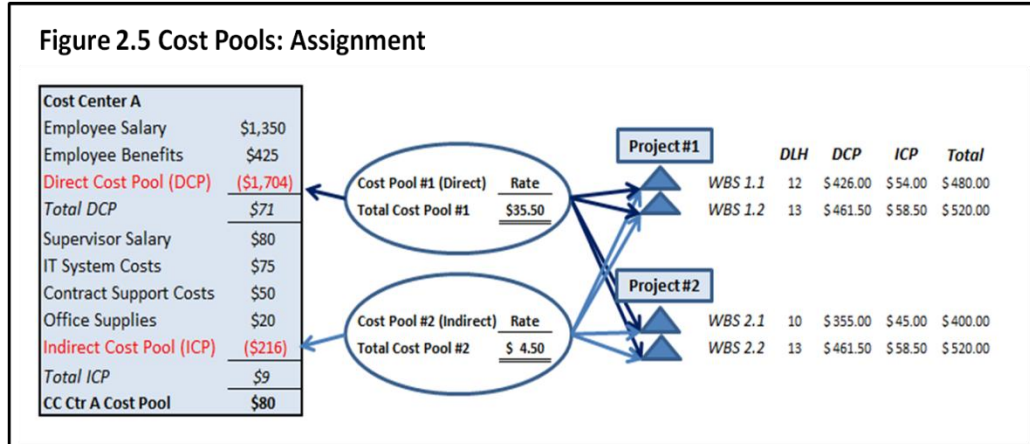


Figure 2.5 demonstrates how costs flow as Cost Pools are consumed. Two Projects exist, each with two work break down (WBS) structures. As direct labors hours are



charged to the WBS, the rate per DLH consumes costs from the Cost Center to the project WBS based on the established DLH rate/hr. Indirect costs are then applied as well based on the DLHs worked. Cost Center A is a cost pool as well and currently has \$80.00 of costs not yet associated with the work performed.



The rest of this chapter focuses on the various methods for assigning/allocating the cost pools to the receiver cost objects.

## 2.5 Methods for Assignment

There are many methods of overhead cost assignment, four of which will be discussed in this chapter. The assignment method allows for real-time analysis and can change with its environment and provide information to help manage resource usage. If there is a direct relationship between the sending and receiving cost object based on a quantity (with a rate for valuation), the direct cost assignment method can be used. This method is assignment in the simplest form (direct relationship is known and measured) and is fairly easy to understand. Example 2.1 above is an illustration of this simple assignment method. However, the direct relationship and quantity between sending and receiving cost objects is not always known. In this case, there are three additional assignment methods: indirect activity allocation, target equals actual, and template. These methods are described below with examples to demonstrate their application.

**Indirect Activity Allocation:** This method determines the sender cost object quantity based on the receiver cost object quantities through cycles. Basically, this method inversely identifies the relationship between the sender and receiver cost objects. The sender cost object generally uses receiver information such as costs incurred or number of employees to calculate a fixed percent, portion, quantity, or a variable tracing method to use to assign costs. Indirect activity distribution is shown in examples 2.4 and 2.5 below.

**Example 2.3:** The Director of an organization knows that labor costs \$20 per hour but does not currently know the quantity of hours consumed by each receiving cost object. The director has two receiving cost objects; one which has ten employees and the second has thirty employees. Therefore, the Director determines that 25%

(10 FTE's/40 total FTE's) of overhead labor costs should be assigned to receiving cost object 1 and 75% (30 FTE's/ 40 total FTE's) of overhead labor costs should be assigned to receiving cost object 2. This fixed percent will then be used to distribute overhead labor costs between the two receiving cost objects.

**Example 2.4:** The Director of an organization knows that labor costs \$20 per hour but does not currently know the quantity of hours consumed by each receiving cost object. The director has two receiving cost objects; cost object one incurred \$800 in labor and cost object two incurred \$2,400 in labor. Using this information, the Director calculates that receiving cost object 1 used 40 hours of overhead labor (\$800 costs/ \$20 per labor hour) and receiving cost object 2 used 120 hours of overhead labor (\$2400 costs/ \$20 per labor hour). This variable tracing method may be used each period to determine full costs for each receiving cost object.

**Target = Actual:** This method determines the sender cost object quantity based on the receiving cost object quantity through planning. The relationship can be set up based on historical trends or through comparison with similar sender and receiver relationships or other planning processes. The quantity assigned is calculated using the relationship established through planning and the actual output of the receiver cost object so there is no need to track sender cost object quantities. To illustrate this method, example 2.6 is provided below.

**Example 2.5:** The Director of the sender cost object organization has two receiving cost objects which he or she supports and needs to assign overhead costs. The Director determines through the planning process that receiving cost object 1 requires one hour of management (overhead costs) per ten hours worked. However, receiving cost object 2 requires one hour of management (overhead costs) per twenty hours worked. Since the Director knows that overhead or management labor costs \$20 per hour he or she can calculate the amount of overhead to assign each receiving cost object based on the number of hours worked. A break out of assigned overhead is shown below:

**Table 2-1. Example of Target = Actual**

	<b>Hours Worked</b>	<b>Management Required</b>	<b>Cost of Management</b>	<b>Total Cost</b>
<b>Cost Object 1</b>	1,800	180 (1800/10)	\$20	\$3,600
<b>Cost Object 2</b>	1,400	70 (1400/20)	\$20	\$1,400
<b>TOTAL</b>				<b>\$5,000</b>

**Templates:** This method determines the sender cost object quantity based on the receiving cost object information and rules. This method facilitates simple to complex assignment of costs between cost objects using Boolean (“IF-THEN-ELSE”) logic. This logic is used to establish a quantity-based relationship based on operational metrics. Then the costs are assigned using this relationship and the actual output of the receiving cost object. An example is provided below.

**Example2.6:** The Director of the sender cost object (organization) has two receiving cost objects which he or she supports and needs to assign overhead costs. The Director develops some business rules based on Boolean logic. The Director determines that if a receiving cost object has between 0 and 1,500 hours worked, then 10 management hours are required per 100 labor hours. If the number of labor hours is greater than 1,500 then 15 management hours will be required for every 100 hours. The Director knows that the cost of overhead labor is \$20 per hour. This information in combination with the rules is used to assign costs to each cost object as shown below:

**Table 2-2. Example of Template**

	<b>Hours Worked</b>	<b>Management Required</b>	<b>Cost of Management</b>	<b>Total Cost</b>
<b>Cost Object 1</b>	1,000	100 $((1000/100)*10)$	\$20	\$2,000
<b>Cost Object 2</b>	2,000	300 $((3000/100)*15)$	\$20	\$6,000
<b>TOTAL</b>				<b>\$8,000</b>

## 2.6 Methods for Allocation

When tracking actual quantity between sender and receiver cost objects is not possible or is cost prohibitive, overhead costs can be allocated. Allocation methods basically distribute costs based on estimated portion usage, which is typically expressed as a percent. There are two general types of allocation methods that will be discussed in this chapter; cycle methods and cost sheets.

### Cycle Methods:

Cycles are a form of cost allocation within GFEBs that allow for the set-up of individual sender and receiver relationships or groups of senders to groups of receivers. Cycle allocations are run at the end of a period (i.e. batch oriented not real time) and support various cost basis as the determinate of the percent split to the receivers. Some examples of these cost bases are labor dollars, labor hours, square feet of facility being used, and percent of time. There are two types of cycle allocation methods: assessment cycle and distribution cycle.

Assessment cycle is a value-based allocation method that uses an aggregate account to move both primary (General Ledger accounts) and secondary cost elements (internal allocation accounts) between senders and receivers. Once the allocation basis is determined and the portion percents per receiver cost object established, then the sender cost object can allocate all costs in one summary action at the end of the period. The example 2.8 below provides an illustration.

**Example2.7:** The Director of the sender cost object or organization has \$16,000 of total costs (\$10,000 in labor, \$4,000 in travel, and \$2,000 in supplies) for the period. These costs were incurred to support two receiving cost objects or organizations. It was determined that costs will be distributed based on percent

*of labor dollars. Cost object 1 had \$2,000 in labor expenses for the period and receiving cost object 2 also had \$2,000 in labor expenses for the period. Therefore cost allocation percents will be 50% for each cost object. As a result at the end of the period, receiving cost objects 1 and 2 will be allocated \$8,000 each for overhead support (\$16,000 \* 50%). These costs would be allocated using one aggregated account for support of the sending cost object (example: DOL support).*

Distribution cycle is an allocation method that distributes costs in the original detailed account structure and is only available for primary cost movements. Once the allocation basis is determined and the portion percents per receiver cost object established, then the sender cost object can allocate each cost with separate actions. This method captures detailed information but is not the common method. This method is not typically used because it increases the volume of postings generated and requires drill-down techniques to determine which costs were allocated to receiving cost objects versus directly charged. An example is provided below.

***Example 2.8:*** *The Director of the sender cost object or organization has \$16,000 of total costs (\$10,000 in labor, \$4,000 in travel, and \$2,000 in supplies) for the period. These costs were incurred to support two receiving cost objects or organizations. It was determined that costs will be distributed based on percent of labor dollars. Cost object 1 had \$2,000 in labor expenses for the period and receiving cost object 2 also had \$2,000 in labor expenses for the period. Therefore cost allocation percents will be 50% for each cost object. At the end of the period each receiving cost object would be allocated \$5,000 (\$10,000\*50%) in additional labor costs, \$2,000 (\$4,000\*50%) additional travel costs, and \$1,000 (\$2,000\*50%) additional supplies costs. These costs would be added to the labor, travel, and supplies accounts of the receiver cost object and combined with the direct costs in the account.*

Cost Sheets: A cost sheet is an allocation mechanism for associating costs to a receiver based on pre-established business rules. Cost sheets will be used to accommodate shop stock costs applied to work orders and overhead. This method should only be used to apply costs to orders and work breakdown structure (WBS) elements. Note that in order to use a cost sheet a pre-established business rule must be identifiable, such as a rate for management time for each employee hour. A costing sheet consists of four lines: base, calculation, total, and credit. Base lines contain the amount or quantity on which the overhead is calculated (e.g. labor). Calculation lines contain the percentage or rate to be applied to one or more base lines (e.g. \$1.53). Total lines contain the sum of the product of the base amount and the calculated amounts. Finally the credit identifies which cost object receives the offsetting credit for the cost allocation (e.g. cost center warehousing using secondary cost element). An example of using a cost sheet for overhead allocation is presented below.

