

VOLUME 4, CHAPTER 22: “COST FINDING”**SUMMARY OF MAJOR CHANGES**

All changes are denoted by *blue font*.

Substantive revisions are denoted by a * preceding the section, paragraph, table, or figure that includes the revision.

Unless otherwise noted, chapters referenced are contained in this volume.

Hyperlinks are denoted by ***bold, italic, blue and underlined font***.

The previous version dated January 1995 is archived.

| PARAGRAPH | EXPLANATION OF CHANGE/REVISION | PURPOSE |
|----------------------|---|----------------|
| | Added Table of Contents | Add |
| Multiple | Removed outdated information, deleted citations of specific General Ledger Account Codes, substituting hyperlinks to USSGL and Transaction Library sites. | Update |
| All | Updated references and language throughout to reflect current FASAB and other guidance. | Update |
| Multiple | Added hyperlinks. | Add |
| Addendum/ Figures | Updated terminology and rates. | Update |

Table of Contents

| | |
|--|----|
| VOLUME 4, CHAPTER 22: “COST FINDING” | 1 |
| 2201 GENERAL | 4 |
| *220101. Purpose | 4 |
| *220102. Overview | 4 |
| 2202 POLICY | 4 |
| *220201. Documentation | 4 |
| *220202. Identification of Cost Objects | 5 |
| *220203. Identification of Organizations Involved | 6 |
| *220204. Identification of Cost Elements..... | 7 |
| *Figure 22-1 IDENTIFICATION AND CLASSIFICATION OF PARTICIPATING ORGANIZATIONS..... | 7 |
| *Figure 22-2 EXPENSE TYPE EXAMPLES..... | 8 |
| *220205. Application of Prescribed Rates..... | 8 |
| *220206. Identification of Source Documents..... | 9 |
| 220207. Selection of the Appropriate Cost-Finding Technique | 10 |
| 2203 COST-FINDING TECHNIQUES..... | 10 |
| 220301. Observation | 10 |
| Figure 22-3 OBSERVATION TECHNIQUE | 10 |
| 220302. Statistical Sampling..... | 11 |
| 220303. Independent Appraisal..... | 11 |
| 220304. Commercial Cost..... | 11 |
| 220305. DELPHI Technique..... | 12 |
| 220306. Memorandum Records | 12 |
| *220307. Analysis of Responsibility Center/Cost Center..... | 12 |
| *220308. Combination of Cost-Finding Techniques | 12 |
| *220309. Determination of Time and Cost..... | 13 |
| *ADDENDUM: CASE STUDY - Determination of the Costs Associated With Paying A Contractor Invoice | 14 |
| Figure 22-4 STATEMENT OF PURPOSE..... | 16 |
| Figure 22-5 COST OBJECTS..... | 17 |

Table of Contents (Contintued)

Figure 22-6 NOTIONAL INSTALLATION ORGANIZATION CHART 18

* Figure 22-7 PROCESS FLOW FOR ISSUING PAYMENTS TO CONTRACTORS..... 19

* Figure 22-8 ORGANIZATION HIERARCHY ASSOCIATED WITH FINAL AND INTERIM COST OBJECT 20

*Figure 22-9 COST ELEMENTS 21

*Figure 22-10 PERSONNEL ASSIGNED TO DIRECT ACTIVITIES 22

*Figure 22-11 EQUIPMENT AND REAL PROPERTY USED BY DIRECT ACTIVITIES 23

Figure 22-12 SUMMARY OF TIME SPENT 25

*Figure 22-13 COMPUTATION OF COSTS 25

*Figure 22-14 SOURCE DOCUMENTS 26

*Figure 22-15 TIME REQUIREMENTS 26

*Figure 22-16 SUMMARY OF COSTS..... 29

CHAPTER 22

COST FINDING

2201 GENERAL

*220101. Purpose

The DoD components are developing and fielding integrated Enterprise Resource Planning (ERP) systems which will provide more accurate, traceable, consistent, and visible methodologies to track and report costs. Situations which require the manual development of cost estimates will continue to exist. This chapter provides general cost estimation principles for those situations. This guidance will be followed by DoD Components when using cost finding techniques to determine the costs related to performing a service, to be charged for goods or services, or to obtain costs for decision-making or other purposes. Organizations employing formal cost accounting capabilities may use cost finding techniques to identify unfunded costs. However, any organization may from time to time have a need to use these techniques.

*220102. Overview

A. Chapter 19 prescribes the basic policy for measuring and allocating costs. This chapter applies that basic policy to cost finding, establishes cost finding documentation policy, and describes generally recognized cost finding techniques and their application.

B. Cost finding is an approach used when the cost accounting system does not provide the actual costs incurred to provide a service, produce a product, or to obtain cost information for decision making and informational purposes. It is available for activities that do not have automated cost accounting capability as part of their accounting system, but who periodically provide reimbursable services or products to other DoD Components, Federal Agencies, or to the public. Cost finding may also be necessary when the cost of an item has not been recorded in the accounting system and the item is being transferred, sold, or recorded in the accounting system for the first time or when measuring productivity.

C. The proper application of cost finding requires knowledge of cost accounting and of the organizational functions associated with the final and intermediate cost objects. The cost finding structure must be consistent with Standard Financial Information Structure (SFIS) and SFIS Business Rules

2202 POLICY

*220201. Documentation

A. Cost finding techniques must be documented when used. The documentation must contain the following:

1. The cost objects (both intermediate and final) to which cost finding techniques are to be applied.

2. The organizations involved in performing the [cost objects](#) and the tasks performed by each.
3. The [applicable](#) cost elements.
4. A plan that includes the specific cost finding techniques used and the criteria followed in selecting the specific cost finding technique.
5. A description of how those techniques will accomplish the cost object.

B. The statement and the work papers shall be retained for the same length of time as other documentation used to support billings to the public.

C. A case study is presented as an addendum to illustrate the application of this chapter. Discussions in the chapter are at the micro level. When different approaches may be usable [to document](#) the costs associated with a different cost object (e.g. at the macro level), information will be presented on the alternative approaches.

*220202. Identification of [Cost Objects](#)

A. [Cost objects](#) are functions or work units for which management decides to identify, measure, and accumulate costs. [Cost objects](#) shall be discrete and described to a sufficient level of detail as needed to identify the specific function or product to be costed. See the [BTA SFIS Matrix](#) for a discussion of SFIS components relating to organizational units and funding centers.

