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# THESIS

PRINCIPAL PROBLEMS WITH SERVICE CONTRACT  
ADMINISTRATION AT A SHIP REPAIR FACILITY

by

Daniel J. Proulx

December, 1991

Thesis Advisor:

CDR Rodney Matsushima

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92-02104



REPORT DOCUMENTATION PAGE			
1a REPORT SECURITY CLASSIFICATION UNCLASSIFIED		1b RESTRICTIVE MARKINGS	
2a SECURITY CLASSIFICATION AUTHORITY		3. DISTRIBUTION/AVAILABILITY OF REPORT Approved for public release; distribution is unlimited.	
2b DECLASSIFICATION/DOWNGRADING SCHEDULE			
4 PERFORMING ORGANIZATION REPORT NUMBER(S)		5 MONITORING ORGANIZATION REPORT NUMBER(S)	
6a NAME OF PERFORMING ORGANIZATION Naval Postgraduate School	6b OFFICE SYMBOL (If applicable) 54	7a NAME OF MONITORING ORGANIZATION Naval Postgraduate School	
6c ADDRESS (City, State, and ZIP Code) Monterey, CA 93943-5000		7b ADDRESS (City, State, and ZIP Code) Monterey, CA 93943-5000	
8a NAME OF FUNDING/SPONSORING ORGANIZATION	8b OFFICE SYMBOL (If applicable)	9 PROCUREMENT INSTRUMENT IDENTIFICATION NUMBER	
8c ADDRESS (City, State, and ZIP Code)		10 SOURCE OF FUNDING NUMBERS	
		Program Element No	Project No
		Task No	Work Unit Accession Number
11 TITLE (Include Security Classification) The Principle Problems With the Administration of Service Contracts at a Ship Repair Facility (UNCLASSIFIED)			
12 PERSONAL AUTHOR(S) Proulx, Daniel J.			
13a TYPE OF REPORT Master's Thesis	13b TIME COVERED From To	14 DATE OF REPORT (year, month, day) December 1991	15 PAGE COUNT 118
16 SUPPLEMENTARY NOTATION The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
17 COSATI CODES		18 SUBJECT TERMS (continue on reverse if necessary and identify by block number)	
FIELD	GROUP	SUBGROUP	
		Contract administration, Ship Repair Facility, Service Contracting	
19 ABSTRACT (continue on reverse if necessary and identify by block number)			
<p>The primary objective of this thesis is to identify the principal problems encountered by a Navy ship repair facility during the administration of engineering and technical service contracts. A background discussion of contract types and the applicable regulations is provided. The identification of the principal problems is accomplished through a review of historical audit results. This review focuses on the principal problem areas of: 1) vague Statements of Work, 2) incomplete or biased independent Government cost estimates, 3) failure to properly perform Contracting Officer's Technical Representative (COTR) duties. The study then determines the frequency and severity of these problems areas at the site studied. An analysis of the background causes of these problems and their impact upon the ship repair facility is presented. A discussion of recommendations that would reduce or avoid the problem areas is offered.</p>			
20 DISTRIBUTION/AVAILABILITY OF ABSTRACT <input checked="" type="checkbox"/> UNCLASSIFIED/UNLIMITED <input type="checkbox"/> SAME AS REPORT <input type="checkbox"/> DTIC USERS		21 ABSTRACT SECURITY CLASSIFICATION UNCLASSIFIED	
22a NAME OF RESPONSIBLE INDIVIDUAL CDR Rodney Matsushima		22b TELEPHONE (Include Area code) (408) 646-2052	22c OFFICE SYMBOL AS/MY

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The Principal Problems With the Administration  
of Service Contracts at a Ship Repair Facility

by

Daniel J. Proulx  
Lieutenant, United States Navy  
B.S., United States Naval Academy

Submitted in partial fulfillment  
of the requirements for the degree of

MASTER OF SCIENCE IN MANAGEMENT

from the

NAVAL POSTGRADUATE SCHOOL

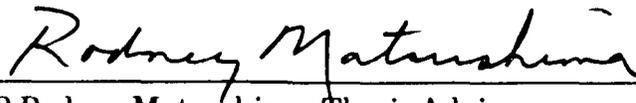
December 1991

Author:



Daniel J. Proulx

Approved by:



CDR Rodney Matsushima, Thesis Advisor



Paul Carrick, Second Reader



David R. Whipple, Chairman  
Department of Administrative Sciences



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## I. INTRODUCTION

### A. INTRODUCTION

A service contract allows the Government to acquire technology or management skills that it might not possess in-house. If managed correctly, the contractors can provide efficient effective services such as training, maintenance and weapons support to name a few. However, if the contractor is not specifically directed and effectively monitored, the potential for misuse and abuse of Government funds is great. As weapons technology becomes more advanced and the Defense budget becomes smaller over time, the Government will be forced to rely on more contracted services to offset its lack of in-house capabilities. This research will focus on the problems that are currently found during the administration of service contracts. These common problems were identified through the use of historical audits of the various services. Examples that illustrate the extent and frequency of these problem areas are presented in Chapter III. The current status of these problems will be examined through field interviews with Government personnel involved in the administration of service contracts. The regulatory backgrounds and some of the perceived causes of these problems

will be presented and possible solutions offered. This research was accomplished in two phases: First, extensive examinations of service contract administration organization audits was conducted to determine the prevailing problems. Then, field interviews were conducted with contract administration personnel at a Navy ship repair facility, contracting personnel at an Naval Supply Center that places large delivery orders against service contracts for other organizations, and then the members of a Naval Regional Contracting Center's Procurement Management Review team. These interviews provided an extensive amount of information regarding the problems that are currently prevalent in service contract administration.

The problem areas that were selected for this thesis were chosen, based on their frequency of detection in the audit reports studied, and their identification during the field interviews conducted. This thesis is not intended as a condemnation of any type of contract vehicle or of any Government employees, but rather as a factual examination of some of the problems that occur frequently and their causes.

## **B. RESEARCH QUESTIONS**

### **1. Primary Research Question**

What are the principal problems associated with the administration of large engineering support service contracts and how might these problems be overcome in order to improve the contract administration process?

### **2. Subsidiary Research Questions**

a. What are engineering support service contracts and when are they used?

b. What principal problems arise during the administration of engineering support services contracts at a ship repair facility?

c. What methods or techniques can be used to resolve these problems?

## **C. OBJECTIVE**

The objective of this research is to provide a qualitative analysis of the contract administration process for large engineering service contracts. This will provide Navy Contracting Officers with an insight into some commonly occurring problems and some potential solutions and practices that can control possible abuses in the administration phase of the contract cycle.

#### **D. SCOPE OF THE THESIS**

The research focused on the contract administration phase of the contract cycle. Detailed analysis of the pre-award procedures and award criteria were excluded. The study is an analysis of current problems and issues in service contract administration at a Navy Ship Repair Facility. Potential administration techniques and procedures are presented for use in administering service contracts.

#### **E. METHODOLOGY**

The research data were gathered from two sources. An in-depth literature search was conducted, which included a number of custom bibliographies from the Defense Logistics Studies Information Exchange (DLSIE), published and unpublished papers, Government publications, instructions and reports. The literature search yielded Department of Defense audits of field contracting organizations and student papers from various military institutions. The second source of data was from field and telephone interviews with cognizant Defense and Government officials. Interviewees were queried about problems encountered during the administration of service contracts. While conducting the field interviews, total candor from the interviewees was requested. In order to ensure frank and candid discussion of current and timely problem

areas a policy of nondisclosure was observed where it was requested by the participants. Certain observations within this thesis are worded to maintain this policy. Sample questions used during the interviews are contained in Appendix A.

#### **F. ORGANIZATION**

This thesis is presented in five chapters. Chapter I will introduce the area of research and the methodology used.

Chapter II will be a background chapter discussing service contracts and how they are used in the Government. This chapter will also cover the regulations that guide and control service contracts and their administration.

Chapter III will be a review of various audits, highlighting the principal problems discovered.

Chapter IV will be an analysis of the current status of the principal problems as found during the field interviews and a discussion of the potential causes for these problems and the techniques being used to solve them.

Chapter V will present the conclusions, recommendations and answers to the research questions.

Appendices and Lists of References are provided to show examples of the principal problems and to assist further research.

## II. BACKGROUND

### A. INTRODUCTION

This chapter will present the regulatory background for service contracts and their administration. Additionally, it will provide information on the procedures used in administering service contracts.

The service contract when prepared carefully and correctly, can be beneficial for both parties. The requiring activity can receive the time and efforts of a contractor to provide some type of support that is not available in-house. The contractor can be assured of a long term effort with little risk and at predetermined rates. However, if the contract is prepared poorly, if the Statement of Work (SOW) is vague or the tasks are not within the scope of the contract, then confusion among both parties can result.

### B. GOVERNMENT USE OF SERVICE CONTRACTS

The Federal Government uses service contracts to offset shortages in expertise and in situations where it is more cost effective to hire someone to perform a task. Also, service contracts are ideal where long term organizational support is required. A service contract reduces the need for multiple

contracts for repetitive tasks. Some of the possible areas where service contracts are appropriate are:

- Maintenance, overhaul, repair, servicing, salvage, rehabilitation, modernization, or modification of supplies, systems or equipment.
- Routine recurring maintenance of real property.
- Housekeeping and base services.
- Advisory and assistance services.
- Operation of Government-owned equipment facilities, and systems.
- Communications services.
- Architect-Engineering services.
- Transportation and related services.
- Research and development. [Ref. 1:37-101]

As the list shows, service contracts are generally labor intensive efforts that engage the time and efforts of a contractor rather than result in a deliverable. A service contract is the ideal vehicle to provide base or agency support. There are some contractors that can provide a wide variety of services and therefore can single-handedly provide any support required.

Service requirements can range from repetitive daily actions that are easy to estimate such as food service or trash removal, to infrequent or untried efforts such as

technical or engineering studies or evaluations that are difficult to estimate.

### **C. SERVICE CONTRACT TYPES**

Because of the unpredictability of performance and the predominance of labor over material in service contracts, the majority of service contracts are Cost-Plus-Fixed-Fee (CPFF) or Cost-Plus-Award-Fee (CPAF) type contracts. Cost Plus type contracts remove the burden of risk from the contractor and transfer it to the Government.

#### **1. Cost Plus Fixed Fee Contracts**

The Cost-Plus-Fixed-Fee type of contract pays the contractor a predetermined fee regardless of the amount of effort expended by the contractor to perform a task. There is no incentive on the part of the contractor to control costs or strive for efficiency. If the tasks are dissimilar or infrequently performed, this contract type is best suited because it is difficult for the contractor to achieve any efficiency and difficult for the Government to measure his achievement against a series of award factors. The CPFF type of contract forces the Government to assume the most risk.

The Cost-Plus-Award-Fee type contract reduces the level of risk on the Government and transfers some of it back to the contractor.

## **2. Cost Plus Award Fee Contracts**

The CPAF type of contract is best used when the tasks are frequent or repetitive or the award fee attributes can be identified prior to award. The potential award fee should provide the contractor with the incentive to perform with efficiency and to strive for quality. The award fee attributes should be easily defined and measurable in order to evaluate the contractor's performance.

Using the award fee attributes, the Contracting Officer's Technical Representative (COTR) and the contracting officer will be able to evaluate the award fee based on the desired performance factors and the past performance. The contractor will be able to analyze his performance against the contract performance specifications and correct any shortcomings that are identified. The award fee should be determined as soon as possible upon task or term completion, in order to make the award fee an incentive for the contractor to improve.

In a Cost Plus type of contract the contractor is required to provide only his best effort towards accomplishing the task. This places increased risk on the Government and requires that the contracting officer closely examine the contractor's responsibility to perform. In a CPAF type contract the contracting officer must measure and monitor the

quality of performance. Because the majority of service contracts contain few material requirements, the fluctuations of the labor costs due to inefficiency are the main source of risk for the contractor. Another factor is the difficulty of predicting the costs of the required performance in some of the contracts.

When service contracts are competed, some of the factors that are considered very closely in the competition are the contractor's overhead rate and his proposed fee. Once the competitors have been found responsible, a competition can balance on the strength of their proposals in these two areas.