***Example 2.9:*** *An order is placed that requires 10 units of a shop stock item from a warehouse and 10 hours of labor. The stock item is a secondary cost element from the warehouse and costs \$1.53 per unit (business rule). The 10 hours of labor is required*

from HVAC and costs \$50 per hour (business rule). So the costing sheet for this order would look like:

**Table 2-3. Example of Cost Sheet**

<b>Name</b>	<b>Base</b>	<b>Calculation</b>	<b>Total</b>	<b>Credit</b>
<i>Shop Stock</i>	<i>10</i>	<i>\$1.53</i>	<i>\$15.30</i>	<i>Warehouse</i>
<i>Labor</i>	<i>10</i>	<i>\$50</i>	<i>\$500</i>	<i>HVAC</i>

## Chapter 3

### 3.0 Labor Tracking

#### 3.1 *Key Principle*

Labor is a significant component of overall Army costs. In order to support full cost in the Army, it is important to appropriately account for labor and assign costs to the proper cost object (output). The intent is to align resources to work performed and ultimately the end consumer of products and services in an organization. Labor tracking is a critical component of any cost management solution to accurately measure and manage costs.

#### 3.2 *Policy*

Labor shall be attributed to the relevant cost object for which the labor was performed for the period of performance the work was conducted. Acceptable methods include:

- Individual employees directly assign labor hours to the appropriate cost objects
- Management assigns employee labor hours to the appropriate cost objects
- Management assigns employee labor hours to the appropriate cost objects based on a work driver. For example, form XYZ takes an average of 2 hours to complete. If there were 50 forms completed by two employees, a total of 100 hours will need to be assigned; 50 hours for each employee.

In order to provide relevant and accurate cost management information, all available hours in a period (productive and non-productive) must be assigned to the appropriate cost objects, e.g. Products, Services, Customers, Leave, Training, etc.

The standard available annual work hours for costing purposes to be used is 1,776 hours per year

#### 3.3 *Introduction*

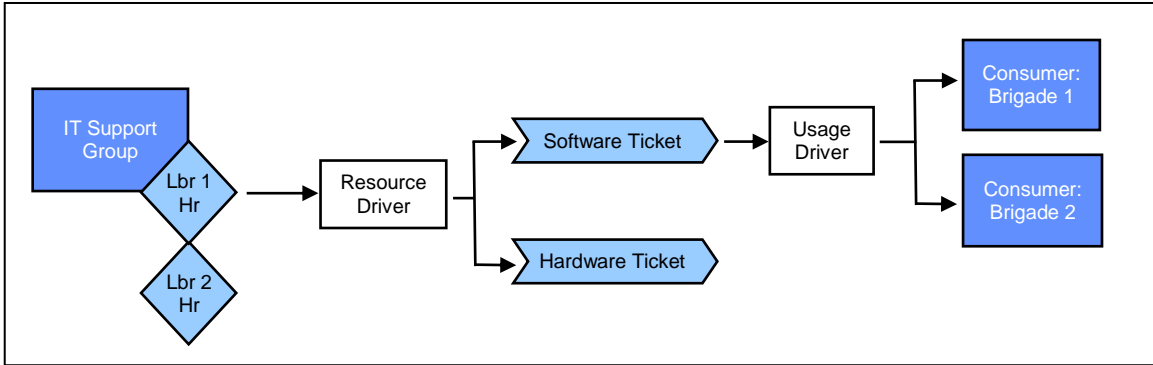
There are three general labor groups: civilian, military, and contractor. Civilian employees can be full-time, part-time, government, volunteers or foreign nationals. Military includes all TDA military and any borrowed or loaned military personnel. Contractor labor is usually the result of a service contract and their labor costs are addressed in Chapter 4, *Contracting Cost Tracking*, of this handbook.

There are two types of labor: direct and indirect. Direct labor is work that can be accurately assigned to defined cost objects, cost centers, or work order. Indirect labor is also referred to as overhead and is work that should be directly tracked to a cost center and assigned on a cause-and-effect basis or allocated on a reasonable and consistent basis to outputs (cost object, work order, or work breakdown structure (WBS) element). Indirect labor (overhead) is addressed with other overhead costs in Chapter 2, *Overhead Assignment and Allocation*, of this handbook. This chapter will

focus on direct labor and the importance of properly tracking and assigning these costs to outputs.

Cost management information is a conversion of financial and operational data into managerial information, where cost generally flows as described below in Figure 3.1.

**Figure 3-1. Labor Cost Flow Process –DOIM Example**



Direct labor costs will be tracked to a cost center, cost object, and WBS element, when possible. Labor tracking must be accurate, timely, and in an approved system. Employee’s labor must be assigned to activities and cost objects on which work is performed. An organization’s funds or budget do not drive where labor hours will be posted. Labor must be posted in accordance with the employee’s actual work. Timely data can mean daily submissions or submitting information at the end of each pay period. In addition to the accurate and timely collection of data, labor must be captured in an approved Army labor tracking system. This system should collect data at no less than 15 minute increments and no greater than 1 hour increments.

### 3.4 Assignment of Labor Hours

Most positions require labor that is directly related to outputs, but even these positions have “non-productive” labor hours. Non-productive labor hours refer to time not spent directly related to outputs. This time should be captured as idle capacity or some other identifiable cost object like mandatory training. Note that idle capacity costs should not be attributed arbitrarily or distributed to cost objects for proportional spreading of 100% of direct labor (see examples below).

Cost objects are created by an organization to accumulate labor and other costs. The majority of cost objects are created to capture the final outputs of an organization, such as the services that are provided, the products that are produced, or the customers who are supported. Cost objects should also be created to accumulate the labor and costs that do not contribute directly to the outputs of an organization. For example, the cost objects should accumulate the labor hours and costs for attending training, conferences, or idle capacity. A few examples of labor tracking are provided below.

**Example 3.1:** A trainer in an organization teaches cost management and other classes. During the reporting period he has conducted a 40 hour cost management class. He has also started to create a presentation for a new class and has

dedicated 24 hours to this task. In addition, he continued with his professional development by attending a 16 hour class on advanced cost management. Depicted below is the appropriate and inappropriate way to track the trainer's hours for the pay period.

**Table 3-1. Correct Assignment of Labor Hours**

Activity	Appropriate Hours
Conduct cost management classes	40
Cost management class overhead	
Develop class media	24
Attended training	16
<b>Total hours</b>	<b>80</b>

**Table 3-2. Incorrect Assignment of Labor Hours**

Activity	Inappropriate Hours
Conduct cost management classes	40
Cost management class overhead	40
Develop class media	
Attended training	
<b>Total hours</b>	<b>80</b>

Correct assignment of hours: The table 3.1 shows the hours worked that were assigned correctly because indirect labor is broken into cost objects associated with the employee's work. The explanation below contains information about the assignments.

Incorrect assignment of hours: The table3.2 shows the hours worked that were assigned incorrectly. The 40 hours that were assigned to overhead should have been assigned to the cost objects associated with the work performed.

**Explanation:**

40 hours: assigned to the output cost object "conduct cost management classes." Management of the training organization is interested in the cost of the different classes that the organization provides. There are other output cost objects for the other classes.

24 hours: assigned to an intermediate cost object "develop class media." Management is interested in the cost of this activity, along with the other activities associated with course development. The cost of all of the course development



activities will eventually be assigned to an output cost object “Course Development.”

16 hours: assigned to the output cost object “attended training.” The purpose of this output cost object is to accumulate the labor hours and cost for attending training, seminars, conferences, etc. Management is interested in the cost of keeping its staff well-trained to meet customer demand.

**Example 3.2:** John Smith, an engineer, spent 70 hours this pay period working on Work Order-A, 5 hours in training, and 5 hours idle. Below is a breakout of the appropriate and inappropriate way John should track his labor for the period:

**Table 3-3. Correct Assignment of Labor Hours**

Activity	Appropriate Hours
Work Order A	70
Work Order A-Overhead	
Training	5
Idle Capacity	5
<b>Total hours</b>	<b>80</b>

**Table 3-4. Incorrect Assignment of Labor Hours**

Activity	Inappropriate Hours
Work Order A	70
Work Order A-Overhead	10
Training	
Idle Capacity	
<b>Total hours</b>	<b>80</b>

Correct assignment of hours: Table 3.3 shows the hours worked that were assigned correctly. John attended training for 5 hours and had 5 hours of idle capacity.

Incorrect assignment of hours: Table 3.4 shows the hours worked that were assigned incorrectly. The 10 hours that were assigned to overhead should have been assigned to the cost objects associated with the work performed or idle capacity.

**Example 3.3:** Jane Green, an engineer, worked 80 hours the last two weeks. She spent 10 hours in general training, 35 hours on Work Order A and 35 hours on Work Order B. The following charts show the appropriate and inappropriate tracking of these hours.

**Table 3-5. Correct Assignment of Labor Hours**

Activity	Appropriate Hours
Work Order A	35
Work Order B	35
Training	10
<b>Total hours</b>	<b>80</b>

**Table 3-6. Incorrect Assignment of Labor Hours**

Activity	Inappropriate Hours
Work Order A	40
Work Order B	40
Training	
<b>Total hours</b>	<b>80</b>

Correct assignment of hours: Table 3.5 shows the hours worked that were assigned correctly. Jane separated the time spent in training (indirectly related to output) from direct time spent on the work orders recognizing that 100% of time is not productive time.