B. When the cost object is identified as being at a macro (an organizational level, for example) level, the amount of effort required to determine the relevant costs and the associated quantitative data should be less refined than if the cost object is identified as being at the micro (a specific function or operation) level. At the macro level, it is possible that the accounting system, through the use of coding structures and the general ledger operating program expense accounts [shown in the Account Transactions section of the U.S. Treasury Financial Management Service \(FMS\) USSGL web site](#) or detailed DoD-specific transactions available in the [USSGL Transaction Library at the Business Transformation Agency \(BTA\) web site](#), can provide much of the financial data to establish relevant cost information. At the micro level, it probably will be necessary to use one of the methods described in paragraph 2203, below, to determine the time required to perform the cost object and develop the cost information.

C. The classification of organizations as either direct ([directly involved in performing the cost object](#)) or indirect ([performing as a support organization](#)), is dependent on identifying [cost objects](#). At the macro level, staff organizations ([not directly involved in production](#)) will be classified as indirect, and line ([directly producing outputs](#)) organizations will be classified as direct. At the micro level, it is [possible](#) that a staff organization, could be classified as a direct organization. The distinction between the macro and micro levels will be an important consideration in complying with [Office of Management and Budget](#) productivity requirements

discussed in section 2204 of this chapter. The cost accountant must be able to translate the measurement requirements into source documents, allocation techniques, and other such analysis techniques as necessary to meet the management requirement. Establishing a cost object is a management decision and is essential to the proper application of cost finding techniques to a cost object.

D. Identifying and describing **cost objects** is **very** important. Within the Department of Defense, cost finding techniques may be used to compare costs of different organizational units or operations performing the same cost object, **prepare budget justification material**, to measure productivity, or to measure the cost of performing a particular operation. For example, the costs to issue an **electronic funds transfer payment** at a **disbursing office** might be compared with the same costs at other **disbursing offices**. Cost finding techniques are a tool in identifying more efficient methods of performing a task. **Cost objects** may also be used to compare organizational efficiency. For example, the costs for an intermediate object, such as processing a personnel action at a personnel office, might be compared with **the cost at** other personnel offices.

*220203. Identification of Organizations Involved

A. Once the **cost objects** have been identified, the organizational units contributing resources to the cost object **must be identified**. Generally, the units will be within the **organization** itself (the installation **or unit level**; and, within these levels).

B. The initial task is to classify the installation-level organizational units as direct or indirect. A unit responsible for actually performing the work is direct. A unit that provides support or performs an administrative function is indirect.

1. Organizations **or units may be** either direct or indirect **depending on the cost objects** identified.

2. An organization classified as indirect will not always be recognized in the computation of costs for a final cost object. At the macro level, staff organizations generally will be recognized as an indirect organization and the related costs allocated among direct organizations. At the micro level, materiality and usefulness will be determining factors.

C. **Organizational** units can be classified through use of an iterative process or through the use of organizational charts or tables. The iterative process is a series of questions designed to establish the relationship each organization has with the product or service for which cost finding techniques are being developed (Figure 22-1 is a suggested list of such questions). First, the organizational units directly involved in the process are identified. Then the organizations providing indirect functions to the direct organizations are identified through an iterative process consisting of a series of questions designed to establish the relationship of supporting activities to direct line organizations. The procedure is repeated until all organizational units are classified as direct or indirect for all identified **cost objects**.

D. In order to determine which organizations are involved, it is necessary to identify the flow of actions related to the cost object and the related intermediate [cost objects](#).

E. It is important to understand that the organizational activities involved in a particular cost object or interim cost object can cross organizational lines of responsibility.

*220204. Identification of Cost Elements

A. An important aspect of any cost finding technique is identifying the direct and indirect cost elements applicable to the product or service. Both the direct and indirect activities may have the same cost elements. The difference is in the allocation of all applicable indirect costs (factory burden). Chapters 19 and 20 provide guidance to determine factory burden.

*Figure 22-1 IDENTIFICATION AND CLASSIFICATION OF PARTICIPATING ORGANIZATIONS

SUGGESTED LIST OF QUESTIONS USED TO IDENTIFY AND CLASSIFY PARTICIPATING ORGANIZATIONS

What organizations are involved in the final and intermediate [cost objects](#)?

Which organization has primary responsibility for the final cost object?

Which organizations perform intermediate [cost objects](#)?

Which organization acts in a support role to the organization(s) performing the final or intermediate [cost objects](#)?

What are the specific tasks performed by each of the identified organizations?

In what order do the organizations involved perform their delegated responsibilities?

B. All cost elements must be identified. The first step is to identify all possible cost elements and determine which are significant. [Personnel Compensation, Purchased Services, Supplies and Materials](#) are typical major categories within the SFIS Cost Element Code. Current General Ledger accounts are described at the [U.S. Treasury Financial Management Service \(FMS\) USSGL web site](#), while the [Standard Financial Information Structure \(SFIS\)](#) provides detailed information on transactions and on required cost information. Figure 22-2 gives an example of application of possible expense types (which may be consolidated into one or more GLACs) to direct and indirect activities. After the potential applications are identified, a decision must be made as to which cost elements are sufficiently significant as to warrant separate consideration.

*Figure 22-2 EXPENSE TYPE EXAMPLES

| EXAMPLE EXPENSE TYPES | DIRECT ACTIVITY | INDIRECT ACTIVITY |
|--|-----------------|-------------------|
| Personnel Compensation-Civilian | X | X |
| Personnel Compensation-Military | X | X |
| Personnel Benefits-Civilian | X | X |
| Personnel Benefits-Military | X | X |
| Benefits for Former Personnel | | X |
| Travel and Transportation of Persons | X | X |
| Transportation of Things | X | X |
| Rent, Communications and Utilities | X | X |
| Printing and Reproduction | X | X |
| Other Services | X | X |
| Supplies and Materials | X | X |
| Equipment (not capitalized) | X | X |
| Insurance Claims and Indemnities | | X |
| Depreciation of Equipment | X | X |
| Depreciation of Real Property | X | X |
| Amortization of Leasehold Improvements | X | X |
| Bad Debts | | X |
| Annual Leave | X | X |

C. After developing the statistical cost data, the individual or group responsible for applying cost finding to the cost object can make a decision as to the significance of each cost element in the final determination. Remember that the information is, at this point, only raw data. Decisions must be made as to the relevance and materiality of each cost element to the cost object. Materiality is **determined by analyzing** whether excluding the data could distort the computed value for the final cost object.

*220205. Application of Prescribed Rates

A. The purpose of using cost-finding techniques is to determine that all applicable cost elements are **included** in the final cost. When the purpose is the preparation of an internal report or an external report for another Federal Agency or non-federal organization, the

guidance contained in Volume 11 shall be followed to assure that all applicable costs are considered. When the purpose is to establish the cost of an activity associated with the Security Assistance Program, the guidance contained in Volume 15, shall be followed.