#### **D. REGULATORY BACKGROUND**

##### **1. OMB Circular A-76**

The authority to procure contracted services was initially derived from OMB Circular A-76 of March 29, 1979.

The circular directed that:

- Governmental functions must be performed by Government employees.
- Commercial or industrial products and services should be provided in the most economical manner through the use of rigorous cost comparisons of private sector and Government performance.
- Consulting services are not either of the above categories and should be provided either by Government staff organizations or from private sources, as deemed appropriate by executive agencies in accordance with

Executive branch guidance on the use of consulting services. [Ref. 2:1]

## **2. Federal Acquisition Regulations (FAR)**

The Federal Acquisition Regulation (FAR) Part 37 provides the regulatory guidance for service contracting. This regulation encompasses general service contracting and three specific types of services:

- 37.2 Advisory and Assistance Services
- 37.3 Dismantling, Demolition, or Removal of Improvements
- 37.4 Nonpersonal Health Care Services

FAR Part 37 provides some key definitions of the terms "Nonpersonal Services Contract" and "Personal Services Contract". The difference between these two types of contracts is one of appearance. In a personal services contract, a contractor's employee is "subject to the supervision and control usually prevailing in relationships between the Government and its employees" [Ref. 1:37-104] A non-personal services contract would be characterized by the contractor receiving a task description and directing his employees and assets to accomplish the tasks.

The regulations are designed to prevent the Government's agencies from employing outside contractors in order to circumvent Congressional statutes on hiring. The

intent is to not have contractor personnel doing inherently Government work under direct Government supervision. Personal services contracts are not allowed unless specifically authorized by statute. [Ref. 1:37-104] It is the Contracting Officer's responsibility to ensure that a contract is proper and to document that it does not violate the personal services contract prohibition.

### **3. OMB Circular A-120**

OMB Circular A-120 establishes policies and general guidelines for consulting services for the Federal Government. The key factors of the policy are summarized as follows:

- Consulting services will not be used in performing work of a policy/decision making or managerial nature which is the direct responsibility of agency officials.
- Consulting services will normally be obtained only on an intermittent or temporary basis; repeated or extended arrangements are not to be entered into except under extraordinary circumstances.
- Consulting services will not be used to bypass or undermine personnel ceilings, pay limitations, or competitive employment procedures.
- Consulting services will not be used under any circumstances to specifically aid in influencing or enacting legislation. [Ref. 3:2]

Additionally, OMB Circular A-120 directs that consulting services should be used to obtain specialized

opinions or professional advice, to obtain outside points of view, to remain aware of advances in industry, and research and to secure citizen participation where required. [Ref. 3:3]

#### **4. Department of Defense Directive 4205.2**

DOD Directive 4205.2 provides specific Defense Department guidance on Contracted Advisory and Assistance Services (CAAS). DOD Dir. 4205.2 defines CAAS as, "... those services acquired directly by the Department of Defense from non-governmental sources to support or improve agency policy development or decision making, or to support or improve the management of organizations or the operation of weapon systems, equipment, and components." [Ref. 4:2] The directive goes on to break CAAS down into four categories:

##### ***a. Individual Experts and Consultants (IEC):***

This category consists of persons who possess special or current knowledge or skills and extensive operational experience that enable them to provide information, advice or recommendations to improve understanding of complex issues or the quality of decision making. [Ref. 4:2-1]

##### ***b. Studies, Analysis, and Evaluations (SAE):***

Analytic assessments that are needed to understand complex issues and improve policy development and decision making. Should result in formal reports that provide recommendations, advice and solutions. Basic research and specific engineering studies are excluded. [Ref. 4:3-1]

**c. Management Support Services (MSS):**

Advice, training, or direct assistance to organizations to ensure more efficient or effective operation of managerial, administrative, or related kinds of systems. [Ref. 4:4-1]

**d. Engineering and Technical Services (ETS):**

Engineering and technical services provided by weapons systems and equipment manufacturers. These services can take place at the contractor's facilities or in the field [Ref. 4:5-1]

DOD Directive 4205.2 is important because it recognizes the DOD's limited ability to experiment and the diverse backgrounds of its military managers. These two limitations require that defense agencies acquire outside help. This instruction provides a policy to acquire the expertise that is needed to solve the problems that arise with the modern complex systems that are employed by the military.

**E. PREPARING THE STATEMENT OF WORK**

The Statement of Work (SOW) should define all of the tasks that will be required during the life of the contract. The SOW should also detail when the services should be performed, if this information is available. When the SOW is not clearly and definitively written, there is a potential to add unplanned or extra work that can result in confusion and added

cost during the administration of the contract. A well written SOW can greatly facilitate the use of the contract by the requiring activity. It will reduce the confusion surrounding efforts potentially outside of the scope of the contract and will reduce the administrative processing time for orders placed against the contract. A clearly defined SOW will ensure that both the contractor and the requiring activity are in agreement about what will be provided before the effort starts, this is especially important for infrequently performed services.

The process used when awarding a services contract is not unlike the process for awarding a supply contract. The requiring activity must first identify their requirement in writing and justify why an outside contractor is required to perform the task. A performance SOW should be prepared by the requiring activity and be reviewed by the contracting activity.

As discussed earlier, the SOW should be very detailed and descriptive. All the tasks that are expected to be accomplished should be included. This can be difficult with research or development type services. But the requiring activities can usually provide descriptive statements that provide general definitions of the work required. The locations where the tasks are going to be performed and the

estimated level of effort required should also be clearly delineated.

The SOW scope of work should not include a wide variety of diverse and varied tasks. These "omnibus" type contracts that provide for the complete support of an organization, while convenient for the requiring activity, defeat the goal of full and open competition by failing to break out and compete tasks that could stand alone as separate contracts and by limiting the number of firms that may qualify for the overall contract.

If the SOW is written so that the work is broken out into smaller more generic tasks, there will be a larger number of potential qualified bidders and so the potential for cost reductions due to competition are gained. Also, the large multi-faceted "omnibus" service contracts increase administrative costs by requiring excessive technical direction for the contractor to perform due to the vague SOW. Due to the wide variety of tasks that are included in these contracts, "omnibus" type contracts tend to require more subcontracting which increases pass through costs such as, program management costs, subcontract administration costs, and fee. Omnibus type contracts are also more expensive because the contractor has to maintain a larger more diversified work force that may not be fully tasked, so labor costs and indirect costs tend to be higher. [Ref. 5]

When writing the SOW, the requiring activity should analyze their requirements to determine how many of these tasks are similar or are going to be required repetitively for the entire term of the contract. There are generally two classifications for task statements in service contracts: 1) Term or level of effort, 2) Completion or delivery. [Ref. 6:E-2] A well written SOW would probably not contain both of these types of efforts. If the SOW is for a level of effort task, then the completion task could be competed as a stand alone requirement. The opposite is also true; level of effort tasks should be broken out separately from the type of efforts that will be done occasionally or until they are completed. Separating the two types of tasks, term and completion, not only can increase competition and the available pool of qualified contractors, but is required by the FAR. [Ref. 7]

For example, while many lawn care contractors can mow lawns, which could be classified as a term or level of effort task, few can make repairs on outside structures, which could be classified as a completion effort. If the two tasks are lumped together in the SOW under Grounds Maintenance, the lawn care contractor may not bid on this contract because he does not possess the repair personnel. Additionally, a repair contractor might not bid because they do not have the lawn mowing capability.

The poorly worded SOW has reduced the number of qualified contractors who can bid on the contract. Also, if one of the two contractors did bid and win the contract, they would probably have to subcontract the tasks that they did not have expertise in. This would drive up the overall costs for the Government by increasing the "pass through costs" such as fee and sub-contract management costs. Additionally, routine repetitive term tasks might be more appropriately placed on a Fixed Price or Award Fee type of contract that would reduce the risk to the Government and provide incentive to increase the contractor's cost reduction efforts.

OMB Circular A-76 and the Competition in Contracting Act (CICA) mandate competition for service contracts. The SOW must be written to support those goals. If it encompasses too many different efforts than there is a possibility that competition would be restricted. Additionally, an excessively broad and varied SOW will increase the subcontract costs and thus drive up the overall labor costs. However, the SOW must not be written too specifically so that it eliminates qualified competitors and retains an incumbent contractor. A SOW that details specific requirements for contractor personnel and resources that are not widely available or required for performance hinders competition and rewards the incumbent [Ref. 7].

## **F. AWARDING THE SERVICE CONTRACT**

After the SOW is written and approved by the requiring activity, the solicitation is sent out. The solicitation packages must be prepared with great detail and specific task statements. The competitors must be fully aware of what tasks and services are included in their proposals. The solicitation package should also discuss the evaluation criteria that will be used to judge the proposals. The service contract proposals will rarely be judged on the basis of price alone. Intensive examinations of a contractor's work force, facilities, experience and management are required. This is an especially critical factor because most service contracts are Cost Plus type contracts and will only result in the contractor's best efforts. If there is some doubt about the ability of a contractor to complete the term of the contract, then great care should be exercised before awarding a contract to him. To have a contractor fail to adequately provide a service such as meal preparation or medical care can have disastrous and costly results.

Because of the complexity of many service contracts, discussions with all of the competitors in the competitive range will probably be required prior to award. There must be no confusion among the competitors regarding the requirements. The contracting officer must insure during these discussions

that technical or price leveling does not occur. Because the proposals will be labor intensive, technical leveling will be less likely, but there can be differences in their technical approaches or facilities usage.

The DOD FAR Supplement places some restrictions on the wages and compensation that can be paid for certain expert or consultant services. These restrictions must be taken into account by the contractors when they are preparing their proposals or entering into negotiations if competition is not available. [Ref. 8:237.1-6] The limitations in pay affect experts and consultants in the areas of research and development or professional services involving physical and natural sciences. There are also limitations on medical personnel who are contracted to provide Personal Direct Health Care. [Ref. 8:237.1-7]

#### **G. CONTRACT ADMINISTRATION INSTRUCTIONS**

NAVSUP Instructions 4330.7 and 4205.3 are the principal Navy instructions that guide the Procuring Contracting Officer (PCO) in selecting the contract administration options and selecting and directing the COTR.

The NAVSUP COTR course Student Guide defines a COTR as,

"...The technical liaison between the contractor and the PCO and is responsible for ensuring satisfactory performance and timely delivery within the financial

constraints of the K [contract] or DO [Delivery Order]." [Ref. 6:III-4]

**1. Naval Supply Systems Command Instruction 4330.7**

Naval Supply Systems Command Instruction 4330.7 provides the PCO with a few options for administering a service contract. The PCO can identify a Contract Administration Office (CAO) to administer the contract or he can retain the administrative responsibilities and use a COTR for technical monitoring of the contractor. For almost all of the possible contract type/location possibilities (i.e. Cost Plus at a Government Owned location), the instruction recommends that the CAO be assigned the responsibility for auditing to determine allowability and allocability of the contractor costs. Also, the instruction recommends the CAO use its expertise and assist in areas such as labor matters, sub-contract monitoring, payment functions and auditing. [Ref. 9:A-12-A-15]

**2. Naval Supply Systems Command Instruction 4205.3**

NAVSUP Instruction 4205.3 provides definitions and directions for the proper use of COTRs within the Navy Field Contracting System (NFCS) This instruction calls for COTRs to have "the requisite technical experience to provide the technical expertise necessary for performance of the COTR function" [Ref. 4:C-2] and the COTR must hold "a position with

a level of responsibility commensurate with the complexity/technical requirements of the contract." [Ref. 4:C-2] The instruction also requires prospective COTRs to attend the NAVSUP approved training course for COTRs. The primary role of the COTR according to NAVSUP Instruction 4205.3 is to provide technical direction to the contractor and monitor contract performance. [Ref. 4:C-2] The requirements for experience and seniority limit the range of personnel that the originating organization can nominate as COTRs.