Incorrect assignment of hours: Table 3.6 shows the hours worked that were assigned incorrectly. Jane did not break out her indirect labor; instead since she spent equal time on both work orders, she split her time equally between the two work orders. This causes management to lose visibility over the full costs of the work orders, and the cost of keeping its staff trained.

### **3.5 Benefits of Labor Tracking**

Labor tracking provides information needed to support the principle of full cost. In order for organizations to identify the “true” cost of operations or producing one unit of output, they must track labor. This information will be useful in terms of billing other organizations for reimbursable work, project and budget planning, as well as general resource allocation decisions.

Inaccurate assignments or an incomplete number of hours will make the cost objects ineffective for cost management analysis. By capturing labor more accurately (i.e. including idle capacity and administrative duties) the Army will be better equipped to manage resources and costs. For instance, John Smith has 5 hours of idle capacity but Jane Green worked 5 hours of overtime on Work Order-B. If management is aware of this situation or pattern, then they can more efficiently use resources by having John fill his idle time working on Work Order-B. As a result, the Army will not have to pay Jane for overtime while also paying John for idle time. Also the Army will benefit from the cross-training of two employees on Work Order-B.

## Chapter 4

### 4.0 Contract Cost Tracking<sup>1</sup>

#### 4.1 Key Principle

In order for the Army to successfully manage and compare costs of products and services across the Army, they must have full cost visibility. Full cost visibility includes oversight of contract cost per output. This requirement is increasingly important as the Army continues to lean on contractors for support. In order to accurately reflect the costs of products and services across the Army, contractors must report costs with the same level of detail as Army organizations. This information provides the Army with complete cost information from which to base management decisions. This chapter discusses the importance of full cost visibility, the benefits provided and the process to achieve this goal.

#### 4.2 Policy

- Service contract costs will be reported at the same level of detail that Army organizations are required to report
- All contractor costs must be attributed to relevant cost objects on which work is performed during the period of performance.
- The requirement to report will be included in contract language to ensure contractors report cost information in accordance with Army cost management policy.

#### 4.3 Introduction

Effective cost management requires the Army to be able to fully cost out products and services. The Army is moving toward a new cost culture that enables full visibility of the costs of products and services. However, an increasing problem with obtaining full cost management capabilities lies with contracting costs. The Army's service contracts have more than doubled since 1999, and the Army does not have complete visibility over the capacity being provided (labor tracking) and its associated costs<sup>2</sup>. In addition to increasing contracting costs, contract scopes are widening. A single Army contract now covers multiple activities and these costs are hard if not impossible to break out by function. As a result, the Army can not calculate the full cost of products and services, without which effective and efficient cost management is unattainable. The DoD paid \$316 Billion for contract agreements in 2007, \$111 Billion of which was Army<sup>3</sup> In order

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<sup>1</sup> NOTE: at the publication of Version 1.0 of this handbook, contract cost tracking is GFEBs cost management requirement that IMCOM will execute using the Workload Mapping Tool (WMT). The future-looking discussion in this chapter addressed the vision for the future.

<sup>2</sup> Ayers, R., Pawlow, S., Sedgley, D. (2007, Spring). Collecting Army Contract Information to Support Cost Management. *Armed Forces Comptroller Magazine*, 25 (2), 36-38

<sup>3</sup> Retrieved September 09, 2008, from USAspending.gov web site:

for the Army to continually find efficiencies and effectively manage scarce resources it is imperative to maintain visibility over these growing contracting costs and their components. Some of the benefits derived from tracking all contracting cost components per output are as follows:

Easier make or buy decisions: Deciding if services should be provided via internal resources or contracted out has been debated for years. Current services provided can be used as a benchmark for decision making. However, in order to compare in-house or contracted services, full costs of products and services must be available. This requires comparable information to be captured for contract and in-house costs. This type of comparison might necessitate bundled services to be decoupled (only for tracking purposes while remaining a single item for pricing strategies) and evaluated individually for comparability. (e.g. Oracle DBAs in an IT Support contract).

Increased ability to compare similar organizations: Organizations may be interested in a headquarters perspective of a function. However, if one location uses a contract to cover some products or services and a second location does all work in-house, without capturing the cost components of the contract these two locations will not be comparable.

Improved capacity management: Goods and services externally procured via contracts can both generate and resolve capacity constraints. Capacity constraints can be generated due to increased need for Army support capacity (e.g. rent, or IT services to support contractors). A contractor Unit Cost Rate can be developed and may already exist, which can be utilized for the projection of support capacity demands. Conversely, contracted labor may resolve capacity constraints as staff augmentation for step capacity needs, where taking on an additional headcount into the Army is not cost justified until a certain number of hours are required. Without visibility of the capacity being provided (headcount and productive hours) determination of when this capacity should be brought back into the organization cannot be established.

Efficient funds management: Organizations throughout the year need to manage their funds to optimize the output they provide. As the environment changes, prioritization of different objectives and corresponding requirements can occur requiring redirection of funds. In order to understand the impacts for the best utilization of constrained funds, additional data elements can indicate the plausibility of funds reallocation within the contracts area, such as severable or non-severable, and the downstream impacts to the organization (e.g. penalties).

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[http://www.usaspending.gov/fpds/fpds.php?fiscal\\_year=2007&sortby=f&maj\\_agency\\_cat=97&datatype=T&reptype=r&database=fpds&detail=-1&submit=GO](http://www.usaspending.gov/fpds/fpds.php?fiscal_year=2007&sortby=f&maj_agency_cat=97&datatype=T&reptype=r&database=fpds&detail=-1&submit=GO)

Enhanced risk management: Identifying the purpose of the contracts such as Strategic, Operational, Tactical, etc., as defined within a management scope, aides when making constraint decisions by identifying the impact and risk of trade-off decisions. Organizations are typically very good at managing individual contracts but fail to build the necessary information for making management decisions requiring a cross contracts view as a whole, resulting in optimization of the part while sub-optimizing the sum. Having this information readily available will help minimize the risk associated with management decisions.

Superior value management: Each contract awarded should have a cost justification process that identifies efficiency improvements downstream (e.g. training) and the resulting cost saving (e.g. application eliminates manual entry), etc. Some areas are quantifiable (cost per student) while others are subjective in nature (e.g. advisory services prevent costly mistakes which cannot necessarily be quantified but may increase satisfaction reviews). If contract component costs are tracked, management will be better able to control and monitor efficiency improvements to ensure the Army maximizes the value of each dollar spent.

Efficient cost and performance management: Army decisions with GFEBs are predicated on a conceptual cost design where cost objects have been clearly defined and cost assignments established to determine the full costs (not absorption costs) of the cost object, resulting in the cost per output. With the increasing number of contracts in the Army, it is necessary to obtain visibility over which cost objects are consuming contracted products and services in order to determine the full cost per output. This detailed information can then be utilized to support a myriad of managerial decisions relating to capacity management, projections supporting what-if scenarios, planning and budgeting cycles, efficiency analysis, funds optimizations, benchmarking, etc.

To gain the benefits listed above, greater visibility is needed over contract cost components (labor hours, type of services, materials, etc.) and these costs must be linked to outputs (cost objects).

#### **4.4 Cost Management Reporting Requirements**

In January 2005, the Secretary of the Army issued a memorandum noting that the Department of Defense Business Initiative Council sponsored an Army initiative to obtain better visibility of the contractor service workforce. This initiative required Army organizations to report contractor information such as: estimated labor hours, estimated labor dollars, total payments, federal service code reflecting services provided, as well as other contract information. This information is currently being captured in the Army's Contract Manpower Reporting Application (CMRA). The purpose of this initiative is similar to the goals of cost management, specifically to:

- Fully understand the composition of the total Army workforce and allow for more informed workforce staffing and funding decisions
- Provide better oversight of our workforce, avoid duplication of effort, or shifting in-house reduction to contract
- Ensure the Army is getting full value from our contractor workforce
- Better account for and explain the total Army workforce

While this initiative has been successful and useful, a few additional requirements are needed to accurately identify total costs associated with products and services. Contractor labor needs to be attributed to cost objects using the same or similar process as government employees (as described in Chapter 3, *Labor Tracking*). The acquisition community already requires contract data requirements lists (CDRL) in accordance with Defense Federal Acquisition Regulation Supplement subpart 215.470. These CDRLs detail the cost data that contractors are required to report. Most of the data the Army would track is already being captured by contractors in their own systems, so the additional effort would only require the contractors to provide this information to the Army.

To support cost management, future service contracts should be written to require the break-out and reporting of costs. A clause should be added to contracts, which defines the detail of cost information required to be reported by the contractor. This clause will ensure that contracts are written to meet cost requirements. Costs should be broken out by project, by product, service, or activity. The Army does not want to manage contractors, but rather, obtain visibility over the full costs of outputs (products and services) whether these outputs are provided in-house or by a contractor.

Once received, this information would be uploaded into GFEBs for cost management purposes using one of two methods. The first method would be for contractors (or Army organizations) to use an automated system, perhaps some additional fields in the CMRA and have this application interface with GFEBs. The second option is to have labor of contractors uploaded into GFEBs manually. This manual upload would require the contractor's labor records to be exported from their current system or submitted to the government in MS Excel format and uploaded into GFEBs.