B. The following rules shall be applied when determining the individual costs of intermediate and final [cost objects](#):

1. Civilian direct labor costs are computed using step 5 of the applicable pay grade for GS- and GM-series personnel. For Wage Board employees, use step 4 of the applicable pay grade. [Organizations using NSPS or other pay banding schemes should use the GS/GM equivalent grades for cost estimating purposes.](#) Amounts included as direct labor costs shall recognize only productive time; that is, the time actually used to perform the function. All other time is indirect labor time, and is included in overhead (factory burden). Actual costs may be used, if known, provided appropriate documentation is available to support their substitution.

2. Civilian personnel benefits costs are computed using the rates contained in Volume 11.

3. Military personnel are costed using the rates for each applicable military grade using standard military composite rates in accordance with guidance in Volume 11.

4. Both military and civilian labor shall be included. Labor that is actually chargeable to jobs shall be recorded as direct labor. Indirect labor (labor that cannot be charged to a specific job) shall be used in computing overhead. Chapters 19 through 21 provide guidance in computing overhead.

5. Direct material cost is determined using standard prices unless the actual cost is known from vendor invoices. [Standard prices can be obtained from vendor catalogs, supply system stock databases, recent contract purchases of similar items, or any other available data source.](#)

6. Other costs that can be directly related to the cost object are determined using [source](#) documents such as vendor invoices, travel vouchers, and so forth.

7. Indirect costs are based on algorithms that are used to prorate the overhead costs to the cost object based on factors such as the ratio of direct labor costs for the cost object to total labor costs for the installation.

***220206. Identification of Source Documents**

A. Before the values for each cost can be determined, the source documents for the required data must be identified and copies obtained, together with the [documents'](#) locations. In addition, it is necessary to determine the quantities of documents involved, especially if the cost object is to determine average unit costs for a certain action.

B. When the final cost object is to determine the cost of performing one single event, the specific documents involved must be identified. When the cost object is much broader (for example, determining the average cost of issuing [electronic payments](#) without regard to whom they are issued), identification of the specific documents involved may not be as significant as the operating costs (including the materials and supplies used) of the organizational units directly involved in the process.

220207. Selection of the Appropriate Cost-Finding Technique

The development of a final cost for the cost object can be made using one of several different techniques or a combination thereof. The decision on the method used will often depend on the purposes for which the cost object has been established. Those [cost objects](#) established to determine costs to meet a statutory or a recurring use need could require the use of cost finding techniques with a higher degree of precision than those [cost objects](#) established to meet an internal management need. Section 2203 describes various techniques that may be useful in cost finding.

2203 COST-FINDING TECHNIQUES

220301. Observation

A. The observation technique is normally used when the specific effort to be costed or a similar effort is currently in process. The first step is to complete the requirements statement required by paragraph 220201. The observer then physically follows the product or service through the various performing organizations, documenting the following:

Figure 22-3 OBSERVATION TECHNIQUE

- | | |
|----|--|
| 1. | Events incident to performance. |
| 2. | The grade levels of personnel directly working on the effort. |
| 3. | The length of time spent on the activity. |
| 4. | Direct material used. |
| 5. | Indirect material used. |
| 6. | Types of support received from other organizations. |
| 7. | Any other factors that have an impact on the cost of producing the product or performing the service |

B. A traditional flow chart of the entire process may be helpful in organizing, visualizing, and understanding the process under review. The process flow shown in the Figure 22-7 illustrates the data gathered through the use of this technique.

C. The observer then lists and computes the cost of each of the identified cost elements. These elements are frequently found in consolidated general ledger expense accounts such "Operating Expenses/Program Costs" and "Benefit Expense.". The Standard Financial Information Structure (SFIS) provides detailed information on transactions and on required cost information.

D. Any other assumptions must be carefully and accurately documented so that users of the resulting information will have a better understanding of the process used.

220302. Statistical Sampling

A. This technique is normally used when there is a large volume of similar type work being performed on a continuous task basis. An example of the use of this technique is packing, crating, and handling costs incurred at a depot. A random sample of items is selected and a special job order tag is attached to each item selected when it is initially placed into the performance cycle. All personnel who come into physical contact with the items are required to record their organization, pay grade, length of time involved, and type and quantity of material or supplies used. Completed tags are returned to the personnel conducting the study who ensure that all tags have been returned and properly completed.

B. All of the cost elements identified to the cost object are assigned a cost.

C. Resulting cost estimates shall be annotated to disclose the confidence level of the resulting estimate within a specific range.

220303. Independent Appraisal

The independent appraisal technique is normally used when the cost determination is made after the cost object has been completed, and there is no similar product being produced. Normally, the effort would be accomplished by an engineer or an individual who is an expert in the production process. Under this procedure, a list of all resources involved in fabricating the product or performing the service is made. Each resource is then analyzed to establish a reasonable input cost. The total cost of the applied resources represents a reasonable estimate of costs incurred in the cost object.

220304. Commercial Cost

This technique is normally used with incidental activities carried out during a DoD mission requirement. In these circumstances, the application of normal full cost to the production of a product or provision of service would not be representative of the incurred cost. An example would be a Navy carrier transporting a disabled foreign aircraft to a repair facility incident to the performance of its normal mission. In this case, a determination of the commercial charge to transport the disabled aircraft might be more representative of the cost incurred by the Navy vessel.

220305. DELPHI Technique

This technique is useful in those instances when the more traditional cost estimation techniques cannot be applied to a cost object. Accordingly, it is probably the least precise estimating technique, but one that is still useful if another technique is not available.

A. This technique uses a series of estimates made by a group of experts that is refined as subsequent estimates are made. For example, five construction experts might be given the task of estimating the costs associated with a new construction technique. These experts would be given the initial parameters of the project such as location; required specifications; geographical, environmental, time, and political constraints; and, any other known relevant data at the time of project initiation. Each group member would then develop an initial estimate of component costs and reconvene to discuss their individual analyses. After discussion, each expert would be asked to refine their estimate based on what was learned at the meeting. The evaluation process would be repeated by each participant to arrive at a revised estimate. The process would be repeated as often as necessary, until the group achieved consensus that the estimate at hand was the best available, given the uncertainty of the nature of the project and dissimilarity with other efforts in their experience.

B. This technique is probably more useful in determining what some new product or service should cost rather than determining the actual cost of an existing product or service. However, some of the principles involved may be helpful.

220306. Memorandum Records

This technique is an informal method for gathering cost data and should only be used in those cases when the value of the cost data is of little significance. It is the preparation of memoranda documenting estimates of costs for a specific product or service. It should not be used when significant decisions are to be based on the cost estimates derived or when other more accurate methods are available. It is useful as a cost accumulating tool for those low priority, low value projects or products when it is known that some cost data may be required in the future. However, in this case, a traditional cost accounting system is too costly or too cumbersome relative to the underlying effort.