NAVSUP Instruction 4205.3 mandates that there will not be multiple COTRs appointed on the same contract. The reason given for this is, the COTR is supposed to be the focal point for all technical issues that may need to be resolved during the performance of the contract. Also, NAVSUP Instruction 4205.3 directs that the PCO must ensure that there is a separation of duties between the ordering function and the COTR function. The only example given in the instruction of this potential problem is for indefinite delivery type contracts (IDTC). If the COTR is directly involved in the origination of the requirements, then someone else must be designated to receive and accept the services. [Ref. 4:C-3]

## **H. ADMINISTERING THE SERVICE CONTRACT**

The required quality standards should be spelled out during a Post-award conference which should include the PCO, contract administration personnel, the COTR, and the contractor's personnel. Again, there should be no confusion regarding the required quality and schedule of the services. If the contract is for repetitive term services, e.g., meal preparation, grounds maintenance, etc., then the COTR will have frequent opportunities to evaluate the contractor's performance.

If the service contract is an IDTC and the schedule or quantity of services is unknown, someone at the requiring activity will have to initiate the contractor's various efforts. These types of orders have a variety of names such as, delivery orders (DO), task orders (TO) and technical instructions (TI). To manage the technical programs and monitor the technical performance of the contractor many Navy activities use the position of Navy Technical Representative (NTR). One of the duties of the NTR is to initiate the individual work tasks by issuing the delivery or task orders.

The NTR is frequently the technician or engineer responsible for the technical program and the completion of the specific efforts.[Ref. 7] The NTR position also can assist the COTR with management of specific task orders. The

NTR does not possess the authority to direct the contractor and cannot be delegated the COTR's duties. [Ref. 4:C-3] As the originator of the task or project the NTR will maintain frequent contact with the contractors to ensure task accomplishment. The NTR has only a few tasks or specific areas of tasks that he is responsible for so he can generally focus more attention on the contractor's performance on individual task orders. The NTR can provide the COTR with direct observations of the contractor's performance quality. In this manner he can be a good feedback tool for the COTR.

The NTRs frequently prepare the independent cost estimates for the individual projects. These estimates are based on a variety of estimating methods such as:

- Historical labor and material costs for similar jobs
- The NTR's technical experience
- "Learning curves"
- "Prudent Businessman approach"
- Previous contractor experience

The estimate should be approved by the COTR prior to being forwarded to the ordering officer. The NAVSUP COTR Training course suggests that the COTR prepare the cost estimates, but the variety and volume of tasks on many of the contracts studied for this thesis would overwhelm an average COTR's

workload. It is unlikely that the COTR would be able to prepare the estimates although he certainly would be a point of reference for the NTR, who would most likely prepare them. At the site studied, the COTRs were required to review the estimates for accuracy prior to their submission to the ordering officer. An initial review of the estimates in this manner is all that the COTRs had time to do due to their workload.

An engineering service contract could call for a variety of tasks such as tests, assessments, or evaluations depending on the contract. Each individual effort will be outlined in a task statement. It should be prepared by the NTR and provide all of the specific requirements for the effort.

The task statement will be forwarded to the ordering officer who has cognizance over the service contract. The ordering officer should review the task statement to ensure that the task is within the scope of the contract. He should also check to ensure that the task is applicable to the service contract in question and not to another contract. Occasionally, tasks can be written that apply to more than one contract. This is usually due to the vagueness of the contract SOW. When this occurs, the most applicable contract should be used. The ordering officer should also check the task statement to ensure that the task will be measurable and

that the COTR will be able to monitor the task's progress and completion. Once the task statement is set, the NTR or the COTR should prepare the Government independent cost estimate and the ordering officer should ask the contractor to prepare a proposal for the task.

The ordering officer has the authority to place orders up to the limit of his warrant. If an order is larger than the limit of his warrant, it will be passed to the Head Contracting Activity (HCA). Because the dollar value limit of the HCA's authority is usually greater than the ordering officer's, the HCA has negotiated the service contract in the first place. Depending on the type of contract, when the ordering officer places the order, he may have to negotiate the labor rates. The Time and Materials contract type will have the labor rates already negotiated and agreed upon in the original ordering agreement. CFFF and CPAF type contracts will not have the rates already negotiated when orders are placed. Often, when the original contract is negotiated, the contractor will propose probable or historical rates. Some contracting organizations require the contractors to propose corporate average labor rates. [Ref. 10] The ordering officer will usually negotiate the labor mix required to complete each task. His negotiations will be based on his experience and the prepared independent Government cost estimate. The

ordering officer will also negotiate the required delivery schedule. The rapidity of delivery may impact the labor mix used. The NTR and the ordering officer should agree on the most cost effective schedule that satisfies the requirement.

Once the schedule is set, the order negotiated and placed, the COTR receives a copy of the order and the delivery schedule. The COTR is then responsible for monitoring the progress of the contractor and inspecting and receiving any deliverables. There are a variety of methods that the COTR can use to monitor the progress of the contractor. The choice of monitoring method is dependent on the requirements of the PCO which should be delineated in a Contract Administration plan (CAP).

One of the monitoring methods that is widely used is work site visits, where the COTR goes to the contractor's work site and visually checks on the progress of the task, the labor mix involved and the quality of the materials being used. This method is best for construction or maintenance type services. The best monitoring occurs when the visits are random and not scheduled with the contractor. The intent of an unscheduled visit is not to catch the contractor in some unauthorized activity, but rather to observe the contractor in random situations to ascertain his general level of performance. Work site visits are not as effective when the service does

not produce a physical product such as consulting services, or if the contractor's progress is difficult to measure on just one visit, such as software development tasks.

Another method of monitoring is time card checks. This method enables the COTR to verify that the contractor is using the correct labor mix on a task, and that the people whose time the contractor previously billed the Government for, actually worked on the task. This method can be performed after the contractor's invoice is received, or if the task is ongoing, this method can be performed at random intervals. Another method of monitoring the contractor's effort is for the COTR to verify the receipt of any deliverables. If the task order calls for the delivery of any end items such as a report or assessment, the receipt of the deliverable would be indicative of task completion. Upon receipt of the end item, the COTR merely has to verify the content and quality of the item and certify the completion of the task.

These evaluations of the contractor's performance are vital for providing the Contracting Officer with feedback to support or deny future awards to the same contractor. They can also be used to support an award fee determination.

Another task that is required to properly monitor the contractor is invoice certification. This check should be done by someone with technical experience who is familiar with

the requirements of the task. DCAA will certify the invoices at a later date for allocability and allowability. This will occur after the invoices have been approved and paid. Prior to approval, the invoices submitted need to be checked to ensure that the contractor has not charged for items that are not allowed in the contract or have not been received. Additionally, verifying the amount charged on the invoices against the actual completed work for an ongoing effort alerts the COTR if a contractor is over charging or is exceeding the negotiated ceiling. All invoices submitted should be checked by the COTR; random spot checking of the invoices could allow the contractor the opportunity to submit false charges. Invoice certification methods should not be used alone or substituted for one of the other monitoring methods.

#### **I. SUMMARY**

Service contracts are widely used throughout the military, they provide a time saving vehicle that allows the requiring activity to hire contractor support that can range from expert consultants to menial support laborers. There is also a potential for unique problems with the use of service contracts. Like all contracting evolutions involving the public's funds, service contracts need to awarded and

administered with a constant eye on the regulations, a keen regard for the public trust, and the highest degree of ethics.

### III. SUMMARY OF AUDITS

The objective of this chapter is to highlight the principal problems in the administration of service contracts that repeatedly show up in Government audits. By highlighting these continuing problems the stage is set for a discussion of the current status of these problems, their possible causes and potential recommendations for improvement and avoidance.

This chapter is a summary of findings from audits that were performed by the Navy and Air Force Audit Services. These audits were conducted at a variety of organizations, all of which placed orders against and administered service contracts. While the predominate type of contract was for technical or engineering services, there are also audits of basic operational service (e.g., maintenance, repair, training, etc.) type contracts.

The following examples were chosen from a collection of 34 audits of various contracting and technical support agencies. The principal problems were determined by the frequency of their being cited as major discrepancies during the audits. Once a preliminary collection of problem areas was determined, their frequency and severity at the ship repair facility site was researched through personal interviews. This process

reduced the set of problem areas to the three presented in this chapter.

The examples of audits provided in this chapter, provide the reader with a good sample of the severity and frequency of the problems throughout the military. Chapter IV will discuss the extent that these problems exist at the ship repair facility site.

**A. IMPROPER USE OF THE INDEPENDENT GOVERNMENT COST ESTIMATE (IGCE)**

A well prepared IGCE is vital for the negotiator to determine what is a fair and reasonable price for a good or service. The preparation of an incomplete or biased IGCE is a common problem within Government service contracting. This problem has the following characteristics:

- Failing to prepare an independent Government estimate (required for task orders greater than \$2,500).
- Incomplete (missing labor and material categories) estimates.
- Discussions or collaboration with contractor personnel prior to preparing the estimate.
- Preparing the estimate with the intent to obligate all of the available funds.

The following audit excerpts provide some examples of the Government's problems with the IGCE preparation process.

Contracts are prepared that exceed the Government estimate without review by the planner and estimator.[Ref. 11:8]

Auditors found that contracting personnel were not effectively challenging contractor proposals and in some cases were ignoring the Government estimates and awarding a delivery order at the proposed price.

Where the contractors and the Government both provided estimates, amounts were equal or almost equal to the extent that it is questionable that they were independently prepared.[Ref. 12:26]

Also, the auditors found that charges against the Delivery Orders (DO's) approximated the estimates (ie. maximum allowable charges). It appeared that charges were made to utilize all funds available rather than accurately report job costs.

For 45 of 69 orders reviewed, differences between [contractor and Government] estimates were less than 3%. Additionally, the Ordering Officer routinely accepted contractor proposals and in 62 of 69 contracts reviewed award at the exact price proposed.[Ref. 13:12]

As a result of their findings, auditors felt that no independent basis existed for determining cost reasonableness. While they did not determine the exact cause for this discrepancy, they felt that informal communication between contractor and FLTAC personnel may have influenced the

outcome. The auditors concluded that; "The possibility for two independent processes yielding consistent results within a 3% range, in our opinion appears too remote for chance". [Ref. 13:13]

PSNS does not prepare, or has only incomplete, in-house man-hour and cost estimates prior to and during negotiations. 96 task orders were issued, seven lacked in-house estimates and 89 had incomplete estimates. Of the 89 task orders issued, 74 exceeded \$2,500 and thus required complete and independently developed Government cost estimates.... Accordingly all in-house estimates lacked sufficient detail--total estimated man-hours by labor categories and related costs-- to permit PSNS to negotiate at least cost to the Government. [Ref. 14]

Auditors found that most of the estimates submitted by PSNS employees were identical to the contractors' estimates. The auditors concluded that because of the estimating lapses and missing independent Government estimates, the negotiators did not have enough information to properly negotiate the task orders. Because of this, the negotiators frequently had to settle for the contractors' estimated price.

#### **B. VAGUE OR UNCLEAR STATEMENTS OF WORK**

This problem can have a direct effect on how successfully the contracting organization can administer a service contract. This problem is common in large service contracts where the task wording is broad and not definitive. It

requires the contracting agency to provide additional direction to the contractor before specific tasks can be performed. The following examples highlight some of the problems uncovered, regarding vague SOWs.

Contractors with maintenance contracts at Naval Amphibious Base, Little Creek and NAS Oceana have received payments in excess of \$34,800 over the initial contract amounts. This was a result of inadequate contract specifications which did not translate requirements into clear unambiguous statements of work....in 10 out of 15 contracts, the scope of work was not adequately described resulting in increased costs, needless delays and extra administrative effort. [Ref. 15]

Auditors found that many specifications for maintenance and repair contracts did not specify tasks and materials that would be required under the contracts. Additionally, because of the poor statements of work the Government was charged for work that should have been performed under the in-place contracts.

Our review of indefinite quantity, time, and material contracts [sic] disclosed clauses for per diem and travel which have resulted in improper and unidentifiable charges to the Government. These charges either do not adequately define allowable charges or provide for charges to be included in a category of cost not descriptive of the charge. [Ref. 12:8]

Auditors found that because the basic contract did not specify or describe the term "home base", contractor personnel who had lived in the vicinity of the work site for over two years had been paid daily per diem and travel expenses for

their daily commute to and from work. These two categories amounted to payments in excess of \$325,000 on two contracts alone.