#### **4.5 Analysis**

A model for identifying the information to be captured can be adapted from the procedures used for cost and software data reporting (CSDR), currently used for major defense acquisition programs. Traditionally used to capture the costs of various commodity groups of military hardware (e.g., ground vehicles, aircraft, ships, weapon systems, electronic systems, and others), CSDR procedures recently have been adapted to report costs of service type contracts, particularly for contractor logistics support (CLS). Standard services contract categories should be established to identify the major purposes of contracts (e.g., building maintenance, vehicle maintenance, information systems support, etc.). For each contract category, a standard set of data elements, possibly in a hierarchical work breakdown structure would be identified, including recurring and non-recurring costs for labor and materials. These elements would be reported as the contractor's costs for providing the products and services. In addition,

the contractor’s miscellaneous costs and profit, or fee, would be reported. This reporting procedure would provide cleaner measures of pure cost inputs, separated from profit or fee, than we obtain, today. When coupled with measures of input and output quantities, this procedure will provide a quantum improvement in our ability to conduct performance management.

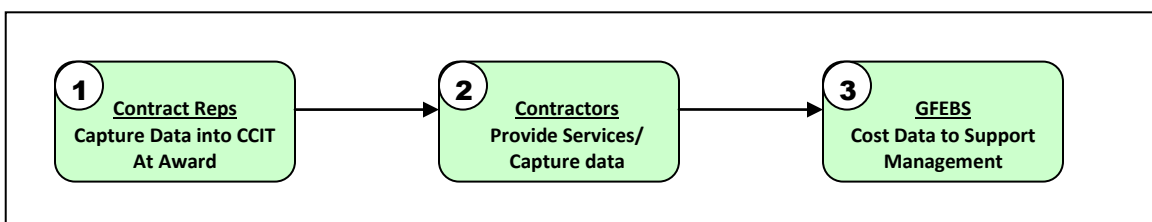
Any current initiatives for identification of contracted costs information requirements should be integrated; with at a minimum a matrix team, in order to ensure that a cross-identification of needs and requirements are considered. Sample data elements for the purposed of the various decisions support considerations listed above as reasons for such a template could include items such as the manual time tracking worksheet used in GFEBs. A list of data elements included in this worksheet is highlighted below:

**Table 4-1. Contract Costs Information Template (CCIT) [sample concept]**

<i>Field</i>	<i>Contract 1</i>	<i>Contract 2</i>	<i>Contract 3</i>
<b>Contract Number</b>	XXXX1	XXXX2	XXXX3
<b>Work Request Number</b>	YYY1	YYY2	YYY2
<b>Task Number</b>	ZZZ1	ZZZ2	ZZZ3
<b>Type</b>	Strategic	Tactical	Operational
<b>Planned Hours</b>	1,000	20,000	10,000
<b>Planned Full Time Equivalents (FTE)</b>	1	18	5
<b>Actual Hours</b>	1,000	TBD	TBD
<b>Actual FTE</b>	0.50	TBD	TBD
<b>Output</b>	Number of Widgets	Advise	Computer Minutes
<b>Benefiting Organization</b>	Customer Number	Own Organization Number	Own Organization Number
<b>Severable</b>	Yes	No	Yes
<b>Penalties</b>	10% Total		\$100,000

This sample template would be utilized in Step 1 of a high level process flow listed in Figure 4.1 below. The template focuses on attribute information related to the contract and sub-tasks for the goods and services being provided and expectations of what is to be received. Steps 2 and 3 of the flow are addressed in the following technology section as they relate to the actual capturing and reporting of similar information.

**Figure 4-1. Contractor Cost Information Flow Process**



## **4.6 Technology**

Depending on the breadth of deployment of a contract cost information template, the feasibility of the aggregation and maintenance of the information may require a formalized tracking system that can provide on-line access for the entry and reporting of the information. This same data repository could then be the single source for the interfacing of the desired information to the appropriate location within the costing applications utilized, e.g. GFEBS, minimizing duplicative manual data entry.

Referring to Figure 4.1, contracted labor hours should utilize the same time tracking functionality as the government labor or provide the same type of information in a file format defined by the Army. In Step 3, the contractor labor hours will then be charged to the appropriate cost objects for cost management reporting within GFEBS. The term WBS element has been utilized to reflect a lower level of information to be provided and does not indicate that the cost object to be utilized within GFEBS is a WBS element of the projects System. The rules for determination of which GFEBS cost object to be utilized for contracts will be defined when creating the conceptual costing design.



## Chapter 5

### 5.0 Standard Rates

#### 5.1 *Key Principle*

For most Army organizations, the predominant resource used is labor, and it is the key cost component for most services. Therefore, the ability to accurately estimate and project labor costs is absolutely essential to help managers make informed operational and cost decisions. Standard labor rates provide managers with a tool for developing estimates of current and future labor costs. Prior to the start of the fiscal year, standard labor rates are used to build the next year's budget and to perform capacity analysis. During budget execution, standard labor rates (rather than the financial accounting transactions) are used to generate the operating costs for cost management purposes and to perform cost variance analysis to evaluate productivity and highlight emerging cost trends for management review, evaluation, and action.

#### 5.2 *Policy*

- Unique standard rates will be established for each Army organization
- HQDA will work with commands to establish approved activity types, labor pools and standard rates for initial deployment
- Labor rates will be based on the number of productive work hours. Labor rates will be based on 1,776 available annual work hours. Approval to utilize a different available annual work hours must be approved by the DASA-CE organization and will be based on specific requirements for different labor categories requiring a different denominator to accurately reflect the number of productive work hrs.

#### 5.3 *Introduction*

Standard cost is any cost computed with the use of pre-established measures [48 C.F.R. 9904.407-30]. Standard costing is a costing method that attaches costs to cost objects based on reasonable estimates or cost studies and by means of budgeted rates rather than according to actual costs incurred [SFFAS No.4]. A standard labor rate is the total value of costs planned for a workforce divided by the planned annual productive hours available for that workforce (planned labor dollars / planned productive hours). Stabilized labor rate is the standard labor rate established for a depot or other working capital fund activity and is a cost per direct labor hour (or other output measure) customers are charged for the products and services provided by a depot or activity group.

Currently stabilized (standard) labor rates are used by Army Working Capital Fund (AWCF) activities to recover all costs, plus recoveries, gains or losses from previous years. Stabilized rates are then used to establish budgets for both AWCF activities and its customers to purchase AWCF products and services. AWCF rate development and use is currently governed by the DoD FMR.

Standard rates are not only developed for labor but for all cost components. Many Army commands charge other commands, or government and commercial entities standard rates for work performed. For example, AMC charges standard rates for depot maintenance work, and ATEC uses standard rates when charging customers for test and evaluation support. It is imperative these rates include all the components of the full (AMC) or reimbursable (ATEC) cost incurred by these organizations when performing work for customers. Organizations should not only be able to identify direct costs, but also indirect costs when formulating rates. For instance, ATEC includes overhead costs in the rates charged to non-DoD customers. One of the benefits of real time and accurate cost reporting is the ability to reformulate standard rates so that they better reflect the cost incurred by an organization to produce a product. As an example, if the price of an input such as fuel rises, these commands will be able to adjust their rates to reflect the increased cost that they should expect to incur. These rates can be revised at the end of each period, but commands will have the ability to change these rates in the middle of a period if the need arises.

#### **5.4 Policy Discussion**

Standard labor rates shall be established by (or for) all Army activities for cost management purposes and used for cost management. The standard labor rates provide the means to measure the cost and consumption of costs by cost objects. Costs are assigned to activity types based on their use of resources. Activity types include items such as labor hours, machine hours, kilowatt hours, and square feet. Activity types are consumed by and attributed to the outputs of a cost center and are tools for tracing costs between cost centers and outputs. The costs incurred by an activity type are assigned to cost objects (e.g., products, services, etc) based on their use of the activity types. This method will require the Army to recognize the causal relationships between cost centers (normally organizations or subsets of organizations) and activity types with their corresponding consumers. This new policy will be used to both determine the costs of cost objects produced and to project the costs for planned production. To illustrate the new requirement and how it relates to resource planning an example is provided below.

***Example 5.1:** A production cost center manufactures semi-finished parts. There may be 5 different activity types consumed in producing the part: welding labor, drilling labor, welding consumables, drilling machine time (usage depreciation), and welding equipment time (usage depreciation). The use of these activity types and the associated costs can be quantified and measured. Over the course of time, the organization has tracked the resources consumed to manufacture the parts and the cost of those resources. They have created 5 resource (or cost) pools to collect the cost and production data. This information has been used to determine that producing a part consumes 30 minutes (.5 of an hour) of drill time and 15 minutes (.25 of an hour) of welding time. It has also been used to establish the actual activity cost rate for each activity type by dividing the total actual costs for an activity type by the actual quantity of the activity type.*

The actual activity cost rates are then used to generate standard rates for the next budget year and to plan and cost the next year's production schedule and capacity. This can be approached from 2 planning scenarios:

- Scenario 1: Based on market surveys and conditions, management establishes a target production level of 40,000 parts and uses this production level (capacity) to establish their production work force and project their operating costs.
- Scenario 2: Management projects that, if they take no further actions, their production centers next year will consist of 8 drill operators and 5 welders who are each available to work on the production line for 1,800 hours per year and uses this projected staff to project their production capacity and costs.

For both cases, the organization will establish standard rates for each activity type basing those rates on the actual activity cost rates adjusted for projected changes in labor costs (e.g., inflation adjustments, step increases, benefits changes) and consumable prices. Depreciation factors may not change. Continuing the example, the standard rates are presented in Table 5.1 below.

**Table 5-1. Standard Rates (Actual)**

Cost Center	Cost	Activity	Activity Unit Cost	Estimated Annual Increase	Standard Rate - Next Year
Welding Labor	\$200,000	5,000 hours	\$40/hour	5% (A)	\$42.00/hour
Drilling Labor	\$300,000	10,000 hours	\$30/hour	5% (A)	\$31.50/hour
Materials	\$40,000	20,000 parts produced	\$2/part	25% (B)	\$2.50/part
Depreciation-drilling equipment	Usage based	Hours used	\$2/hour	None (C)	\$2.00/hour
Depreciation-welding equipment	Usage based	Hours used	\$1/hour	None (C)	\$1.00/hour

- (A) Union contracts stipulate that welding and drilling labor wages and benefits will increase by five percent for the next fiscal year.
- (B) Cost of raw material (noble metal) and supplies (welding rods) will increase at an anticipated rate of 25 percent.
- (C) The same equipment will be used for the next fiscal year and thus will depreciate at the same rate per hour of use as this fiscal year.