*220307. Analysis of Responsibility Center/Cost Center

This technique can be used where [documented, well supported](#) organizational costs are available through some responsibility center or cost center organizational structure. Costs associated with the center can be allocated to a product or service of the center as a way to estimate at least part of the cost of that product or service.

*220308. Combination of Cost-Finding Techniques

[Multiple cost finding techniques may be used if that](#) results in a more cost-effective or more accurate estimate. The techniques can also be used to augment data that is generated by a conventional cost accounting system. Use the cost accumulation system or method that gives the

highest quality cost data at the lowest cost. Other techniques may be used if they are logical, accurate, and documented.

*220309. Determination of Time and Cost

A. After determining the required time to perform each element of the final and intermediate cost objects, the costs associated with each element must be determined. Since real and capitalized personal property is involved, the cost of these assets must also be included. Figure 22-2 in paragraph 220204 illustrates the form that can be used to determine the total costs associated with a final cost object.

B. Personnel costs are obtained from the following sources:

1. Civilian Personnel. Pay scales issued by the Office of Personnel Management.

2. Military Personnel. Standard military composite pay rates issued by OUSD (C). These standard rates include fringe benefits.

3. Civilian Personnel Fringe Benefits. These are determined using the add-on factors in Volume 11.

C. Depreciation and Amortization of Capitalized Personal Property. Refer to Chapters 1 and 6, and Volume 11B for the Defense Working Capital Fund.

D. Depreciation and Amortization of Real Property. Refer to Chapters 1 and 6, and Volume 2B, Chapter 9 for the DWCF.

***ADDENDUM: CASE STUDY - Determination of the Costs Associated With Paying A Contractor Invoice**

This case study demonstrates the application of the various requirements contained in this chapter to determining the costs associated with paying a contractor invoice. The situation selected was chosen as being typical of the types of operations occurring within the Department of Defense for which comparisons between organizations can be made.

Paragraph 220201 of this chapter requires a clear statement of the **cost objects** to which cost finding techniques are to be applied and those techniques to be applied, among other things. Such a statement is presented in Figure 22-4.

The intermediate **cost objects** related to the final cost object are listed in Figure 22-5. The list is at the summary level and serves as a basis for identifying the processes which must be examined in detail. The compilation is based on the guidance contained in paragraph 220202.

The organizational elements and their relationship to the intermediate and final **cost objects** are identified in Figure 22-6. As described in paragraph 220203, it is developed using the organization chart and descriptions of organization functions. It also categorizes the installation's organizational units as direct (those that are involved in the final cost object) and indirect. Those classified as indirect provide varying degrees of support to the organizational units that are identified as direct. Direct activities may or may not be a part of the same organization.

The process flow associated with paying a contractor invoice, as described in paragraph 220203 is illustrated in Figure 22-7. A comparison of this process flow chart with the organization chart in Figure 22-6 will identify organizations that may not be shown on the organization chart. For example, the contract administration activity is not shown on the organization chart and could be a part of supply operations. Similarly, the mail room might be part of base operations. These situations arise when the organization chart is at a higher level than the operation being costed.

The organizational activities realigned as direct and indirect for the purposes of this cost finding study are shown in Figure 22-8. This chart is provided as a basis for clearly identifying which activities are to be classified as direct activities, as described in paragraph 220203.

Examples of the cost elements to be considered in determining the relevant costs associated with this task are identified in Figure 22-9. They are based on Figure 22-2 in paragraph 220204.

The personnel assigned to the direct activities associated with paying a contractor's invoice are listed in Figure 22-10. This information is necessary to support the determination of personnel costs as described in paragraph 220204.

Statistical information as to the equipment, real property, and supplies and materials used in performing the final and intermediate **cost objects** is provided in Figure 22-11. In addition, the equipment is subdivided between capitalized and expensed equipment.

The personnel rates associated with the personnel assigned to the direct organization activities are summarized Figure 22-12. The costs associated with the final and intermediate [cost objects](#) using the guidance in paragraph 220205 concerning application of prescribed rates are computed and shown in Figure 22-13.

The source documents associated with the intermediate and final [cost objects](#) are listed in Figure 22-14. Copies of each of these documents would be obtained and included as supporting documentation in the working papers associated with the cost finding task, as required in paragraph 220206.

A compilation of the time required to perform each of the various actions associated with processing a contractor invoice for payment is shown in Figure 22-15. The civilian or military grade for each person involved in the process, as well as the equipment used and the time of use also is identified. The requirements contained in paragraph 220207 are addressed in Figure 22-15.

The costs associated with paying a contractor invoice are summarized in Figure 22-16.