..Contracting Officers had competed the basic contracts with statements of work so broad that they only required the contractor to perform within broad technical areas as opposed to identifying specific minimum requirements. Then, without competition, contracting officers issued task orders which defined the actual needs or services required. [Ref. 16:11]

Auditors found that because the statements of work were so broad many of the tasks assigned to the contractors had been unforeseen and had to be subcontracted out because the prime contractor could not accomplish them. In fact, 26 of 108 tasks had to be subcontracted for this reason. On one contract more than half of the 13 million dollar contract had to be subcontracted out. By subcontracting out the audit team estimated that the Air Force had incurred additional costs of \$495,000. These additional costs were billed by the prime contractor for program management costs, profit and subcontract administration. Additionally, because no controls existed for deciding what work was classified as within scope, the auditors determined that SDI contracting officers acquired \$4.1 million of services that should have been competed as new work or at least required a contract modification.

Air Force contracting activities altered SDI term type reimbursement contracts by issuing completion type

task orders. This informally modifies the contract that competition was originally held for. [Ref. 16:8]

Air Force auditors found that 50 completion task orders had been issued against seven term contracts. These contracts were valued in excess of \$67.3 million. The orders effectively avoided competition for the completion efforts, and resulted in millions of dollars of orders being awarded that were not subject to competition. Additionally, Air Force SDI contracting activities routinely modified the level of effort required on the term type contracts, thus increasing the period of performance which resulted in over \$49 million of work orders not being classified as new work and being competed.

NAVSEA issued seven CPFF services contracts allegedly for definite quantities of services. However, the administrative actions to obtain services under the contracts and some contractual language (lacking specificity for tasks or requiring Technical Instructions prior to performance) give the connotation of open-ended or indefinite quantity type contracts. [Ref. 17:a-1]

The auditors found that seven CPFF contracts had orders placed against them for services costing in excess of \$45 million dollars. These contracts did not provide for the delivery of a specific quantity of services or specific delivery dates. All of the contracts called for deliveries to be in accordance with the DD Form 1423, Contract Data Requirements List, which stated that delivery would be in

accordance with Technical Instructions (TI's) that would be issued later by NAVSEA project managers. These contracts effectively removed the contracting officer from the TI review process and allowed personnel without contracting authority to place orders against these contracts.

**C. FAILURE TO PROPERLY PERFORM COTR DUTIES**

This problem is multi-faceted. At its most basic level it is failing to properly monitor the contractor's performance to ensure the desired results. But, it can include lax invoice certifications and work inspections, illegal or unethical contact or relationships with contractor personnel, unauthorized involvement in the contracting process, and failing to verify and certify the completion of contractor tasks.

NAVSHIPYD issued delivery order (DO) modifications or contracts to cover labor and material after the costs had been incurred and, in some instances billed. Review showed that invoices for labor costs which exceeded the DO ceiling limitation were not submitted by the contractor until the modification authorizing the additional expenditures was approved. [Ref. 11:2]

Auditors found that significant amounts of labor charges on DO's were not approved by a Contracting or Ordering officer. Labor costs in excess of the ceiling of the DO were frequently not billed until the contract was modified to raise the ceiling. Work in excess of \$228,000 was performed on four

contracts prior to the contracts even being issued. Some modifications and contracts were backdated to cover the periods of performance. The auditors concluded that the contract administration personnel were well aware of the contractors exceeding the ceilings and performing without direction and that the modifications and delivery orders were a means of payment to the contractor.

FLTAC personnel did not carry out the full range of COTR responsibilities required by NAVSUP Instruction 4330.6B and contract provisions. This condition resulted, in part, because appointed COTRs delegated assigned duties to untrained personnel and become complacent in their relationships with contractor personnel. As a result, FLTAC did not have assurance that the Government's interests were adequately protected. While all appointed COTRs had received appropriate training, we noted that in most instances COTR responsibilities were carried out as a collateral duty and that appointed COTR relied heavily upon input provided by untrained individuals and contractor personnel. Furthermore, the full range of COTR responsibilities were not performed and documented.... [Ref. 13:18-19]

Auditors found that in some departments, division heads were designated as COTRs but they relied on more junior, untrained personnel to perform the COTR functions. Few of the designated COTRs ever made visits to contractor work sites and those that claimed to have visited, could not show any documentation. Non-trained personnel made decisions regarding service acceptability and exercised responsibility for accepting deliverables.

Inspection procedures used to ensure satisfactory contractor performance are not consistently followed for contracts administered ...at NAS Oceana and NAVPHIBASE. As a result, the Government may have accepted and paid for services, totaling at least \$22,484 which were not received. In addition, payments of indeterminable amounts have been made for services for which there is no evidence of receipt. [Ref. 15:10]

The auditors determined that the reasons for the failures to properly monitor and inspect contractor's work were:

- COTR's were inadequately informed of contract specifications and provisions.
- COTR's were assigned an average of 10 contracts each to monitor. This created too large of a work load for a single person to properly monitor each contract.
- COTR's failed to check contractors on a frequent or routine basis.

Auditors found that the COTRs only spot-checked certain contractors and they did not maintain records of the visits that they did make. Without written records of their visits the COTR's had no record of contractor work accomplishment.

Personnel routinely performed contractor solicitation and other duties that should be handled by Contracting officers. This condition increased the potential for fraud, waste and abuse. [Ref. 18:15]

The auditors found in a review of 25 contracts that the initiating activity had "discussed the requirements with contractors, solicited, received and evaluated proposals, and in some cases, reached cost and delivery schedule agreements" prior to submitting the requirements to NRCC Philadelphia.

Additionally the COTRs were directly involved in reaching agreements with contractors regarding estimated costs, hours required, and delivery schedules. The COTRs were also responsible for the review of cost estimates, contractor progress reports, processing of invoices and certificates of performance. In all of these tasks, the auditors found evidence of a conflict of interest on the part of the COTRs.

For 30 tasks valued at 19.8 million, contracting officers had not documented any involvement in task order price negotiations. This condition occurred because the task order contracts contained clauses which allowed contracting officer technical representatives to negotiate task orders with the contractor. [Ref. 16:20-21]

Auditors found that although the COTRs had no negotiation training and did not possess contracting authority, the contracting officer had authorized them to negotiate and place task orders with contractors. Additionally, the auditors found that technical personnel had given the contractor oral directions to construct and maintain buildings under an engineering and development service contract. These verbal task orders were valued at nearly \$350,000.

Payments on invoices totaling \$22,125 were made without required certifications of contractor performance. [Ref. 19:2]

Auditors found that procedures in place to monitor task accomplishment had been disregarded and that it was not possible to determine if contractor services had been

provided. Naval Alcohol Rehabilitation Center (NAVALREHCEN) personnel who had been responsible for contract administration tasks simply did not perform them.

Contractor's invoices submitted for payment under maintenance contracts at NAS Oceana and PWC contain overcharges, totaling \$6,946 that were certified as being correct and paid. The overcharges resulted from the contractor's practice of billing for labor or material in excess of amounts allowed by the contracts. Payments on an indeterminable amount have also been made to contractors on the basis of elapsed time during the contract without regard for work actually done. [Ref. 15:16]

In ten contracts reviewed, the auditors found many examples of overcharging. These overcharges and their subsequent approval and payment resulted from:

- Contractors billing for labor and material in excess of that allowed in the contract.
- Contractors billing on the basis of elapsed time without regard for the amount of work actually performed.
- The Government issuing duplicate orders and failing to perform simple mathematical checks on invoices.

While the contractors were at fault in most of these cases all of the examples were approved because the contract administration personnel and the COTRs were not familiar with the contract specifications and requirements and failed to adequately monitor the progress and performance of the contractors.

NAVSHIPYD invoice certification procedures for service contracts lack the controls necessary to protect the interests of the Government. Invoices are being certified for payment when supporting documentation contains errors or is incomplete or nonexistent. Invoices are also being certified for payment when supporting documentation showed that payments were improper. As a result, the Government had been overcharged for services, has paid for services not included in the contracts, and has paid for services without knowledge that the charges for such services were correct. [Ref. 11:10]

The auditors found that the COTRs were only checking the invoices for task accomplishment or for the contractors exceeding the estimated ceilings. The invoices were being sent to the comptroller for payment without being closely examined and certified as true and accurate. This was due to a lack of controls and confusion between the contracting division and the comptroller. Many of the invoices contained errors and most of the submitted invoices had little or no documentation. Many of the invoices that had been paid contained charges for services that had not been specified in the contract, ordered or received from the contractor.

#### **D. SUMMARY**

This chapter has provided examples of the principal problems in the administration of service contracts. These examples were drawn from Government audits of various contracting activities. The problems highlighted are:

- Improper use of the independent Government cost estimate.
- Vague or unclear Statements of Work.
- Failure to properly perform COTR duties.

Most of these examples were drawn from audits of engineering services contracts, but some were from maintenance and support types of contracts. Examples of these problems were also discovered during the field research for this thesis; they will be discussed in Chapter IV. Now that the principal problems have been highlighted, Chapter IV will discuss the causes and the current state of these problems.

## **IV. PROBLEM ANALYSIS**

### **A. INTRODUCTION**

This chapter will provide a discussion and analysis of the problem areas highlighted in Chapter III: 1) vague statements of work, 2) poor independent Government estimate preparation, and 3) the failure to properly perform COTR duties. The current status of these problems as observed during field interviews, their background causes and contributing factors will be presented. The information for this discussion was gathered through an extensive series of interviews. These interviews were conducted with Government personnel who are directly involved with the supervision, administration and monitoring of service contracts. Additionally interviews were conducted with senior personnel responsible for procurement policy preparation, and contract audit and inspection.

### **B. METHODOLOGY**

The methodology for gathering the data for this discussion began with a series of questions regarding the principal problem areas identified through the analysis of the audits of other contracting organizations, to personnel in COTR and contract administration functions. Their responses to these

questions provided the verification for, and validated the substance and seriousness of the problem areas. Additionally, the responses received during the field interviews served to focus attention on the three principal problems that were observed at the ship repair facility.

The members of a Naval Regional Contracting Center Detachment, Procurement Management Review (PMR) team provided an additional data source regarding the frequency and severity of the problem areas. The PMR team provided some real world insight into the perceived causes and impacts of the problem areas. Their extensive experience with these problems and their familiarity with the regulatory background regarding these problems was invaluable.

Finally, senior officials in management and policy preparation roles were interviewed to discuss their perceptions of the problem areas and the steps that they have taken to improve, correct and manage these areas.

During all of the interviews, total candor from the interviewee was encouraged in order to fully explore all of the relevant facets of the problem areas. During some of the interviews, conditions of anonymity were required. Providing anonymity allowed all personnel to speak freely and openly on all subjects. Occasionally a reference will be worded to protect this anonymity. The presence of anonymity does not

reduce the validity of the observations, but rather allows them to be timely and candid.

The initial series of questions that were used in the interviews is presented in Appendix A. These questions presented a good starting point for the interviews. After these initial general questions were answered, the interviewees usually expanded into their specific areas of expertise.

Throughout the interviews, all of the interviewees were asked to provide their personal recommendations to correct or improve the specific problems. These recommendations are included in the discussions of the problem areas in order to highlight the current perceptions of the problems from the people who deal with them on a daily basis.

### **C. VAGUE OR UNCLEAR STATEMENTS OF WORK (SOW)**

What do we want the contractor to do? This question is the basis for the preparation of the Statement of Work (SOW). However, as shown in Chapter III, the problems with vague and non-definitive SOWs are frequent and widespread.

The problems caused by vague SOWs as identified by a sampling of audits in Chapter III are:

- The loss of competitive pressure on the contractor to hold down costs.

- Cost growth due to the addition of unforeseen work not subjected to competition.
- Increased administration costs to ensure the contractor is providing what is desired.

Additionally, the vague SOW forces the contracting officer into an "abstract comparison of [contractor] cost systems" without any consideration of capabilities, capacities, specific efforts or management. [Ref. 20] Also the vague SOW tends to disregard the identified problems until they surface during the delivery order process.