The standard rates established above can now be used to address the two planning scenarios:

*Scenario 1: With a target production level of 40,000 parts, the welding cost activity will require a capacity of 10,000 welding hours (40,000 parts x .25 hours per part) and 20,000 drilling hours (40,000 parts x .5 hours per part). The projected cost to produce 40,000 parts equals \$1,200,000 for a projected unit cost of \$30.50. A summary is presented in table 2 below.*

**Table 5-2. Standard Rate Data Scenario 1 (Target)**

<b>Cost Center</b>	<b>Activity</b>	<b>Standard Rate</b>	<b>Total Cost</b>
Welding Hours	10,000 hours	\$42.00/hour	\$420,000
Drilling Hours	20,000 hours	\$31.50/hour	\$630,000
Materials	40,000 parts	\$2.50/part	\$100,000
Depreciation- drilling equipment	20,000 hours	\$2.00/hour	\$40,000
Depreciation- Welding equipment	10,000 hours	\$1.00/hour	\$10,000
<b>TOTAL</b>			<b>\$1,200,000</b>

*Scenario 2: With a planned workforce of 8 drill operators and 5 welders each working 1,800 hours annually on the production line, the production capacity for this workforce is 28,800 parts and the projected costs to produce 28,800 parts is \$939,600 for a projected unit cost of \$32.625 (see table below).*

**Table 5-3. Standard Rates Scenario 2 (Target)**

<b>Cost Center</b>	<b>Capacity</b>	<b>Activity</b>	<b>Standard Rate</b>	<b>Total Cost</b>
Welding Hours	9,000 hrs	7,200 hours	\$42.00/hour	\$302,400
	Unused	1,800 hours		\$75,600
Drilling Hours	14,400 hrs	14,400 hours	\$31.50/hour	\$453,600
Materials		28,800 parts	\$2.50/part	\$72,000
Depreciation- drilling equipment		14,400 hours	\$2.00/hour	\$28,800
Depreciation- Welding equipment		7,200 hours	\$1.00/hour	\$7,200
<b>TOTAL</b>				<b>\$939,600</b>

*Compare 8 drill operators capacity (8 drill operators x 1,800 hours / .5 hours per part = 28,800 parts) with 5 welders capacity (5 welders x 1,800 hours / .25 hours per part = 36,000 parts). Therefore, capacity is 28,800 parts.*

*Note that the above calculations show an unused welding capacity of 7,200 parts (36,000 – 28,800). This unused capacity is costing \$75,600 (7,200 parts x .25 welding hours per part x \$42 per hour).*

The above example raises numerous issues for management. The major learning point is that by using standard rates an organization's managers can both project informed unit cost estimates (run the model forward from resources to cost objects (products))

and determine resource requirements (run the model backwards from desired production level to resources required to meet that level).

### **5.5 Establishing Standard Labor Rates**

Standard labor rates are based on documented labor and service (production) costs from previous fiscal years. These historic costs are adjusted for inflation, anticipated productivity changes and other factors that are expected to impact costs in the next fiscal year. The organization must accomplish the following to establish the standard labor rates:

- Divide the organization into resource (cost) pools.
- For each resource pool, determine the total pay and benefits paid over the course of the fiscal year.
- For each resource pool, determine the total number of available work hours for the fiscal year. Note that this is not the number of hours for which employees were paid. It is the number of hours for which they were present for work. The Army will use 1,776 hours for federal civilian employees and 1,760 hours for military personnel (factors provided in OMB Circular A-76). (Note: there are a total of 2,080 hours available for work each year, but once average non-productive hours such as leave, holidays, and training are factored in, the total productive hours are 1,776 for civilian personnel and 1,760 for military personnel). Various labor pay plans/labor categories can have greatly differing number of available work hrs due to different work schedules, e.g, Firemen, or locations, e.g. LN get different holidays, and organizations can work with DASA-CE on a case by case basis to determine the appropriate productive work hrs for the denominator utilized to establish the Std. Rate. Leave is utilized within the determination of the productive work hrs available.
- Divide total pay and benefits by the number of available work hours to establish the actual historic labor rate. Adjust this historic rate by factoring in inflation, anticipated productivity changes, and other factors expected to impact labor costs in the next fiscal year. This is the standard labor rate for a resource pool.

The inclusion of leave within the Std. Rate is required to accurately associate the cost of work performed to the receiver cost object. Leave hours should be associated with the organization owning the resource not charged to products/services, customers, or programs.

### **5.6 Using Standard Labor Rates**

During budget execution, standard labor rates (rather than the financial accounting transactions) are used to generate the operating costs for cost management purposes and to perform cost variance analysis to evaluate productivity and highlight emerging cost trends for management review, evaluation, and action. Calculate the operating labor costs by multiplying the standard labor rates by the quantity produced and the

expected labor consumption rate. Compare this with the actual labor expenditures recorded in the financial system. A significant variance between the two indicates potential changes in productivity or actual unit costs and requires further analysis. To identify and monitor changes in actual unit labor costs, periodically during the fiscal year compare the standard labor rate with the actual labor expenditures. If the actual unit labor cost is significantly different, adjust the standard labor rate for subsequent periods.

## Chapter 6

### 6.0 Depreciation

#### 6.1 Key Principle

Depreciation is a key cost component for determining the full cost of operations or of any Army activity, service, or product. Depreciation methods for costing must be relevant and accurately reflect the useful life of assets. For example, if the Army has two tanks, one of which is driven 200 miles per month in combat and one that is driven 10 miles per month in a CONUS environment, they will not depreciate at the same rate and will have different useful lives. Since depreciation is often tied to billing, it would benefit the Army to use methods that more accurately reflect an asset's useful life. This requires the utilization of usage-based depreciation (for costing purposes) on equipment and systems that depreciate based on usage and not at a standard rate each year.

#### 6.2 Policy

- For financial statement purposes (external reporting) and for developing costs for non-tactical equipment, tactical equipment not specifically identified, and real property assets, the straight-line method of depreciation shall be used.
- Designated asset classes of tactical equipment shall use a usage-based depreciation method for cost management purposes (e.g. flying hours, tank miles, and operating hours).
- Depreciation method will be applied to assets valued at or greater than \$100,000 for equipment and \$20,000 for real property.

#### 6.3 Introduction

Depreciation is “the systematic and rational allocation of the acquisition cost of an asset, less its estimated salvage or residual value, over its estimated useful life” Federal Accounting Standards Advisory Board (FASAB), Original Pronouncements, Volume 1, Appendix E]. “Depreciation reflects the use of the asset(s) during specific operating periods in order to match costs with related revenues in measuring income or determining the costs of carrying out program activities” [GAO 05-734SP, Budget Glossary]. “Depreciation recognizes the allocation of cost of depreciable physical plant, property, or equipment as an operating expense over the periods in which the assets are expected to provide benefits” [DoD FMR Volume 1].

#### 6.4 Policy Discussion

*Statement of Federal Financial Accounting Standard (SFFAS) No. 4* states that depreciation expense incurred by responsibility segments should be included in the full cost of goods and services that the segments produce. DoD Financial Management Regulation (FMR) 7000.14 permits the use only of the straight-line method of depreciation for financial reporting purposes. However, for cost management purposes,

straight line depreciation does not always accurately reflect equipment wear and tear. Some equipment actually depreciates based on volume of usage. To properly capture full costs of products and services, the Army is implementing two depreciation methods:

- For financial statements and for developing costs for non-tactical equipment, tactical equipment not covered in 2 below, and real property assets, the straight-line method shall be used.
- For designated asset classes of tactical equipment, a usage-based depreciation method shall be used. (e.g. flying hours, tank miles, operating hours).

The Army will continue to use straight-line depreciation on Army financial reports for all assets. The straight-line method is also appropriate to develop costs for all capital property that is employed for its intended purpose and is expected to attain its normal useful life. When property is subjected to extraordinary usage that significantly diminishes its expected useful life, usage-based depreciation should be calculated to satisfy cost management reporting requirements.

Operational demands placed on tactical equipment and systems are unpredictable and fluctuate widely depending on location, unit mission, weapon system, and type of ongoing operations. Simple straight line depreciation schedules do not provide proper decision support for senior leaders. Depreciation computations linked to actual use of the equipment (e.g. hours flown or miles driven) provide a more realistic view of the cost of these operations.

With the changed cost culture in the Army, now is the time to implement usage-based depreciation for some assets. With implementation of a robust Enterprise Resource Planning (ERP) system, the Army should take full advantage of ERP capabilities by including depreciation methods that accurately reflect true costs of Army products and services. This will allow organizations to have more accurate costing information that can improve resource replacement planning and to develop more accurate pricing in order to better recuperate costs.

The Army will apply usage-based depreciation aircraft and ground vehicles on which the Army tracks usage and considers significant enough for analysis. Asset classes for usage-based depreciation will be defined such that assets in a class have a similar useful activity value and meet the cost management reporting requirements of the Army. Currently, the Army has defined 20 asset classes for aircraft and 58 asset classes for ground vehicles. (Note that as the Army deploys the ERP solution that requires a new cost culture in management, additional asset classes will be added to the list of assets to be depreciated on a usage basis for costing purposes). For a list of the assets identified for usage based depreciation as of July 2007, see Table 6.1 below.