Figure 22-4 STATEMENT OF PURPOSE

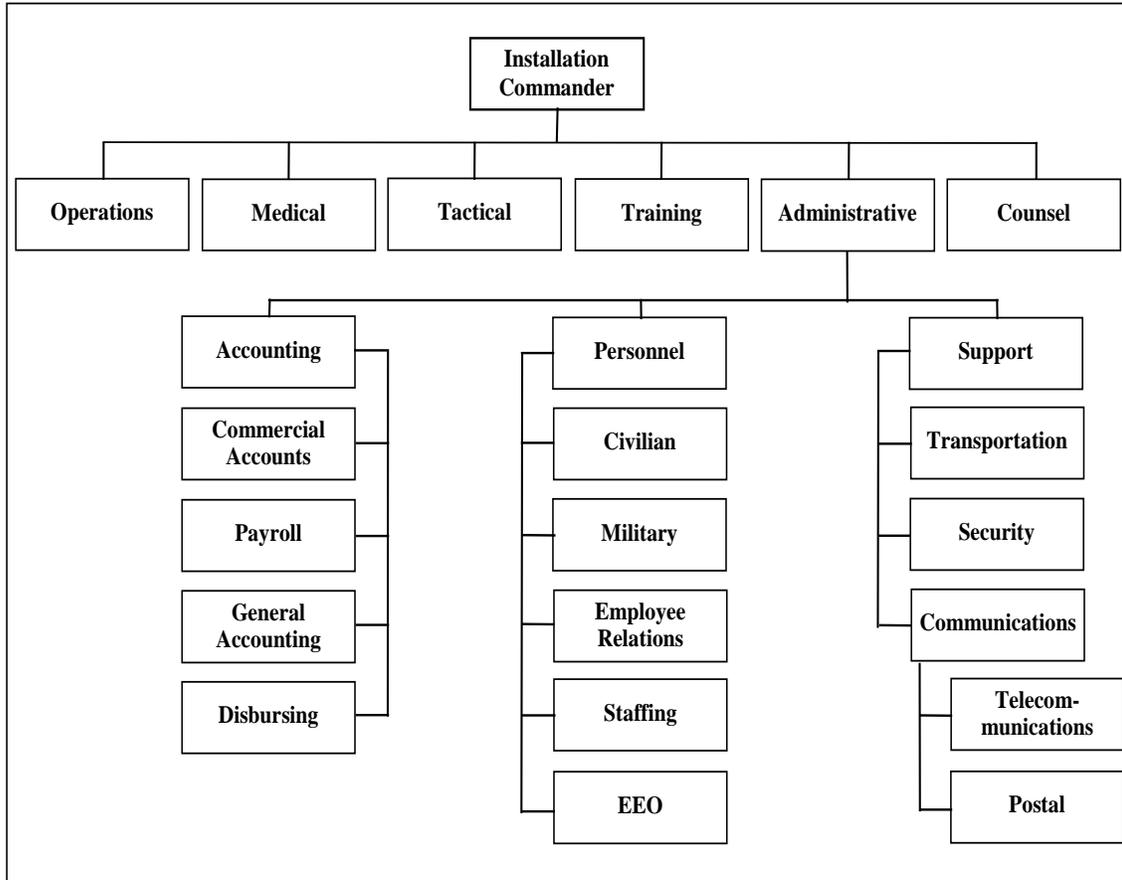
| |
|---|
| <p><u>STATEMENT OF PURPOSE</u> <u>Determination of Costs</u> <u>To Pay A Contractor's Invoice</u></p> |
| <p>A. <u>PURPOSE</u></p> <p>This effort will determine the cost incurred by one DoD organization to pay a contractor's invoice. The information is required to identify the various types of activities involved and the related costs for comparison with similar costs incurred by other DoD organizations.</p> |
| <p>B. <u>COST OBJECTS</u></p> <p>The intermediate and final cost objects associated with this effort include those required to administratively process contract documents, receiving reports and invoices and issue a check or electronic payment.</p> |
| <p>C. <u>ORGANIZATIONS INVOLVED</u></p> <p>Those organizational activities directly involved in processing the contract, processing invoices, mailing documents, and issuing checks or electronic payments will be classified as direct activities. All other activities are considered as indirect activities.</p> |
| <p>D. <u>COST ELEMENTS</u></p> <p>The cost elements in Volume 11 applicable to other Federal Agencies will be accumulated. The following cost elements to be identified for the purposes of this task include personnel (civilian and military), personnel benefits, communications, and supplies and materials.</p> |
| <p>E. <u>APPROACH</u></p> <p>Cost finding is used to establish the cost to pay a contractor invoice. Observation and questions are used to establish the sequence of observations. Time measurement is used to establish the time required to perform each action in the process. These techniques are considered the best approach because preliminary indications are that each action requires only a few minutes of any employees' time. In addition, the use of specific material, equipment and documents can be readily identified and measured. Personnel costs are based on hourly rates obtained from pay scales for civilian personnel, and standard military composite rates for military personnel.</p> |

Figure 22-5 COST OBJECTS

| <u>FINAL AND INTERMEDIATE COST OBJECTS TO PAY A CONTRACTOR INVOICE</u> | |
|---|---|
| <u>FINAL COST OBJECT:</u> | Pay a contractor invoice |
| <u>INTERMEDIATE COST OBJECTS:</u> | Establish voucher file |
| | Maintain voucher file |
| | Receive receiving reports |
| | Receive invoices |
| | Compare invoice to receiving reports and contracts |
| | Verify whether proposed payment requires additional funding |
| | Verify that right of offset exists against amounts due the Government by the contractor |
| | Prepare payment voucher |
| | Schedule voucher for payment |
| | Print check (issue e-payment) |
| | Mail check (NA for e-payment) |
| | Record payment |

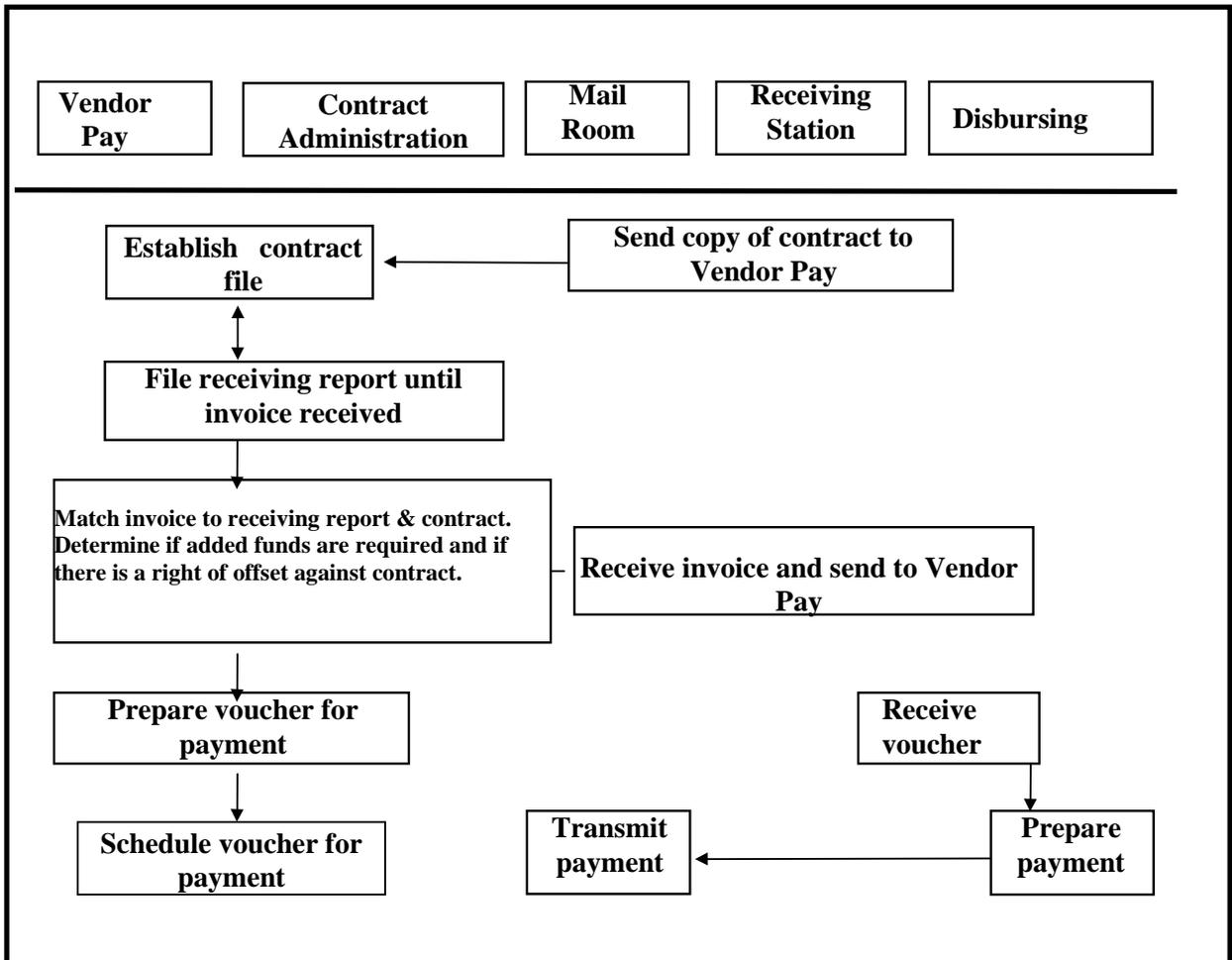
Figure 22-6 NOTIONAL INSTALLATION ORGANIZATION CHART