The problem of poorly written SOWs has recently been addressed by the Office of Federal Procurement Policy (OFPP), the principal Government procurement policy organization. In a recent procurement policy letter, OFPP stated that vague SOWs "...increase costs or make it difficult to control costs." [Ref. 21:1]

This problem appears so fundamental when first approached, but upon reflection there are many contributing factors and causes. The blame for the background causes can be evenly divided between the technical requiring activities and the contracting activities.

The two biggest causes of SOW problems are: 1) failure to write an adequate SOW due to poor contractual procedures and practices, and 2) the technical organization intentionally

maintaining a vague SOW in order provide a proven acceptable contractor with additional work as it arises[Ref. 7].

In order to properly examine the contributions to this problem from both the requiring and contracting activities, the analysis of the SOW problem will be divided into two sections, contractual organization problems and technical organization problems.

### **1. Contractual Organization Problems**

The contracting activity's contribution to the problem of vague SOW preparation occurs when the contracting activity fails to question the validity of the proposed SOWs and ask the specific questions that would make the SOW clearer and more concise. Additionally, the contracting organization must maintain a cooperative and responsive relationship with the technical requiring activities in order to facilitate the exchange of information required to produce a quality contract.

Too often, the contracting organization fails to plan ahead for the long and time consuming process of awarding a service contract. Instead, they tend to wait and react to the incoming requirements of the technical organization. This is a leading cause of the requirement for service "bridge" contracts that continue the current level of service while a new contract is awarded. The urgency that is created by

failing to plan can short-circuit any attempt to fully research the tasks required and prepare a quality SOW.[Ref. 20]

The attitude that the contracting organization takes toward involving the customer in the contracting process can have a marked effect on the success of the procurement. If the contracting organization is perceived by the technical customer to be rigidly controlled by the myriad of regulations and statutes and is not customer service oriented, then the technical organization may try to avoid any involvement until the last possible minute.[Ref. 20] This delay by the technical customer will also hinder the full research required to prepare a satisfactory SOW. The contracting agency must maintain all possible lines of communication and cooperation with their customers to ensure that a good SOW is created, which in turn results in a successful procurement.

The research of the tasks required in preparation for writing the SOW, is most often left to the technical requiring organization because of their technical experience and expertise. However, the contracting organization must be included in this process because they will have the most experience in drafting a complete and definitive SOW. In a recent memorandum from OFPP, they stated that the contracting officer was responsible for "the coordination of the

Government team" made up of program management and contracting office personnel in order to put the SOW together. [Ref. 22]

Failing to "break out" tasks that could be defined as separate tasks under different contracts can also lead to poor SOWs. Failing to breakout tasks can restrict competition and cause the wrong pricing arrangement to be used. For example, it would be ill advised to use a Cost Plus pricing arrangement for a simple clearly defined task that is well within the contractor's capabilities. The "breaking out" of tasks is sometimes difficult for the contracting activity. Occasionally, the technical customer will want to maintain the integrity of their requirements although good business judgment would suggest further separation of tasks. In these situations, the decision is often subjected to organizational politics and proper contracting practices may suffer. [Ref. 7]

OFPP Policy letter 91-2 calls for more performance based SOWs that tell the contractor what the Government wants and not how to perform the task. [Ref.21:2] This is directly related to the idea that the requiring activity must fully determine what they want the contractor to do. The Government must be able to define their requirements in clear, understandable terms before it will be possible to write performance measuring statements in the SOWs.

Presently, when required to produce a SOW for a procurement, many activities only consider the method that was used to draft a similar SOW or simply review an on hand historical SOW. One of the first steps in reaching the goal of a clear concise performance based SOW is to train the technical and contracting organizations to throw out the old SOWs and SOW preparation processes and to take a long critical look at what is really required and how it should best be acquired. If this was done for each contract or requirement, the SOWs would reflect a clearer and more concise description of what the contractor was expected to provide, and the level of quality required.

## **2. Technical Organization Problems**

The technical requiring activity also has a direct impact on the problem of vague SOWs. The technical requiring activity has a strong motivation for maintaining vague SOWs in order to provide themselves with future flexibility and to maintain their relationship with the incumbent contractor.

The technical organization problem is caused by poor communication, lack of education about the contracting process and organizational politics. The technical organizations studied during the research phase of this thesis used one of the following three arguments to justify their need for vague SOWs.

**a. *The Historical Quality Argument:***

If an organization has experienced successful mission accomplishment in the past with certain contracting procedures and contractors, they would naturally be reluctant to change the process if it seemed to work for them. The question "why fix it, if it isn't broken?" is often used by technical organizations when faced with the requirement to tightening up and improving the SOWs that are used in their service contracts. [Ref. 7]

This response demonstrates the need for educating the technical organization on the requirements for competition and their importance as outlined in the Competition in Contracting Act (CICA). Without the presence of competition for the support service contracts, the incumbent contractors would not be motivated to control their costs. Another important reason for competition of service contracts is that the same services at the present level of quality could be provided for less by a competitor who has a lower overhead and a more efficient operation.

Additionally, with the " why fix it..." argument, the technical organization has excluded any potential contractor who may be able to provide a better product at a higher level of quality.

This argument is often used when the contractor is performing satisfactorily and the technical personnel have developed a sense of trust regarding the contractor's performance. This trust of the contractor tends to be overemphasized and given undue weight in a comparison of the capabilities of an unknown (non-incumbent) contractor. The overemphasis of the incumbent's abilities can overshadow a fair competition between multiple capable competitors, and can cause the technical organization to overlook faults and problem areas that the incumbent may have.

***b. The Technical Rapport Argument:***

The requiring organization often feels that they have developed a technical rapport over time, with their incumbent contractor and that he is the only one who could provide the required service at the requisite quality. [Ref. 23] One COTR interviewed supported this argument with the claim that the incumbent's work force was somehow unique in its abilities because they understood the requirements better than any other contractor could. [Ref. 23]

The technical ability of the contractor is extremely dependent upon the quality of personnel that he employs. Often, when a contract is competed and a new contractor wins the award, the incumbent's technical personnel simply transfer companies. The employees are motivated to

continue performing the same job, regardless of employer and to remain in the geographic area. The routine transferring of employees from company to company challenges the technical rapport argument, because regardless of who the contractor is, there is a possibility that the same employees may continue to work on the tasks even if the contract is awarded to a new contractor. The problem with this argument is that as mentioned earlier, a competitor who has a lower corporate overhead or better efficiency and can provide the same level of quality services is overlooked or not given a fair opportunity to compete.

Additionally, if the technical requiring activity truly desires a certain type of worker or skill level, they should clearly delineate those qualifications in the specifications. This would improve the requirements definition in the contract and provide the technical activity with the requisite support skills.

***c. The Advanced Technical Requirements Argument:***

Frequently when a SOW is identified as vague or undefined and the technical organization does some type of advanced development work, they will claim that due to the advanced technical complexity of the contracted effort and the requirement for freedom to further explore emerging technologies resulting from the current efforts, they must

maintain a SOW that will allow that kind of latitude.[Ref. 16:18] However, frequently the technical organization is not adequately defining the level of technical complexity being contracted.

If the technical organization is contracting for experimental or complex development services, then a more flexible SOW with greater possibilities for change could be appropriate. But, often the vague SOW allows less technical, and more mundane tasks to be included due to the vagueness of the SOW.[Ref. 16:18] Also, some of the activities studied used this excuse on large and varied service contracts or on organizational support type contracts which did not provide advanced technical support. This would not be appropriate because not all of the contracted services intended to be performed, or included in the SOW are advanced or developmental and they could easily be placed on a maintenance or non-developmental contract.

### **3. Summary**

The three arguments identified above are occasionally supportable when used in specific instances. However, they fail to fully consider the motivation of the Government when contracting for services. The Government is motivated to acquire the highest quality service at the best price. A vague SOW allows the contractor to be assigned many tasks that

could have been "broken out" and competed. Thus, many tasks that could possibly be performed at an equal or higher level of quality but at a lower price are shielded from the effects of competition.

The failure of the technical organization to use performance quality statements or to delineate the level of performance desired is inconsistent with the argument that the contractor is familiar with the Government's requirements and that they will provide the required quality level.

Continuous improvement in the identification of technical requirements and the diligent search for the proper contracting method and pricing mechanism for those requirements will reduce costs and result in a higher quality product and better value for the Government. To propose that the Government refrain from reviewing its requirements out of a misguided respect for previous procedures ignores the potential improvements inherent in any self evaluation process.

OFPP letter 91-2 called for, "Developing formal measurement criteria to assess actual performance against predetermined performance standards and assigning contractors full responsibility for quality performance." [Ref. 21:1] They indicated that this was a specific problem area due to the widespread use of broad or imprecise SOWs. [Ref. 21:1]

**D. IMPROPER USE OF THE INDEPENDENT GOVERNMENT COST ESTIMATE  
(IGCE)**

The impact of poor COTR training, unethical Government and contractor relationships and the contractor's marketing efforts on the fleet customer, frequently motivate the technical preparer of the IGCE to provide an incomplete or biased estimate.

The independent Government cost estimate is the key document that can be used by the Government to evaluate the contractor's proposal and ensure a fair and reasonable price is paid for contracted services. Unfortunately, as demonstrated by the audits presented in Chapter III and supported by the research for this thesis, there is frequent misuse of the IGCE.

If the IGCE is not properly prepared, a number of problems are created. First and foremost, the negotiator will generally not have an adequate estimate of the worth of a planned procurement and thus is unable to properly prepare for the negotiation of the delivery orders. Secondly, if the IGCE is not adequately prepared, the contractor may propose labor and materials that are not required or desired, and thus drive up his costs unnecessarily. In a Cost Plus contract with the Government covering the contractor's costs, this "padding" of

the bill can raise the final price to the Government. Additionally, other direct expenses could be overstated.

The failure of the COTR or the technical representative to prepare a complete and unbiased IGCE was a frequent problem identified by the Naval Audit Service during their audits of contracting activities.

To prepare the IGCE, the required effort for the proposed task is estimated using some historical, parametric, or experience technique. The labor categories, disciplines and the estimated hours for each task has to be well estimated by qualified technical personnel.

NAVSUP Instruction 4205.3 states that one of the duties of the COTR is to assist the ordering officer by preparing the IGCEs. The reasoning behind this responsibility assignment is that the COTR is the contracting officer's technical representative and should be the most familiar with the technical requirements of the task and the required labor resources needed to accomplish it. [Ref. 4:2]

As Chapter III showed, there is a significant problem with the preparation of the IGCEs. Either the IGCEs examined were incomplete and thus did not provide enough information to make a reasonable assessment of a fair and reasonable price, or they had an uncanny resemblance to the contractor's

proposals.[Ref. 13:26] The analysis of the complex reasons for this situation follows.

### **1. COTR Training**

NAVSUP Instruction 4205.3 requires that COTRs have the requisite technical expertise, responsibility and receive NAVSUP sponsored COTR training.[Ref. 4:2] The NAVSUP training course covers the broad categories of estimating methodologies such as historical sampling, parametric, and experience, but there is no functional training on the various methods.[Ref. 5:VII-4] Many COTRs and negotiators interviewed, complained about the lack of specific training in this area.[Ref. 24]

NAVSUP Instruction 4205.3 requires that COTRs be selected from an organization's technical branch, based on their seniority and technical experience. However, their selection is not dependent on their business or audit experience. NAVSUP officials stated that the COTRs technical expertise was more important than their contracting knowledge, because they were filling the role of the technical quality evaluators.[Ref. 25] While this should not be construed to mean that NAVSUP does not care about the training of COTRs in the area of estimating, due to the shortness of the COTR course, no estimating training is provided in the COTR training course.

## 2. Contractor/Government Relationships

At the ship repair facility, the technical department is divided into functional branches such as Weapons Systems support, Logistics, ADP support, ...etc. Each branch is staffed with engineers of various grade levels. These engineers are assigned to manage the programs that are supported by the branch. Within the branch many of the engineers are titled, Navy Technical Representatives (NTR). The NTR's tasks are to initiate and manage engineering and technical programs within the command. The NTRs also provide the program management functions for the various technical efforts and work with the fleet customers to ensure the contractor maintains the requisite technical quality. The NTR often works closely with the contractor's employees but he cannot provide any technical or administrative direction to the contractor.