**Table 6.1. Weapon System Asset Classes for Usage Based Depreciation as of July 2007**

Aviation Systems	Ground Vehicles	
MDS NAME	MDS NAME	MDS NAME
APACHE	5 TON YARD TRACTOR	LMTV SERIES
BLACKHAWK	ABRAMS	LRV
BLACKHAWK(A2C2S)	ACE	M1064 SERIES
BLACKHAWK(MED)	APC	M123 SERIES
BLACKHAWK(SO)	ASV	M151 SERIES
CAYUSE	AVLB	M35 SERIES
CHINOOK	BFAASV	M520 SERIES
CHINOOK(SO)	BFIST	M870 SERIES-TRL
COBRA	BFIST/M7A3	M876
CREEK	BFV-LINEBACKER	M880 SERIES
GUARDRAIL	BRADLEY	M915 SERIES
HUEY	BREACHER	M916 SERIES
HUEY(EL)	C2V	M917 SERIES
HURON	CARRIER	M918 SERIES
KIOWA	CEV	M969 SERIES
MOHAWK	CUCV SERIES	M992 SERIES
QUICK FIX	DUMP TRUCK 20 TON	MLRS
SEMINOLE	ECV HMMWV	MTV SERIES
TWIN OTTER	FIST-V	OSV
UTE	FOX	PALADIN
WARRIOR	HEAVY HMMWV	PAWS
	HEMTT SERIES	PLS SERIES
	HERCULES	SHERIDAN
	HET	SICPS
	HMMWV AMB	SMOKE GENERATOR
	HMMWV SERIES	STRYKER
	HMMWV UP-ARMORED	SUSV
	HOWITZER	VULCAN
	ITV	WOLVERINE
	LIGHT ARMORED VEHICLE	

Usage-based depreciation provides a more predictive view of future budget and workload requirements, more accurately reflects the actual financial condition of the Army at any given point in time, and better communicates the equipment situation and condition to all stake holders both inside and outside the Army.

Generally accepted accounting principles (GAAP) require that the cost of an asset be allocated over its useful life. The *Statement of Federal Financial Accounting Standard (SFFAS) No. 6, Accounting for Property, Plant and Equipment* requires that assets be depreciated according to a "...systematic and rational allocation..." The purpose of depreciating an asset is to provide a reflection of its cost in support of the ongoing business of the enterprise. The use of simple straight line depreciation does not meet current or future needs of an Army during a time of persistent conflict. The Army is currently working with OSD to amend the FMR and recognize usage-based depreciation as a standard methodology for financial depreciation.

## 6.5 Depreciation Calculations

To implement usage-based depreciation, organizations will need to capture and integrate both property and usage data. The system will calculate the remaining useful life in months by subtracting the acquisition (place in service) date from the current date. The monthly depreciation is calculated by dividing the balance to depreciate (cumulative book cost – (salvage value + accumulated depreciation)) by the remaining useful life months.

**Straight-line Depreciation:** Assumes constant usage across the useful life (expected) of an asset. The useful life is defined in months and the asset receives constant depreciation postings every month. The straight-line depreciation method will calculate periodic depreciation based on the following formula:

$$\text{Periodic Depreciation} = \text{Gross Book Value} \times \frac{1 \text{ month}}{\text{Useful Life (months)}}$$

If an asset has a useful life of 60 months and a gross book value of \$60,000, the asset is depreciated by \$1,000 every month. If the asset survives longer than 60 months, no additional depreciation is posted beyond the 60<sup>th</sup> month. If the asset becomes unusable or is destroyed before reaching its 60-month useful life, it can be retired and receive the balance of the book value or it can continue to be depreciated until the 60<sup>th</sup> month of its expected life.

**Usage-Based Depreciation:** Method based on actual units of activity (usage). In contrast to straight-line depreciation, the main assumption is that the asset has a useful activity span instead of a useful life, and the actual activity will vary from month-to-month. Therefore, the monthly depreciation will vary based on the fluctuation in monthly usage. Usage-based depreciation method will calculate periodic depreciation based on the following formula:

$$\text{Periodic Depreciation} = \text{Gross Book Value} \times \frac{\text{Current Activity}}{\text{Useful Activity}}$$

If an asset has a useful activity span of 100,000 miles, a gross book value of \$1,000,000 and is driven 1,000 miles in a month, its depreciation is \$10,000 for that month. If an asset is not used at all, its depreciation is \$0. If the asset is serviceable beyond 100,000 miles, no additional depreciation is posted from that point forward. If the asset becomes unusable or is destroyed before reaching its 100,000-mile useful life, it is retired and receives the balance of the book value during that period.

## Chapter 7

### 7.0 Master Data for the Army Cost Model

#### 7.1 Key Principle

Cost management is only effective and efficient when the proper cost information is being collected for management decisions. The collection of the most relevant cost information is dependent on the cost structure of each Army organization or command. In order to ensure cost structures are developed to enable the Army to manage cost at the operational level, standards are necessary to be described in the policy section below were established. Policy will be provided to define requirements and standards for each master data element required for cost management and cost accounting to include – Cost Centers, Cost Elements, Activity Types, Internal Orders, Business Processes, Projects / Work Breakdown Structures, and Statistical Key Figures. This chapter currently addresses the Cost Center object only<sup>4</sup>.

#### 7.2 Policy

Army organizations and commands must follow the eight standards below when developing an organizational cost center structure.

- Standard 1: Materiality
  - Cost center costs need to be significant in relation to all costs to be captured.
  - Exceptions to materiality are based on external regulations reporting requirements.
- Standard 2: Life Span
  - The life span of a cost center crosses multiple years.
  - Short term life spans indicate a project or event not a cost center.
- Standard 3: Management Control
  - There must be a manager that is responsible for controlling the resources of the cost center and the cost management processes: output planning and corresponding resource demands, decision support and corrective actions, measurement of efficiency/effectiveness of the outputs of the cost center.
  - Cost Centers should be established at minimum of one level below the level required for higher level reporting.
- Standard 4: Span of Labor Control
  - Must be more than two and less than twenty employees. Industrial studies recommend five to twelve employees as the standard number within a labor related cost center due to affectivity of supervision.
  - Sensitive personal information may be apparent for cost centers with only one employee such as payroll. With the introduction of pay banding, it becomes necessary to protect salary information.

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<sup>4</sup> The remaining cost objects will be addressed in Version 1.7 scheduled to be published in the first quarter of FY12

- Exceptions to Span of Control standard occur based on other standards such as materiality, cost assignment accuracy not impacted by the aggregation, and management control not required for corrective actions.
- Standard 5: Contains at Least One Resource Pool
  - A Resource Pool (called activity types within GFEBs, GCSS, and LMP) provides quantitative output of the cost center and has an assignment unit of measurement. For example, a Citrix farm cost center has a resource pool of machines providing computer minutes, the human resource cost center provides labor hours, the building three cost center provides square footage, etc.
- Standard 6: Functionality
  - Cost center is defined by the unique function performed and the measurement of the outcome of the products and services for that function.
  - Exceptions to functionality are made based on other standards such as materiality, control, and span of labor control.
- Standard 7: Locality
  - Cost center reside in one physical location (e.g. same building).
  - Exceptions to locality are made based on other tenants such as materiality and control.
- Standard 8: Cost Assignments Accuracy
  - Cost Center is defined to the level of the organizational structure such that accuracy of the assignment of costs to the products or services is not impacted by aggregation.
  - Individual cost centers must be able to capture all (multiple) funding sources that are used in support of performing work and/or consuming resources by that cost center.

### **7.3 Cost Center Introduction**

A cost center is a responsibility center that incurs costs and has an operational manager who is accountable for the resources consumed to produce the cost center's output. The purpose of a cost center is to serve as the base for the management optimization model. The optimization model is the model utilized to reflect the business, its inputs, conversions, and outputs in order to support management decision. The cost center is the first cost object to be defined when developing a cost model. The fact that cost centers are the central point of an organization's cost model in combination with the reality that the definition lends itself to multiple varied usages requires that standards be developed to ensure the proper use and establishment of cost centers.

### **7.4 Cost Center Standards**

The cost center structure is developed to provide operational managers with the functionality to manage their organizations. The structure is designed to provide the most relevant cost information to managers in order to allow managers to produce products and services for their customers in the most efficient and effective manner.

Cost centers are organizationally defined based on size, function, location, life span, control, and materiality of each division or function. Cost centers are responsible and accountable for the management and consumption of resources (labor, material,

supplies, equipment, and assets). Financial reporting is secondary in the establishment of a cost center structure. First and foremost the cost center structure must be developed to facilitate cost management to include workload planning, performance and capacity management, cost allocations, and cost assignment to effectively manage output. Because cost centers are one of the most important aspects of an organization's cost structure, it is imperative that the following standards are followed in developing cost structure for Army organizations.

Exceptions to these rules exist but must be approved through the Office of the Deputy Assistant Secretary of the Army, Cost and Economics (DASA-CE). DASA-CE has representatives working on GFEBs and GCSA cost module that can process the approval of an exception to the standards stated above.