(Support services may be located at other sites but are shown here for simplicity)

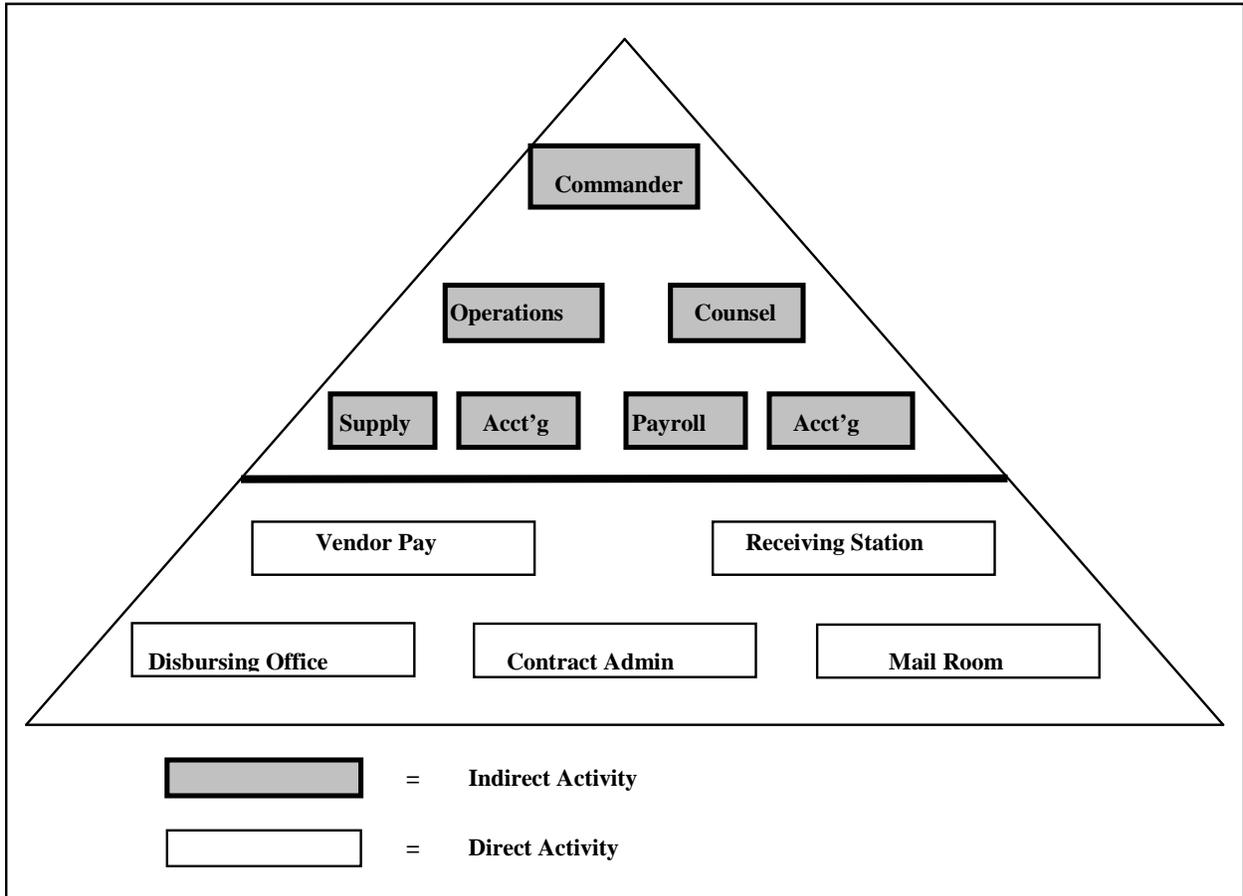


* Figure 22-7 PROCESS FLOW FOR ISSUING PAYMENTS TO CONTRACTORS

(Functional titles may vary)



* Figure 22-8 ORGANIZATION HIERARCHY ASSOCIATED WITH FINAL AND INTERIM COST OBJECT



*Figure 22-9 COST ELEMENTS

COST ELEMENTS

The cost elements potentially associated with the cost of issuing a [payment](#) to a contractor are summarized as follows:

- (1) Personnel costs, both military and civilian.
- (2) Personnel benefits, both military and civilian.
- (3) Communications (telephone).
- (4) Supplies and materials.
- (5) Postage.
- (6) Utilities.
- (7) Equipment (depreciation).
- (8) Buildings (depreciation).
- (9) Leasehold improvements (amortization).
- (10) ADP Software (amortization).

*Figure 22-10 PERSONNEL ASSIGNED TO DIRECT ACTIVITIES

| <u>NUMBER OF PERSONNEL ASSIGNED TO DIRECT ACTIVITIES</u> <u>ASSOCIATED WITH FINAL COST OBJECT</u> <i>(Notional, may not reflect current organizations)</i> | | | | | |
|--|-----------------------|-----------------------------------|-----------------------------------|----------------------------|----------------------|
| | VENDOR PAY | RECEIVIN G STATION | DISBURSIN G OFFICE | CONTRACT ADMIN. | MAIL ROOM |
| Captain (O-3) | 1 | | 1 | | |
| 1st Lieutenant (O-2) | 2 | | 3 | | |
| 2nd Lieutenant (O-1) | 1 | 1 | 2 | 1 | |
| Sergeant (E-5) | | 2 | 2 | | 1 |
| Private (E-3) | 3 | 4 | | | 1 |
| Civilian (GS-8) | 2 | | 2 | 2 | |
| Civilian (GS-6) | 2 | 1 | 4 | 2 | 1 |
| Civilian (GS-5) | 5 | 2 | 4 | 4 | 2 |
| Civilian (GS-3) | | 2 | 2 | | 5 |