Each branch has one or more support contracts that are in place to provide the branch with contractor support in order to carry out its assigned programs. The COTR assigned to a support contract is an engineer who is drawn from the technical branch that the contract supports. Usually, there is only one COTR per branch, and he may be assigned to all of the contracts that support his branch.

Because the NTR is the task initiator for the technical efforts and his program's success is dependent on the contractor's performance, he and the contractor share the same mutual goal of task accomplishment. Additionally, because he and the contractor are in frequent, almost daily contact, he must attempt to foster strong working relationships with the contractor in order to smoothly coordinate the contractor's efforts.[Ref. 23] As the contractor performs his assigned tasks and his performance is of consistently satisfactory quality, the NTR often establishes a strong feeling of trust in the contractor. This feeling of trust may increase to the point where the NTR considers the contractor to be a joint partner working towards the same goal. This sense of trust and familiarity can go too far if the NTR begins to reveal closely held or proprietary information.

Although they are supposed to prepare all of the IGCEs submitted, because of their workload, many COTRs at the site studied only review the IGCEs prior to submission.[Ref. 24] While NAVSUP Instruction 4205.3 states that the COTR should prepare the IGCEs for the contracts to which he is assigned, due to his workload, the NTR who is the point of contact for the various technical programs usually prepares the IGCEs.[Ref. 24] The strong sense of mutual goals, close

working relationships, and the strong sense of trust and dependability that develop during contract performance, seem to make it convenient for the technical personnel to converse with the contractor regarding the expected costs prior to preparing the IGCE for a task order.

Chapter III provided four examples of identical Government estimates and contractor proposals, and in three of the examples provided the auditor's conclusion that the similarity between the estimates and proposals was directly due to communications between the contractor and the person preparing the IGCE.

During the field interviews, two different individuals confirmed that this practice was common. Frequently, someone in the technical branch would contact the contractor and discuss an upcoming task or delivery order. The discussion would center on a rough estimate of the labor hours and labor categories required to perform the task. Often, rough overall costs would be discussed. Both individuals indicated that this was due to a sense that in many cases, the technical people felt that the contractor "was fair and would not take advantage of the situation". While both individuals knew that this practice was unauthorized, they indicated that it was done to save time and effort and it appeared to have minimal harm to the Government.

### 3. Impact of Contractor Marketing Practices

Another significant cause of biased or suspect IGCEs is the strong and dynamic marketing efforts of service contractors.

During the research interviews for this thesis, the following scenario was provided by some of the COTRs interviewed. They indicated that this scenario was the most frequent manner in which the contractor's marketing practices impacted the IGCE preparation process. [Ref. 26]

Frequently, the contractor's marketing representatives will contact the fleet customers directly and propose an effort that they have identified as lacking in the customer's organization. Or, the contractor may identify possible services that may interest the fleet activity. The contractor will usually only identify those services that are within the scope of a contract already in place at the ship repair facility. [Ref. 26] The fleet activity normally only estimates the cost of the service and identifies the contract in place at the ship repair facility.

Using the initial contractor estimate for financial planning purposes, the customer would provide the request for services and the funding document to the ship repair facility to place the delivery order. [Ref. 26] Once the request for services is processed into a delivery order, the NTR in charge

of the contract for this particular service would then ask the contractor for an estimate of the costs to accomplish this service.

The contractor relying on the initial estimate provided to the fleet organization, and thus with prior knowledge of the value of the funding document, provides a proposal that is just below the value of the funding document and in line with the previous proposals for this type of service.[Ref. 26] Frequently many of these services are repetitive or similar to other services that have been performed in the past. If the NTR only uses the past invoice for a similar effort as the basis for his estimate for this delivery order and does not conduct an adequate analysis of the proposed effort, there is a strong likelihood that his estimate will be similar to the contractor's proposal. If the NTR discusses the potential costs and requirements with the contractor, due to the close working relationships that they have developed during the performance of the contract, he will prepare an estimate that is not independent but is directly in concert with the contractor's proposal.[Ref. 23] Thus, there appears to be a number of ways a NTR may produce an IGCE that is identical or very similar to the contractor's proposal.

When the ordering officer receives the NTR's estimate and the contractor's proposal and observes that they are both

below the funded amount, there is little conflict or no apparent reason not to award the Delivery Order at the estimated amount.

Indeed, some COTRs interviewed complained that when they provided an estimate that was different from the contractor's proposal, they had to justify their estimate as if the contractor's proposal had more validity. This was especially frustrating for the COTRs when their IGCE was less than the contractor's proposal. Because the preparer of the IGCE has to justify his estimate's figures that differ from the contractor's proposal, and because everyone is busy, the motivation is to prepare an IGCE that is in concert with the contractor's proposal.

#### **4. Obligation Rate Implications**

Another cause of poorly prepared and biased IGCEs is the fact that the Government's financial processes do not provide any incentive to prepare an accurate, complete IGCE.

Based on discussions with various technical branch personnel at the site studied, it appears that because of the importance that is placed on the obligation rate of an activity within the Navy, there is frequently less concern for cost as long as obligation goals are achieved. In fact, there seems to be more concern over fully obligating the amount placed on the funding document than there is for the price

being charged for the services, as long as the price does not exceed the amount on the funding document.

Because of the long lead times present in the contracting process and the Congressional restrictions on end of the fiscal year mass obligations, once money is identified and programmed for a task it is essentially spent in the eyes of the Operating Target (OPTAR) holder. To return some of the funds to the customer late in the year only increases his difficulties in obligating it.

In a declining budget atmosphere, if funds are not obligated in one year, the total budget for the following year may be reduced. This "if you did not spend it, you must not have needed it" logic is frequently used among military comptrollers. The military comptroller has limited funds and many activities to support. If one activity does not fully utilize its allotment of funds, it has freed up funds for another activity to use. If the comptroller is being measured by his ability to obligate the funds that he is allotted, then he will probably provide more funds to the activities that have been able to obligate it in the past. Hence, the comptroller is motivated to provide more funds to the activities that obligated the most during the previous year and less funds to the activities that obligated the least during the previous year.

This systemic influence provides little incentive for the preparer of the IGCE, who is aware of the size of the funding document, to closely scrutinize the proposed effort. Rather, it would support the fleet activities' obligation goals if the IGCE was written to completely obligate all of the funds provided, regardless of the cost of the task. As one interviewee commented, if the customer finds that the proposed effort will cost less, they are either ambivalent or they will frequently try to expand the scope of the task rather than recoup any of the funds.

Additionally, since the incumbent contractor is going to receive the task assignment, it seems pointless to the technical person for the contracting branch to quibble about funds that are already available on the funding document, and that the fleet customer hopes will be obligated. This lack of incentive on the customer's part to drive the hardest bargain seems to carry through into the IGCE preparation process, thus providing no incentive to the IGCE preparer to critically examine the proposed effort.

#### **E. FAILURE TO PROPERLY PERFORM COTR DUTIES**

As shown in Chapter III, there are many problems with COTRs performing the tasks that are assigned them by the

contracting officer. The major problems in this area as cited in Chapter III are:

- Issuing orders and modifications after work has been accomplished
- Invoices being certified for payment that contain errors or errors in supporting documents
- Failure to conduct adequate monitoring of the contractor
- Unauthorized discussions with the contractor
- Failure to verify and certify contractor completion of work

Indications of all of these problems were found during field interviews at the ship repair facility site. This section will discuss the reasons and causes for these problems in the context of a ship repair facility.

**1. Issuing Orders and Modifications After Work has been Accomplished**

As the examples in Chapter III demonstrated, it is not uncommon to find during a review of task orders, orders that appear to have been backdated and assigned to the contractor after the work had commenced and sometimes been completed. Usually, these orders are prepared to try and cover up the Government's constructive changes or unauthorized directions to the contractor. There are two underlying causes for this problem: 1) a strong motivation for technical task

accomplishment, and 2) long term contractual relationships with incumbent contractors.

**a. Strong Task Accomplishment Motivation**

NAVSUP Inst 4205.3 requires that persons appointed as COTRs must possess both technical expertise and seniority.[Ref. 4:2] All of the COTRs interviewed were engineers by background, and all of them considered their most important responsibility to be the accomplishment of the various technical tasks for the fleet.[Ref. 27] Also, as the COTRs gained experience and seniority in the ship repair organization they also built an allegiance to the organization's technical support goals.[Ref. 27]

One of the COTRs interviewed commented that, "Most of the COTR tasks were just time consuming paperwork that took time away from the real job at hand... [technical] task accomplishment." [Ref. 27] If these sentiments were shared by many Government engineers who find themselves in the COTR role, then it would explain many of the failures to perform the COTR tasks that have been documented by the Naval Audit Service and other audit agencies. Someone with this background motivation would be reluctant to closely examine the contractor's practices, if those practices did not hinder the accomplishment of the task. Also, it would seem unlikely that an engineer who does not appreciate the importance of the

COTR tasks, would suddenly turn into a diligent and persistent contract administrator.

During the field interviews, evidence of backdated task orders was found by this researcher. The reasons stated were that follow-on contracts were not in place and the tasks needed to be accomplished. However, the technical branch has direct access to contractor personnel and must work diligently to ensure that during meetings and conferences with the contractor, unauthorized directions are not provided or constructive changes are not made that can bind the Government.

Members of the PMR team interviewed, stated that when they find evidence of backdated task orders, it is frequently due to an attempt to adjust the documentation to hide an unauthorized direction or a constructive change. [Ref. 28] The audits presented in Chapter III also supported this conclusion.

***b. Government/Contractor Relationships***

Based on the interviews conducted and observations made during the research for this thesis, this researcher concluded that a major cause of the Government issuing work orders after the work is done is the close and frequent contact between the contractor and Government personnel.

Contractor personnel had a free rein of the technical spaces at the site. There did not appear to be any locations in which they were not allowed. Contractor personnel even played in the ship repair organization's weekly golf league. Many of the contractor's personnel were retired Naval personnel and had many old acquaintances at the ship repair facility.

At no time during the research was any improper or unethical activity observed with regard to contractor personnel. However, the forming of long term contractual relationships which are often in excess of three years, appear to create a feeling of dependency on the contractor to accomplish whatever may arise for the ship repair facility.

Also, as the contractor continues to perform in a satisfactory manner for the Government, a feeling of trust in the contractor's performance develops and is supported by the contractor's continued successful task accomplishment. It is easy to speculate that due to the familiarity of the Government and contractor personnel to each other and their close daily interactions, constructive changes and unauthorized directions could be an ongoing problem.

Additionally, it would appear that if an unauthorized direction or constructive change was made, the contractors would be willing to commence work on a task due to

their long term contractual relationship with the Government. The contractor would be confident that the task would be assigned and the required contract documents completed soon after commencement.

Also, the contractor knows that if the task order was not assigned after they commenced, they would probably have a legitimate claim for an equitable adjustment. The contractor's motivation to commence work despite unauthorized direction is due to their desire to accumulate legitimate billable hours on Cost type contracts, and the desire to provide customer support.

This dependency on the contractor by the technical personnel for task accomplishment and the close working relationships that foster trust and cooperation between the Government and contractor personnel, appear to be the primary causes of issuing delivery orders and modifications after the work has been started or accomplished.

## **2. Invoices Certified for Payment that Contain Errors or Errors in Supporting Documents**

The principal cause for the errors that occur during the processing of invoices is due to insufficient COTR training and workload requirements that limit the amount of time and attention that is spent on processing contractor's invoices.

COTRs and administration personnel both identified the COTR training and workload/time constraints as the significant causes in this problem area. These time and training constraints directly hinder the COTR's ability to properly audit and process the contractor's submitted invoices.

NAVSUP Instruction 4205.3 places the demands and responsibilities of the COTR position on a senior experienced engineer who, due to his experience and seniority normally has a full time job in addition to the COTR duties. At the site studied, the COTR position was a collateral duty. During the research for this thesis, examples of full time COTRs who only do contract administration tasks were found, but these cases appear only where the service contract is so large that the volume of the workload alone creates a nearly impossible task.