## References

**Armed Forces Comptroller Magazine** (of the American Society of Military Comptrollers and their primary means of sharing professional information)

Specifically referenced in this document: Volume 25 (2)

Highlights can be found at: <http://www.asmconline.org/afcomptroller/excerpts.shtml>

**Chief Financial Officers Act of 1990** Public Law 101-576

<http://govinfo.library.unt.edu/npr/library/misc/cfo.html>

**Clinger-Cohen Act** (made of up of two separate Acts)

The Information Technology Management Reform Act of 1996

[http://www.cio.gov/Documents/it\\_management\\_reform\\_act\\_Feb\\_1996.html](http://www.cio.gov/Documents/it_management_reform_act_Feb_1996.html)

**Consortium of Advanced Management, International (CAM-I)**

<http://www.cam-i.org/index.cfm>

The following books or additional information can be purchased from their website:

*Glossary of Activity-Based Management*

Capacity Measurement and Improvement (1996)

*Value Quest*

**Defense Federal Acquisition Regulation Supplement**

<http://www.acq.osd.mil/dpap/dars/dfarspgi/current/index.html>

Specifically referenced in this document: Subpart 215.470

**Department of Defense Financial Management Regulation 7000.14R**

<http://www.defenselink.mil/comptroller/fmr/>

Specifically referenced in this document:

Volume 4

Volume 1

**Federal Accounting Standards Advisory Board (FASAB)**

Original Pronouncements <http://www.fasab.gov/codifica.html>

Specifically referenced in this document: Volume 1, Appendix E

**Federal Acquisition Regulation (FAR)** <http://www.acquisition.gov/far/>

Specifically referenced in this document: Subpart 2.1

**Federal Acquisition Regulations System**

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&tpl=%2Findex.tpl>

Specifically referenced in this document: Title 48 Part 9904—Cost Accounting Standards

<http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=93ae2bd5169c1c4cdd4c6a2a945521d5&rqn=div5&view=text&node=48:7.0.11.2.6.5&idno=48>

**Federal Financial Management Improvement Act of 1996—Public Law 104-208**

[http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104\\_cong\\_public\\_laws&docid=f:publ208.104.pdf](http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=104_cong_public_laws&docid=f:publ208.104.pdf)

**Government Accountability Office**

A Glossary of Terms Used in the Federal Budget Process (05-734SP)

<http://www.gao.gov/new.items/d05734sp.pdf>

**Government Performance and Results Act of 1993—Public Law 103-356**

<http://thomas.loc.gov/cgi-bin/bdquery/z?d103:SN00020:%7CTOM:/bss/d103query.html>

**National Performance Review** (now called the National Partnership for Reinventing Government) Link to their reports: <http://govinfo.library.unt.edu/npr/library/review.html>

**Office of Management and Budget:** <http://www.whitehouse.gov/omb/circulars/>

Specifically referenced in this document:

Circular A-131 Value Engineering <http://www.whitehouse.gov/omb/circulars/a131/a131.html>

Circular A-76 Performance of Commercial Activities

<http://www.whitehouse.gov/omb/circulars/a076/a076.html>

Circular A-94 Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs

<http://www.whitehouse.gov/omb/circulars/a094/a094.html>

President's Management Agenda—Improving the Management of the Federal Government:

[http://www.whitehouse.gov/omb/budintegration/pma\\_index.html](http://www.whitehouse.gov/omb/budintegration/pma_index.html)

**Statement of Federal Financial Accounting Standards (SFFAS)**

[http://www.fasab.gov/pdffiles/codification\\_report2007.pdf](http://www.fasab.gov/pdffiles/codification_report2007.pdf)

Specifically referenced in this document: Standard Number 4

Managerial Cost Accounting Concepts and Standards for the Federal Government

## Appendix A. Glossary

**Absorption Costing.** A method of costing that assigns (absorbs) all labor, material, and service or manufacturing facilities and support costs to products or other cost objects. The costs assigned include those that do and do not vary with the level of activity performed. [SFFAS No.4]

**Activity.** The actual work task or step performed in producing and delivering products and services. An aggregation of actions performed within an organization that is useful for purposes of activity-based costing. [SFFAS No. 4]

**Activity driver.** Measure of frequency and intensity of demand placed on activities by cost objects, used to assign costs to cost objects. It represents a line item on a product or customer's bill of activities (e.g. number of part numbers, which is used to measure the consumption of material related activities by each product, material type, or component. [CAM-I Glossary of Activity-Based Management]

**Actual Cost.** An amount determined on the basis of cost incurred (as distinguished from forecasted cost), including standard cost properly adjusted for applicable variance. [48 C.F.R. 9904.410-30] [SFFAS No. 4]

**Allocation Method.** Process that identifies accumulated costs with reporting periods and cost objects. This particular method is used to allocate costs from a sending cost object to a receiving cost object based on a non-direct quantitative relationship. Allocation is usually expressed as a percent of utilized resources such as full-time equivalents or space.

**Analysis of Alternatives.** Analysis requiring evaluation of different choices available for achieving an objective, usually requiring cost-benefit analysis, life cycle costing, and sensitivity analysis.

**Assets.** Tangible or intangible items owned by the federal government which would have probable economic benefits that can be obtained or controlled by a federal government entity. [FASAB Glossary]

**Assignment Method.** Process that identifies accumulated costs with reporting periods and cost objects. This particular method is used to assign overhead costs that have a direct, quantitative relationship between the sending cost object and the receiving cost object.

**Avoidable Cost.** A cost associated with an activity that would not be incurred if the activity were not performed. [FASAB Glossary]

**Book Value.** The original acquisition cost of a capital asset less the total recorded accumulated depreciation. [DoD FMR Volume 1]

**Capacity.** The combination of physical facilities, personnel and process available to meet the product or service needs of customers. Capacity generally refers to the maximum output or producing ability of a machine, a person, a process, a factory, a product, or a service. [CAM-I web search] Capacity is divided into three main components (1) Idle capacity which consists primarily of not usable due to management policy, contractual or legal constraints and usable but idle time (2) Non-Productive capacity examples include standby, maintenance, waste rework and setups (3) Productive capacity is time that is used for the process or product development



and production of goods. [Capacity Measurement and Improvement, CAM-I, Thomas Klammer, 1996]

**Capacity Management.** A process used to manage and measure information on how assets are currently being utilized, what resources are excess or short compared to requirements and where potential improvements may be made. New investments should not be undertaken unless it is clear from sound capacity management based information that existing resources cannot meet projected demand. [Value Quest, CAM-I]

**Common Cost.** The cost of resources employed jointly in the production of two or more outputs and the cost cannot be directly attributed to any one of those outputs. [SFFAS No. 4]

**Cost.** The monetary value of resources used or sacrificed or liabilities incurred to achieve an objective, such as to acquire or produce a good or to perform an activity or service. [SFFAS No. 4]

**Cost Allocation.** A method used to assign costs to activities, outputs, or other cost objects. The allocation base used to assign a cost to objects is not necessarily the cause of the cost. For example, assigning the cost of power to machine activities by machine hours is an allocation because machine hours are an indirect measure of power consumption. [FASAB, Original Pronouncements, Vol. 1, Appendix E]

**Cost Assignment.** A process used to identify costs with activities, outputs, or other cost objects. In a broad sense, costs can be assigned to processes, activities, organizational divisions, products, and services. [SFFAS No. 4]

**Cost Avoidance.** The cost result of an action taken in the immediate time frame that will decrease costs in the future. For example, an engineering improvement that increases the mean time between failures and thereby decreases operation and maintenance costs is a cost avoidance action. [OMB Circular 131]

**Cost-Benefit Analysis.** The weighing of benefits against costs usually expressed as a ratio of dollar benefits to dollar costs for each of a variety of alternatives to provide a comparable basis of choice among them. [FASAB, Original Pronouncements, Vol. 1, Appendix E]

**Cost Center.** A logical or physical grouping of one or more similar services for the purpose of identifying obligations or developing the cost identification for the services. Services are grouped into cost centers in order to (1) normalize between services that use similar resources with different capabilities, (2) apply surcharges and discounts to services, (3) identify costs for different classes of the same service, or (4) identify obligations. [DoD FMR Volume 1]

**Cost Driver.** Any factor that causes a change in the cost of an activity or output. For example, the quality of parts received by an activity, or the degree of complexity of tax returns to be reviewed by the IRS. [SFFAS No. 4]

**Cost-Effectiveness.** A systematic quantitative method for comparing the costs of alternative means of achieving the same stream of benefits or a given objective. [OMB Circular A-94]

**Cost Management.** Managing business operations efficiently and effectively through the accurate measurement and thorough understanding of the "full cost" of an organization's business processes, products and services in order to provide the best value to customers.

**Cost Object.** An activity, output, or item whose cost is to be measured. In a broad sense, a cost object can be an organizational division, a function, task, product, service, or a customer. [SFFAS No. 4]

**Cost Pool.** A grouping of cost elements associated with an activity.

**Depreciation.** Depreciation recognizes the allocation of cost of depreciable physical plant, property, or equipment as an operating expense over the periods in which the assets are expected to provide benefits. [DoD FMR Volume 1]

**Direct Labor.** Work directly involved in making a product or in providing a service. Examples of direct labor costs are the wages of assembly workers on an assembly line and the wages of a machine tool operator in a machine shop.

**Direct Materials.** Materials that physically become part of a product or service and therefore are clearly identified with specific outputs or services.

**Direct Cost.** The cost of resources (labor and materiel) directly consumed by an activity. Direct costs are assigned to activities by direct tracing of units of resources consumed by individual activities. [SFFAS No. 4]

**Efficiency.** Performance measure relating outputs to inputs. It is often expressed by the cost per unit of output. [SFFAS No. 4]

**Effectiveness.** Performance measure of the outcome or the degree to which a predetermined objective is met. It is commonly combined with cost information to show "cost-effectiveness." [SFFAS No. 4]

**Expense Element.** Classification used to label expenses for cost accounting and reporting purposes. The expenses included are any relevant monetary or non-monetary expense incurred to produce output. Examples are payroll, materials, supplies, equipment, travel, and depreciation.

**Fixed Cost.** A cost that does not vary in the short term with the volume of activity. Fixed cost information is useful for cost savings by adjusting existing capacity, or by eliminating idle facilities. [SFFAS No. 4]

**Fixed Overhead.** Portion of total overhead that remains constant over a given time period without regard to changes in the volume of activity. Examples of fixed overhead are rent, property taxes, insurance, and salaries of supervisors.