*Figure 22-11 EQUIPMENT AND REAL PROPERTY USED BY DIRECT ACTIVITIES

| <u>EQUIPMENT AND REAL PROPERTY USED BY DIRECT ACTIVITIES</u> <u>ASSOCIATED WITH FINAL COST OBJECT</u> <i>(Notional, may not reflect current requirements)</i> | | | | | |
|--|------------|----------------------|----------------------|--------------------|--------------|
| | VENDOR PAY | RECEIVING STATION | DISBURSING OFFICE | CONTRACT ADMIN. | MAIL ROOM |
| <u>CAPITALIZED EQUIPMENT:</u> | | | | | |
| Imaging Machines | | | 1 | 1 | |
| Data Storage and Retrieval Devices | 5 | | 1 | 8 | |
| <u>EXPENSED EQUIPMENT:</u> | | | | | |
| Personal Computers | 6 | | 3 | 7 | |
| Calculators | 12 | 10 | 16 | 8 | |
| Laser Printers | | | 2 | | |
| Desks | 16 | 6 | 20 | 11 | 2 |
| Chairs | 25 | 7 | 24 | 15 | 11 |
| <u>REAL PROPERTY:</u> | | | | | |
| Office Space (Sq. Ft.) | 1,778 | 480 | 2,540 | 1,390 | 498 |
| Warehouse Space (Sq. Ft.) | | 1,638 | | | |
| <u>ADDITIONAL INFORMATION:</u> Imaging machines cost \$252,000 each and have a life expectancy of 10 years for depreciation purposes. Data storage devices cost \$265,000 and have a life expectancy of 10 years for depreciation purposes. | | | | | |
| Age of Imaging Machines: 3 years old 4 years old | | | 1 | 1 | |
| Age of Data Storage Devices: 2 years old 3 years old 5 years old | 4 1 | | 1 | 3 3 2 | |

Figure 22-11 EQUIPMENT AND REAL PROPERTY USED BY DIRECT ACTIVITIES
(Continued)

EQUIPMENT AND REAL PROPERTY USED BY DIRECT ACTIVITIES
ASSOCIATED WITH FINAL COST OBJECT
(CONTINUED)

Real Property:

1. Office space is converted warehousing constructed during 1996. Conversion was made in 2005 at a cost of \$755,000. Total amount of warehousing space converted was 35,768 sq. ft.
2. The receiving station is located in another warehouse constructed in 1999 at a cost of \$1,547,277.
3. Total warehouse space is 295,480 sq. ft. The office space occupied by the receiving stations was constructed at that time. No improvements have been made to the space since original construction.

Material and Supplies:

1. Standard price per 1,000 of any contract package (includes forms, instructions, and supporting addenda) is \$250.
2. Standard price per 1,000 of receiving report forms (DD 250) is \$35.
3. Standard price per 1,000 of legal size envelopes is \$9.50.
4. Standard price per 1,000 blank check stock is \$12.80.
5. Standard price of any accounting form, including voucher schedules is \$15.50.
6. Standard monthly prorated cost of office supplies is \$125. This includes PC tapes, correspondence paper, pencils, pens, etc.

Expensed Equipment:

1. When necessary, expensed equipment (desks, chairs, etc.) would have a prorated monthly charge of \$50 per office. This is a composite rate for all expensed office equipment.

Figure 22-12 SUMMARY OF TIME SPENT

| <u>SUMMARY OF TIME SPENT BY PERSONNEL GRADE TO ISSUE A PAYMENT TO A CONTRACTOR (IN MINUTES)</u> | | | | | | |
|--|-----------------------|-----------------|---------------|-----------------|--------------|-------|
| | VENDOR PAY | RECEIV STAT. | DISB. OFC. | CONT. ADMIN. | MAIL ROOM | TOTAL |
| Captain | 6 | | 7 | | | 13 |
| Sergeant (E-5) | | | 18 | | | 18 |
| Private (E-3) | | | 8 | | | 8 |
| Civilian (GS-8) | 4 | 8 | 2 | | | 14 |
| Civilian (GS-6) | 68 | | 10 | | | 78 |
| Civilian (GS-5) | 23 | | 6 | | | 29 |
| Civilian (GS-3) | | 17 | 29 | | 26 | 72 |

*Figure 22-13 COMPUTATION OF COSTS

| <u>COMPUTATION OF COSTS ASSOCIATED WITH ISSUING A PAYMENT TO A CONTRACTOR</u> | | | | | |
|--|----------------|----------------|----------------|--------------|----------|
| | ANNUAL RATE | HOURLY RATE | MINUTE RATE | TIME USED | COST |
| <u>PERSONNEL COSTS:</u> | | | | | |
| Captain (O-3) | \$ 135,410 | \$ 65.10 | \$ 1.08 | 13 | \$ 14.04 |
| Sergeant (E-5) | 76,878 | 36.96 | .61 | 18 | 10.98 |
| Private (E-3) | 56,039 | 26.94 | .44 | 8 | 3.52 |
| Civilian (GS-8) | 139,937 | 67.27 | 1.12 | 14 | 15.68 |
| Civilian (GS-6) | 107,155 | 51.51 | .85 | 78 | 66.30 |
| Civilian (GS-5) | 91,632 | 44.05 | .73 | 29 | 21.17 |
| Civilian (GS-3) | 56,039 | 26.94 | .44 | 72 | 31.68 |

Note: Hourly rates recognize all benefit costs.

*Figure 22-14 SOURCE DOCUMENTS

| SOURCE DOCUMENTS | |
|------------------|---|
| 1. | DD Form 1155, "Order for Supplies or Services" |
| 2. | DD Form 250, "Material Inspection and Receiving Report" |
| 3. | DD Form 350, "Individual Contracting Action Report" |
| 4. | Payment Voucher Schedule |
| 5. | Blank check (If check payment) |

*Figure 22-15 TIME REQUIREMENTS

| <u>TIME REQUIREMENTS TO PAY A CONTRACTOR INVOICE</u> | |
|---|---|
| | TIME REQUIRED (IN MINUTES) |
| <u>VENDOR PAY:</u> | |
| 1. Receives contract from Contract Administration. Date and time stamps and sends to voucher clerk. (Date and time stamp machine used: 10 seconds) (GS-5 Secretary) | 4 |
| 2. Establish contract file and insert contract. (PC used: 1 minute) (Data storage used: 15 seconds) (GS-6 Voucher examiner clerk) | 7 |
| <u>RECEIVING STATION:</u> | |
| 1. Receives material and counts. (GS-3 Receiving clerk) | 10 |
| 2. Prepares DD 250. (GS-3 Receiving clerk) | 5 |
| 3. Delivers to Receiving Station Supervisor. (GS-3 Receiving clerk) | 2 |
| 4. Receiving Stations Supervisor approves and sends to Vendor Pay. (GS-8 receiving Station Supervisor) | 8 |
| <u>VENDOR PAY:</u> | |
| 1. Receives receiving report from Receiving Station Supervisor; date and time stamps; sends to voucher examiner clerk. Date and time stamp machine used: 10 seconds) (GS-5 Secretary) | 6 |