*a. COTR Training*

The NAVSUP approved COTR training course discusses the importance of monitoring the contractor's progress and properly processing the contractor's invoices. However, the course provides no functional instruction on how to accomplish these tasks. The COTR frequently must create the methods by which he processes the invoices, based on his interpretation of the regulatory guidance that he has received during his training. [Ref. 24]

One COTR stated that he came back from the course with a clear understanding of the importance of processing the invoices but with no idea how to go about doing it. He had to develop by trial and error his own individual systems for processing invoices. [Ref. 24] The COTRs interviewed all had their own systems to process and review the contractor's invoices and measure the contractor's costs against the contract's cost ceiling. Some of the methods observed were simple and effective, some appeared to be at best, short term attempts at catching up with old work.

The PCO is increasing the frequency of the meetings between the COTRs and the PCO's senior contract administrators which should address the problems of training and the standardization of processing invoices. [Ref. 29]

***b. COTR Workload***

The COTR is required to perform a large variety of tasks to monitor the performance of the contractor in accomplishing the work assigned. These tasks include processing invoices (verifying charges against the contract for allowability, checking labor hours, labor mix, travel, and other direct charges), travel to the contractor's work site to observe the percentage of accomplishment, checking the labor mix of contractor personnel working on a task, examining time

cards to verify charges against a job order, and tracking the delivery of products.

In addition to the COTR tasks which are collateral duties, the COTR's primary assignment is that of an NTR or project engineer. The COTR is also working on other tasks while monitoring the contractor's efforts. Many of the COTRs interviewed are branch or division managers which increases their workload even more.

The additional COTR workload upon the individual will likely force the individual to make some compromises in both his primary technical duties and in his additional contract administration tasks. Interviews with three individuals bore this out. They stated that they felt pressed to perform their primary tasks, and the additional tasks of contract monitoring and administration were done as time permitted.

This results in a less efficient technical administrator and a perfunctory contract administration effort. NAVSUP appears to be aware of this problem; during a discussion with senior NAVSUP officials, they stated that "When we (NAVSUP) started the COTR training program in the early eighties, the people that were designated as COTRs were very resentful of having to perform COTR tasks because it took them away from their engineering duties and increased their

workload". [Ref. 25] However, when asked why COTR duties were not required to be full time positions, they stated there were in fact full time COTRs but that situation was not desirable because, "it removes the COTR from his technical tasks which could limit or dull his technical expertise" [Ref. 25] The NAVSUP officials felt that the overriding concern was to have strong technical support for the contracting officer. This attitude would appear to down play the PCO's inherent desire for effective contract administration.

The collateral duty COTR struggles between the daily requirements of his principal duties as a technical branch engineer, responsible for initiating and managing technical programs and his collateral administrative and oversight responsibilities. This ongoing time management problem seems to directly contribute to the errors found in invoice processing.

### **3. Failure to Conduct Adequate Monitoring of the Contractor**

A ship repair facility is primarily an engineering center that is responsible for technical and engineering efforts that are conducted throughout the country. Hence, the ship repair facility studied was not located where the majority of the work was accomplished (ie. on the ships).

This requires the COTR to travel to the contractor's work site or sites in order to monitor his progress.

These trips must be conducted within the restrictions of time, workload and travel funds. Due to the workload and time constraints, it is common for the COTR to visit a contractor's facility at most once a year. These infrequent visits become less intrusive to the contractor and are more of an overview and task accomplishment oriented review for the COTR. [Ref. 26]

Often it is easier for the COTR to ask the NTR to conduct the floor checks because the NTR usually has more frequent opportunities to interact with the contractor and is able to visit the work site more often. This allows the NTRs who are directly responsible for various tasks and projects to provide feedback and information to the COTR. The intent is for the NTR to monitor the contractor's progress and address quality issues. The COTR is still the sole point of contact for technical issues for a contract, but because of the size and complexity of many service contracts, the NTRs are needed to adequately monitor the completion of the contract. Additionally, the NTR is another set of eyes for the COTR in the areas of task accomplishment and labor mix.

However, there is a potential problem with the NTR monitoring the contractor's work because of the close working

relationships discussed earlier. This familiarity would have a negative impact on his oversight effectiveness. Additionally, the sense of trust that the NTR has developed could prevent him from aggressively challenging items that might arise during a visit to a contractor's work site. Conversely, stringent or diligent oversight would have a negative impact on his technical working relationship which could have possible ramifications on task accomplishment. If the NTR was to aggressively challenge or question contractor practices that were in his area of expertise, he could destroy the working relationships that are critical for his task accomplishment. In light of these potential problems, it is best to not assign an NTR to any oversight or administration duties either formally or informally.

#### **4. Unauthorized Discussions with the Contractor**

As discussed earlier the close professional, personal and long term contractual relationships and the strong technical task accomplishment motivation appear to provide the rationale for discussions about labor hours and labor category estimates with the contractors. Two individuals interviewed indicated that discussions with the contractor regarding the estimated labor hours and labor categories were not uncommon.

Because the COTRs and NTRs are engineers by training and have not received extensive training in contracting

procedures, other than the COTR training course, this practice may appear harmless to them. Also, the practice of discussing the proposed estimate with the contractor may appear to speed the contracting process along. This is due to the fact that not only will it take less time to prepare the estimate, the NTR or COTR will not have to justify the differences between their estimate and the contractor's proposal.

Unfortunately, while this practice may seem helpful to the technical organization in the short run, in the long run it can destroy the Government's contracting relationship with the contractor. The COTR training course does discuss the importance of the independence in the COTR's estimate, but it appears that the real world time and workload constraints have had a negative impact on this process. Also, as discussed earlier, the OPTAR obligation implications may impact these discussions because both the contractor and the NTR/COTR are aware of the dollar value of the funding document and any previous similar estimates.

**5. Failure to Verify and Certify Contractor Completion of Work**

Without verifying the contractor's satisfactory completion of a task, how can the COTR ensure that the charges on the invoice are valid? The major contributing factor to

this problem is the long distances between the COTRs and the contractor's work sites.

The background causes of this problem have already been explored in discussing the previous problem areas. As discussed, earlier the COTRs do not have the time to visit the contractor to verify when work efforts are completed. Also, the problems with the COTR workload and the time constraints that it creates directly impacts the COTRs ability to verify the contractor's work. As discussed earlier, many COTRs appear to have only have enough time to verify and process contractor's invoices. Many COTRs commented that when invoices get backed up, they only spot check certain invoices. Without making a trip to the contractor's work site, it would be hard for a COTR to tell what actions had been completed if he did not know what had been invoiced.

The site studied had developed a tracking system that seemed to be an excellent tool for tracking reports and assessments due from the contractors prior to processing the invoices for payment.[Ref. 10] A similar system at some of the locations cited in Chapter III might have prevented some of the abuses found in those audits.

## **F. SUMMARY**

Chapter III presented a series of problem areas found during the administration of service contracts. This chapter presented an analysis of the underlying causes for these problem areas.

The use of vague Statements of Work is probably the most serious problem because it can affect many different areas of the contract. A vague SOW can be used to procure unauthorized services and materials, facilitate personal service situations, avoid competition, and increase overall administration costs. OFPP has recently provided guidance regarding the correction of this serious problem area. The guidance contained in OFPP Letter 91-2 does not provide any new information but emphasizes the Government's concern over this continuing problem area.

Failing to produce complete and accurate independent Government cost estimates has also been a problem for a long time. There are a number of background causes for these failures, poor COTR training, contractor marketing, and Government/contractor relationships seem to be the major causes of these problems. Government/contractor relationships also seems to be an underlying thread in the background of the COTR's failure to monitor the contractor and to certify when he has completed a task. Also, the workload and time

constraints placed on the COTRs make it difficult for the COTR to properly perform his duties.

Finally, the incentive to achieve task accomplishment on the part of the technical personnel coupled with a displayed disregard for some of the requirements of the contracting process seems to have a major impact on all of these problem areas.

## V. RECOMMENDATIONS AND CONCLUSIONS

### A. INTRODUCTION

This chapter will present the conclusions and recommendations that were drawn from the analysis presented in Chapter III. The research questions will be answered and recommendations for further research will be presented.

### B. CONCLUSIONS

This section will present the conclusions that were drawn from the analysis of the problems presented in Chapter III.

#### 1. Statement of Work Problems

The ship repair facility studied had the following problems: 1) the loss of competitive pressure, 2) uncontrolled cost growth, 3) increased administration costs and 4) the potential for personal services. All of these problems were due to vague statements of work in the service contracts that were being administered.

Chapter III presented a variety of examples of Statements of Work that created additional time and expense problems during the contract administration phase because they were too vague or poorly defined. Chapter IV identified the causes of these problems as a failure on the part of the

contracting organization to fully research the scope of work and aggressively breakout stand-alone tasks and use the best pricing arrangement. Also, there are indications that the technical activities perceive that the contracting activities are rigid and inflexible and thus fail to maintain a cooperative, communicating working relationship. The failure of this relationship directly hinders the planning and liaison that must occur to produce a successful contract.

Additionally, Chapter IV also theorized that the technical organizations were motivated to intentionally write vague and broad SOWs in order to maintain the incumbent contractor relationships and to provide themselves the most flexibility during the period of performance.

## **2. IGCE Preparation Problems**

There are serious problems with the IGCE preparation process at the ship repair facility studied. These problems include: 1) failing to prepare complete unbiased IGCEs, 2) collaborating with contractor personnel and 3) preparing estimates with the intent of obligating all of the available funds.

Chapter III presented examples of the various problems associated with improperly prepared and incomplete IGCEs. Chapter IV described the various motivations of the IGCE preparers and the reasons that they had for conferring with

the contractors and failing to critically review the proposed efforts. The reasons included: 1) trying to obligate all the available funds, 2) failing to compensate for the effects of the contractor's marketing efforts, and 3) relying on a trusting relationship with the contractor to provide impartial information. Additionally, the impact of Government/contractor relationships within the service contract administration process was explored. The sense of trust that is developed with the contractor's continued performance and the dependence that is placed upon the contractor by the technical activity has an enormous impact on the effectiveness and efficiency of the contractual relationship that is maintained by the contractor and the Government.

### **3. Problems with Performing COTR Duties**

At the ship repair facility studied, the following problems with performing COTR functions were identified: 1) failure to monitor the contractor, 2) lax invoice certification, 3) unauthorized involvement in the contracting process, 4) improper relationships with contractor personnel, and 5) failure to verify and certify contractor completion of work.

Chapter III discussed some of the problems that were encountered with COTRs failing to perform their assigned

tasks, such as monitoring the contractor's efforts. Chapter IV explained that the current requirements for senior, experienced technical personnel usually resulted in COTRs that were already quite busy and could only handle the COTR duties on a part-time or collateral basis. Additionally, Chapter IV discussed the possibility that task accomplishment motivations and the trust and dependence that develop towards a contractor during a long term contractual relationship could hinder the necessary diligence required to properly perform the COTR tasks.

Additionally, Chapter IV discussed the impact of the great distances between the actual contractor's work sites and the COTRs offices. These distances greatly hampered the ability of the COTRs to frequently and adequately monitor the contractor's performance and prevented the COTRs from visually certifying the completion of the contractor's assigned tasks.

#### **4. Problems With Contractor Relationships**

This research highlighted the serious problem with the relationships that are formed between Government and contractor representatives. These relationships could destroy the objectivity of the Government representative and undermine the proper arms length relationship between the two.

Improper relationships between Government and contractor's representatives were the underlying cause of many

of the problems presented in this thesis. There is a perception among many technical personnel that the contractor is there to help and that he should be treated as a partner, with common goals and objectives. Little concern is given to the fact that the contractor is a business entity who is being paid to perform the tasks assigned. The arms length relationship that is required to maintain a professional buyer/seller relationship appears to have broken down in the engineering and technical services contracts.

#### **5. Extent of Problem Areas**

The problems presented as conclusions in this thesis are not considered to be "business as usual". Rather, they are occasional or sporadic failures on the part of individuals, due largely to their perceived time or workload constraints.