**Full Cost.** The sum of all costs required by a cost object including the costs of activities performed by other entities regardless of funding sources. The full cost of an output produced by a responsibility segment is the sum of (1) the costs of resources consumed by the segment that directly or indirectly contributes to the output, and (2) the costs of identifiable supporting services provided by other responsibility segments within the reporting entity, and by other reporting entities. These two types of costs should be separately identified so that each can be used for different analytic purposes. [SFFAS No.4]

**Funded Cost.** The value of goods or services received because of an obligation of funds (obligation authority), by the organization performing the work. (e.g. civilian labor, building and grounds maintenance). These costs are funded in the Annual Operating Budget of the organization.

**General and Administrative Costs (G&A).** Any management, financial, and other expense which is incurred by or allocated to a business unit and which is for the general management and administration of the business unit as a whole. G&A expense does not include those management expenses whose beneficial or causal relationship to cost objectives can be directly measured. [48 C.F.R. 9904.410-30] [FAR Subpart 2.1—Definitions]

**Idle Capacity.** (See Capacity).

**Incremental Cost.** The increase or decrease in total costs that would result from a decision to increase or decrease output level, to add a service or task, or to change any portion of operations. This information helps in making decisions such as to contract work out, undertake a project, or increase, decrease, modify, or eliminate an activity or product. [SFFAS No. 4]

**Indirect Cost.** (See Overhead) A cost that cannot be identified specifically with or traced to a given cost object in an economically feasible way. The cost of resources that are jointly or commonly used to produce two or more types of outputs but are not specifically identifiable with any of the outputs, e.g., general administrative services, general research and technical support, security, rent, employer health and recreation facilities, and operating and maintenance cost for buildings, equipment, and utilities. Such cost can be assigned to the output on a cause and effect basis or allocated on a reasonable and consistent basis. [SFFAS No. 4]

**Indirect Expenses.** Expenses that are not easily associated with a specific organization, product or service output; they are often incurred for the benefit of more than one organization, product or service output.

**Indirect Labor.** Labor *not* directly involved in production but used to support the function, organization, product, or service output such as supervisory personnel.

**Indirect Materials.** Materials that are used in support of the production process but that do not become a part of the product or service and are not directly traceable to the output. An example would be office supplies.

**Inflation.** The proportionate rate of change in the general price level, as opposed to the proportionate increase in a specific price. Inflation is usually measured by a broad-based price index, such as the implicit deflator for Gross Domestic Product or the Consumer Price Index. [OMB Circular A-94]

**Inter-Entity.** A term meaning between or among different federal reporting entities. It commonly refers to activities or costs between two or more agencies, departments, or bureaus. [SFFAS No. 4]

**Inter-Entity Costs.** The full cost of goods and services that an entity receives from other entities. The entity providing the goods or services has the responsibility to provide the receiving entity with information on the full cost of such goods or services either through billing or other advice. Recognition of inter-entity costs that are not fully reimbursed is limited to material items that (1) are significant to the receiving entity, (2) form an integral or necessary part of the receiving entity's output, and (3) can be identified or matched to the receiving entity with reasonable precision. Broad and general support services provided by an entity to all or most other entities generally should not be recognized unless such services form a vital and integral part of the operations or output of the receiving entity. [SFFAS No. 4]

**Managerial (Management) Accounting.** Process of identification, measurement, accumulation, analysis, preparation, interpretation, and communication of financial information that is used by

management to plan, evaluate, and control within an organization. It is the accounting method or process used for the planning, control, and decision-making activities of an organization. Managerial accounting is concerned with providing information to internal managers who are charged with directing, planning, and controlling operations and making a variety of management decisions. Managerial accounting can be contrasted with financial accounting, which is concerned with providing information, via financial statements, to stockholders, creditors, and others *outside* the organization. Managerial cost accounting is the process of accumulating, measuring, analyzing, interpreting, and reporting cost information useful to both internal and external groups concerned with the way in which the organization uses, accounts for, safeguards and controls its resources to meet its objectives. (SFFAS 4, paragraph 42, page 15)

**Non-production Costs.** Costs that are linked to events other than the production of goods and services. Examples of these non-production costs include reorganization costs, and nonrecurring cleanup costs resulting from facility abandonments that are not accrued. Since these costs are recognized for a period in which a particular event occurs, assigning these costs to goods and service produced in that period would distort the production costs. [SFFAS No. 4]

**Operating Capacity.** The capacity measured in terms of "practical capacity" which is the maximum units of output that the available capacity can produce taking the normal stoppage and interruptions into consideration. Unused capacity is the excess of practical capacity over actual outputs. [SFFAS No. 4]

**Output.** Any product or service generated from the consumption of resources. It can include information or paper work generated by the completion of the tasks of an activity. [SFFAS No. 4]

**Overhead Costs.** Costs that are incurred but are not clearly associated with specific units of a product or service; includes all costs other than direct material and direct labor. In addition to indirect materials and indirect labor, it includes such items as depreciation, fringe benefits, payroll taxes, and insurance. Overhead includes two major categories of cost, operations overhead and general and administrative overhead. Operations overhead includes costs that are not 100 percent attributable to the activity but are generally associated with the recurring management or support of the activity. General and administrative overhead includes salaries, equipment, space, and other tasks related to headquarters management, accounting, personnel, legal support, information management, and similar common services performed external to the activity, but in support of the activity. [OMB Circular A-76]

**Primary Cost.** An expenditure that is externally sourced, such as most of today's elements of resources. Typically, but not necessarily, indicative of cash out flows.

**Product.** Any discrete, traceable, or measurable good or service provided to a customer. Often goods are referred to as tangible products, and services are referred to as intangible products. A good or service is the product of a process resulting from the consumption of resources. [SFFAS No. 4]

**Productivity Improvement.** A process improvement resulting in a reduction in future work, time, or materials associated with a function or assigned task that has been included in an approved program.

**Reimbursements.** Sums received as payment or advance payment for goods or services furnished either to the public or to another federal government account. If authorized by law, these sums are credited directly to specific appropriation and fund accounts. These amounts are deducted

from the total obligations incurred (and outlays) in determining net obligations (and outlays) for such accounts. Reimbursements are offsetting collections. [FASAB, Original Pronouncements, Vol. 1, Appendix E]

**Relevant Costs.** Those cost elements that are necessary for particular management analyses or decision-making purposes. Relevant costs may include expected or potential costs that differ among alternative courses of action.

**Residual Value.** Residual value is the estimated value remaining at the end of a capital asset's useful life to the Department of Defense or the amount that can be expected to be recovered from the asset's disposal when it is removed from service. This is a type of headquarters' G&A expense. [DoD FMR Volume 1]

**Resource Driver.** A measure of the quantity of resources consumed by an activity. An example of a resource driver might be the total square feet of space occupied by an activity. This factor is used to allocate a portion of the cost of operating the facilities to the activity. [CAM-I Glossary of Activity-Based Management]

**Responsibility Segment.** A significant organizational, operational, functional, or process component which has the following characteristics: (a) its manager reports to the entity's top management; (b) it is responsible for carrying out a mission, performing a line of activities or services, or producing one or a group of products; and (c) for financial reporting and cost management purposes, its resources and results of operations can be clearly distinguished, physically and operationally, from those of other segments of the entity. [SFFAS No. 4]

**Secondary Cost.** A cost that is assigned to a cost object for consuming products or services provided by another cost object.

**Sunk Cost.** A cost incurred in the past that will not be affected by any present or future decision. Sunk costs should be ignored in determining whether a new investment is worthwhile. [OMB Circular A-94]

**Support Costs.** Costs of activities not directly associated with production. Typical examples are the costs of automation support, communications, postage, process engineering, and purchasing. [SFFAS No. 4]

**Unassigned Costs.** General management and administrative support costs that cannot be traced, assigned, or allocated to segments and their outputs. These unassigned costs are part of the organization costs, and they should be reported on the entities financial statements (such as the Statement of Net Costs) as costs not assigned to programs. [SFFAS No. 4]

**Unavoidable Cost.** A cost incurred on a cost object that will be incurred regardless of the decision to change output, such as depreciation on equipment.

**Unfunded Cost.** Costs not financed by the performing activity's current appropriations or fund accounts. Applicable types of cost include depreciation, interest on investment, and civilian retirement amounts funded by Office of Personnel Management. [DoD FMR Volume 1]

**Variable Cost.** A cost that varies with changes in the level of an activity, when other factors are held constant. The cost of material handling to an activity, for example, varies according to the number of material deliveries and pickups to and from that activity. [SFFAS No. 4]

**Variance.** The amount, rate, extent, or degree of change, or the divergence from a desired characteristic or state. [SFFAS No. 4]

## **Appendix B. Acronyms**

AMC—Army Material Command

A TEC—Army Test and Evaluation Command

AWCF—Army Working Capital Fund

CCIT—Contract Costs Information Template

CDRL—Contract Data Requirements List

CFO—Chief Financial Officers

CLS—Contractor Logistics Support

CMRA—Contract Manpower Reporting Application

CONUS—Continental United States

CSDR—Cost and Software Data Reporting

DFMR—Defense Financial Management Regulation

DOIM—Director of Information Management

ERP—Enterprise Resource Planning

FASAB—Federal Accounting Standards Advisory Board

FFMIA—Federal Financial Management Improvement Act

FMR—Federal Management Regulation

G&A—General and Administrative

GAAP—Generally Accepted Accounting Principles

GAO—Government Accountability Office

GFEB S—General Fund Enterprise Business System

GPRA—Government Performance and Results Act

HQDA—Headquarters, Department of the Army

IMCOM—Installation Management Command

IT—Information Technology

ITMRA—Information Technology Management Reform Act

NPR—National Performance Review

OMB—Office of Management and Budget

OSD—Office of the Secretary of Defense

SFFAS—Statement of Federal Financial Accounting Standard

SSP—Service Support Program

TDA—Table of Distribution and Allowances

WBS—Work Breakdown Structure