Figure 22-15 TIME REQUIREMENTS (Continued)

| <u>TIME REQUIREMENTS</u> <u>TO PAY A CONTRACTOR INVOICE (CONT'D)</u> | |
|---|---|
| | TIME REQUIRED (IN MINUTES) |
| 2. Voucher examiner clerk pulls contract file; reviews receiving report to assure that material received is what was ordered; determines that coding is correct. (PC used: 20 seconds) (Data Storage used: 15 seconds) (GS-6 Voucher examiner clerk) | 12 |
| <u>MAIL ROOM:</u> | |
| 1. Receives envelope from contractor; opens it; places in Vendor Pay mail pouch (GS-3 Mail clerk) | 4 |
| 2. Mail clerk delivers to Vendor Pay. (GS-3 Mail clerk) | 22 |
| <u>VENDOR PAY:</u> | |
| 1. Receives mail pouch from mail clerk; removes invoice from mail pouch; date and time stamps; sends to voucher examiner clerk. (PC used: 2 minutes) (GS-5 Secretary) | 7 |
| 2. Voucher examiner clerk pulls contract file; reviews invoice to assure that invoice agrees with contract and receiving report; determines that coding is correct. (PC used: 22 seconds) (Data Storage used: 11 seconds) (GS-6 Voucher examiner clerk) | 9 |
| 3. Audits voucher and prepares voucher for payment. (PC used: 18 seconds) (GS-6 Voucher examiner clerk) | 8 |
| 4. Schedules voucher for payment. (PC used: 2 minutes, 35 seconds) (GS-6 Voucher examiner clerk) | 5 |
| 5. Forwards voucher, together with supporting documents to supervisor for approval. (GS-6 Voucher examiner clerk) | 3 |
| 6. Vendor Pay supervisor approves voucher and gives to secretary for transmittal to the disbursing office. (GS-8 Supervisor) | 4 |
| 7. Secretary gives voucher and supporting documents to Captain. (GS-5 Secretary) | 2 |
| 8. Captain reviews, approves, and returns to secretary | 6 |
| 9. Secretary inserts in disbursing office pouch. (GS-5 Secretary) | 2 |
| 10. Voucher clerk delivers pouch to disbursing office. (GS-6 Voucher examiner clerk) | 12 |

* Figure 22-15 TIME REQUIREMENTS (Continued)

| <u>TIME REQUIREMENTS</u> <u>TO PAY A CONTRACTOR INVOICE (CONT'D)</u> | |
|---|---|
| | TIME REQUIRED (IN MINUTES) |
| <u>DISBURSING OFFICE:</u> | |
| 1. Receives pouch from voucher examiner clerk; opens pouch; delivers payment schedule to disbursing clerk. Date and times stamps documents. (Date and time stamp machine used: 10 seconds) (GS-3 Clerk) | 3 |
| 2. Disbursing clerk reviews and schedules for payment ; gives package to supervisor for approval. (PC used: 3 minutes, 18 seconds) (GS-5 Disbursing clerk) | 6 |
| 3. Disbursing supervisor reviews and approves; gives to Captain. (GS-6 Supervisor) | 4 |
| 4. Captain reviews, approves, and returns to disbursing supervisor. | 4 |
| 5. Disbursing supervisor gives to Sergeant (E-5). (GS-6 Supervisor) | 2 |
| 6. Sergeant gets blank check from safe; prepares check writer; prints check; gives to disbursing supervisor (Check writer used: 54 seconds) | 18 |
| 7. Disbursing supervisor gives to Captain (GS-6 Supervisor) | 2 |
| 8. Captain signs check and returns to disbursing supervisor. | 3 |
| 9. Disbursing supervisor gives to Private (E-3). (GS-6 Supervisor) | 2 |
| 10. Private prepares envelope and puts check in envelope. | 4 |
| 11. Clerk receives envelope from Private and delivers to Mail Room. (GS-3 Clerk) | 13 |
| 12. Private gives supporting documentation to disbursing supervisor. | 4 |
| 13. Disbursing supervisor gives documents to clerk. (GS-6 Supervisor) | 2 |
| 14. Clerk returns documents to Vendor Pay . (GS-3 Clerk) | 13 |
| <u>VENDOR PAY:</u> | |
| 1. Secretary receives documents from clerk; date and time stamps. (Date and time stamp machine used: 8 seconds) (GS-5 Secretary) | 2 |
| 2. Secretary gives to voucher examiner clerk who files documents in contract file. (Data Storage used: 17 seconds) (GS-6 Voucher examiner clerk) | 12 |

*Figure 22-16 SUMMARY OF COSTS

| <u>SUMMARY OF THE COSTS</u> <u>ASSOCIATED WITH FINAL COST OBJECTIONS</u> <u>ISSUE CHECK TO CONTRACTOR</u> | | |
|--|----------|------------------|
| <u>PERSONNEL COSTS (INCLUDING BENEFITS):</u> | | |
| Military | \$ 28.54 | |
| Civilian | 134.83 | |
| Total Personnel Costs | | \$ 163.37 |
| <u>CAPITAL EXPENSES:</u> | | |
| Depreciation - Personal Property | -0- | |
| Depreciation - Real Property | -0- | |
| Amortization - Real Property Improvements | -0- | |
| Amortization - ADP Software | -0- | |
| Total Capital Expenses | | -0- |
| <u>OTHER EXPENSES:</u> | | |
| Travel of Persons | -0- | |
| Transportation of Things | -0- | |
| Rent, Communications, Utilities | -0- | |
| Printing and Reproduction | -0- | |
| Contractual Services | -0- | |
| Supplies and Materials | -0- | |
| Equipment (not capitalized) | -0- | |
| All other expenses | -0- | |
| Total Other Expenses | | -0- |
| TOTAL COSTS ASSOCIATED WITH FINAL COST OBJECT | | \$ 163.37 |

Note: Capital expenses and other expenses were not computed because neither category contributed a value that would meaningfully affect the outcome. The [Data Storage devices](#) are used constantly and the amount of time allocable to document retrieval associated with a particular check is measured in terms of less than one minute. Real property occupied represented approximately 2 percent of total space and if allocated to the cost object based on time required to process a check would be substantially less than \$1. Similarly the value of other expenses would be substantially less than \$1 (the standard price of the blank check would be \$.0128).