There are many Government personnel throughout the military who are performing the tasks of the COTR professionally and in accordance with all regulations and guidance. However, some of them choose to utilize some of the unauthorized procedures described in this thesis in order to short cut the process, reduce their workload or gain an advantage for their command. These people are in the minority, but the motivations that cause these problems appear to be widespread. The present system of choosing the COTR and

the assignment of certain tasks can create conflicting goals and potential conflicts of interest.

### C. RECOMMENDATIONS

This section will present three recommendations based on the analysis of the causes of the problem areas and the conclusions presented.

#### 1. Recommendation 1

**The COTR should work within the PCO's chain of command.**

This recommendation is strongly supported by the PCOs interviewed. Currently the COTRs are members of the technical requiring activity. The PCO is not in their chain of command, and has no direct control over their actions. The PCOs cite the difficulties in controlling personnel who physically work for another organization. [Ref. 7]

NAVSUP Instruction 4205.3 requires that the COTR's personnel evaluations state their COTR duties, and that the PCO is able to input information in their evaluations. This is occurring at the site studied, but the result of these requirements appear to be minimal. The COTR's duties appear under "collateral duties" on the evaluation form and not under primary duties, this could be a subtle indication of the lack of importance accorded the COTR duties. Additionally, while

the PCO has the ability to provide input into the COTR's evaluation, his opportunities for review of the COTR's actions are relatively limited, due simply to the different location and reporting chain of the COTR.

Adoption of this recommendation would provide for better contract administration because the COTR's would only monitor the contractor and his assigned tasks, and not spend time managing other programs and doing engineering tasks. The COTR would be motivated to monitor the contractor to ensure the best combination of technical quality at a fair and reasonable price and less likely to consider less diligent monitoring methods that only result in task accomplishment. Also, it would be easier to coordinate a COTR's duties with critical points in the contract when the need for contractor monitoring increases, such as task completion and work inspection. [Ref. 30] Additionally, the reduced workload of non-COTR duties would allow the COTR to visit and inspect contractor work sites and not rely so heavily on invoice certification as the only monitoring tool.

The senior procurement policy personnel interviewed, were against this recommendation because they felt that when the COTR was removed from the technical organization his technical expertise would become dulled over time and he would not maintain currency in his field. Thus, becoming less

effective as both an engineer and as the PCO's technical representative.[Ref. 25] Another concern was that the COTR and the technical organization sometimes acts as a counter balance to ensure that the contractor is not being unduly impacted by an overly rigid contracting process, and that the goal of an effective and efficient procurement is realized.[Ref. 31]

The concern for the COTR's technical expertise is understandable, however, many of the tasks that the career civil service engineer performs on a daily basis have little to do with engineering and more to do with management. The technical expertise of the current COTRs appear to be adequate and this researcher does not feel that changing the COTR's organization would cause him to lose any effectiveness. Also, if flexibility is desired in the contract, it can be incorporated through the use of performance work statements and the correct pricing vehicle. The required performance can not be achieved through selectively applying oversight and control.

It is important to maintain the checks and balances in the contractual process and the dynamic tension between the requirements of the technical organization and regulations of the contracting activity is one effective check. However, to ensure the most effective contract process, there must be more

balance between the roles of the technical and contracting organizations. The current system appears to violate the intent of the separation of duties requirements because the COTR is involved with requirements definition, SOW preparation, IGCE preparation and finally contractor monitoring and verification. If the COTR was removed from the requirements identification process of producing and approving the IGCEs and was placed in the contracting organization, he would be more concerned with quality attainment and contract accomplishment and less concerned with bottom-line task completion.

2. Recommendation 2

**Allow multiple COTRs on each service contract.**

This recommendation should be seriously considered, due to the size of some of the larger omnibus type contracts. The number of delivery orders processed and the variety of tasks makes the requirement for one omniscient and omnipresent COTR very difficult to fill.[Ref. 7] Multiple COTRs would allow for more frequent and more detailed monitoring of the contractor's efforts. This is especially critical if the COTR and the contractor are separated by a long distance.

The regulations mandate that there will only be one COTR as the sole point of contact for all technical issues.[Ref. 4:2] NAVSUP officials maintained that this was

the best way to avoid confusion over technical or contract issues.[Ref. 25] However, some waivers have been granted to have more than one COTR per contract. These waivers have only been granted for large omnibus contracts that had enormous administration requirements.[Ref. 7]

While the communications with the contractor would have to be carefully handled, it is not impossible to set up a team of COTRs that could work together on a contract to ensure that all of the contractual requirements are fulfilled and that all technical issues are resolved. Essentially this is the concept, on a much larger scale of a Plant Representative's Office (PRO). While they perform a wider variety of tasks, they maintain control of many varied efforts and still present one "face" to the contractor during contract administration.

### 3. Recommendation 3

**Split the responsibilities for contract administration between the current technical organization COTR and on-site/area Defense Contract Management Command organization.**

The split of responsibilities would be based on function. The COTR would be responsible for technical quality issues and performance questions. The DCMC activity in the area of the contractor's work-site would be responsible for the administrative monitoring tasks such as time card checks,

floor checks, invoice certification, etc. Many of the COTRs interviewed felt that these tasks were onerous and time consuming and prevented them from effectively performing their primary duty of technical task accomplishment. [Ref. 27] When asked for their opinion regarding this recommendation many of the technical organization personnel felt that another organization should not perform these tasks. They felt that the technical activity was the best activity to perform these tasks because they could maintain the technical activity's requirements for technical quality. [Ref. 27]

The technical activity's concern for good technical quality and performance is genuine. The intent of this recommendation is not to remove the technical organization from the contractor monitoring process, but rather to let DCMC organizations provide an administration function in their specific areas of competence.

The DCMC organization is responsible for providing contract administration and contractor monitoring functions in various contractor plants and work sites. Within the Navy, the monitoring of contractor performance is not unified or extensively controlled. NAVSUP Instruction 4330.7 calls for the PCO to determine the contractor oversight required and to delegate the oversight function in a QA plan prior to awarding the contract. Also, NAVSUP Instruction 4330.7 provides the

PCO guidance to determine if the contract administration function will be retained in-house. This instruction states that for many of the contract types and contractor locations, an outside Contract Administration (CAO) should be established and utilized for contractor monitoring and oversight. This requirement to determine a Contract Administration Office (CAO) outside of the PCO organization seems to be frequently overlooked.

Through a detailed QA plan and a Memorandum of Understanding (MOU), the PCO can arrange DCMC contract administration support. [Ref. 32] The administration service that the PCO will receive will probably be of a higher quality than is available in-house. This is particularly true in situations where the contractor is a great distance from the technical and contracting activities and there are other contracts being monitored within the same contractor's facility.

This recommendation is not without its drawbacks, the methods of communication between the two different organizations must be carefully conceived to ensure that the COTR and the DCMC representatives are not providing the contractor with conflicting guidance. Additionally, the two organizations must consider the administrative requirements that they place on the contractor to ensure that they are not

providing the contractor with the burden of trying to satisfy two different masters. This recommendation may be more difficult to implement, but the improvement in contract administration may outweigh the initial confusion and communication problems.

#### **D. REVIEW OF RESEARCH QUESTIONS**

Based on the discussions included with the conclusions and recommendations, summarized responses will now be provided to the primary and secondary research questions.

##### **1. Primary Research Question.**

What are the principal problems associated with the administration of large engineering support service contracts and how might these problems be overcome in order to improve the contract administration process?

The principal problems identified through an analysis of service contract audits in Chapter III and through extensive field interviews with Government personnel directly involved with all phases of the administration of service contracts are: 1) vague Statements of Work that do not adequately define and direct the contractor's actions, 2) biased and incomplete Government estimates of task or delivery orders, and 3) a general failure by many activities to adequately perform the various COTR duties. Based on the

analysis presented in Chapter IV, recommendations are presented that are intended to motivate the COTR to consider not only the contractor's technical task accomplishment, but also the best value and highest quality for the Government. These recommendations if adopted, would change the COTRs underlying motivations by: 1) placing the COTR under the direction of the PCO so that his workload of non-contract administration duties would be reduced, and the COTR would be more inclined to consider the best combination of cost and quality tradeoffs, 2) reducing the amount of time consuming administrative and travel per COTR, by increasing the number of COTRs per contract, 3) removing the contract administration functions from the COTRs and transferring them to a qualified and experienced contract administration organization. Thus, allowing the COTR to focus purely on the technical quality factors of the contractor's performance.

## **2. Secondary Research Questions.**

a. What are engineering support service contracts and when are they used?

As discussed in Chapter II, engineering support contracts are contractual vehicles that provide for technical and engineering services in support of an activity's technical mission. These contracts can be written to support specific efforts over extended periods of time or they can provide a

variety of efforts in a specific area of expertise. Occasionally, large omnibus types of contracts will be used to provide the total engineering support for an activity, but these should be used infrequently as they are less efficient than multiple separate contracts. The inefficiencies inherent in omnibus type contracts are due to the increased use of subcontractors and the resulting additional costs, ie., program management costs, subcontractor management, etc. Also, omnibus contracts require more direct technical direction from the Government due to their vague SOWs.

b. What principal problems arise during the administration of engineering support service contracts at a ship repair facility?

A ship repair facility experiences the same problems in the administration of its service contracts as any other engineering activity. The three problem areas stated in response to the Principal Research question apply.

c. What methods or techniques can be used to resolve these problems?

The best method of avoiding the problems identified in this thesis is to properly train and indoctrinate the COTRs in the requirements for a formal arms length contracting relationship and then monitor their performance in this area. This will help alleviate the problems present in the service

contract administration arena. Additionally, systemic steps must be taken to reemphasize the importance of both the technical and contracting requirements when preparing for a procurement. Proactive, cooperative planning to prepare a complete and specific Statement of Work must be undertaken by a team made up of technical and contracting individuals. This team must be concerned with not only task accomplishment, but also choosing the correct contracting method to ensure a fair and reasonable price for the Government. To ignore or only pay "lip service" to one or the other group's concerns will destroy the cooperative working relationship that is vital for a successful procurement.

Additionally, the process for preparing the independent Government cost estimates must be analyzed to ensure that the preparer of the IGCE is motivated to provide a complete and unbiased estimate of the costs and technical requirements. Members of the command that receive the benefit of a contracted service do not appear to be the most objective preparers of the IGCEs for those services. An independent person outside of the requiring activity's chain of command could be more objective. Moving the COTR to the PCO's direct control would help overcome the problems with IGCE preparation.

The importance of the COTR position and its duties must be emphasized. By making the COTR position a principal duty and removing other functions that take time away from the COTR functions and sometimes run counter to the COTR's objectives, the COTRs critical functions will be reemphasized.

#### **E. AREAS OF FURTHER RESEARCH**

The scope of this research examined problems that occur throughout the Government engineering and technical service contracting arena. Attention was focused on the existence and causes of these problems at a ship repair facility. A possible area of study would be to compare a technical activity that uses omnibus type contracts for support to another technical activity that uses more contracts with smaller scopes of effort to accomplish the support goal. A comparison of the problems encountered would quantify the inefficiencies inherent in the omnibus type contracts.

## APPENDIX A: INTERVIEW QUESTIONS

1. Senior contract administrators and Contracting Officers:
  - a. Do the different organizational chains of command create conflict and communication problems?
  - b. How do the different organizational chains of command interfere with your responsibility to monitor the proper administration of service contracts?
  - c. What procedures and practices have you implemented to overcome problems with service contract administration?
  
2. Ordering Officers and field administrators:
  - a. What are the major problems that you encounter from the ordering activities?
  - b. Is there a conflict between the requirements of the requiring activity which is your parent command and the contracting activity under whose contractual authority you operate?
  - c. Do the NTR's do an adequate job of preparing independent cost estimates? How does this impact the administration process?
  - d. Do you have difficulty determining if tasks fall under specific Statements of Work?

e. What procedures and practices have you implemented to overcome problems with service contract administration?

3. Navy Technical Representatives (NTR) and Contracting Officer's Technical Representatives (COTR):

a. What major problems have you encountered during the administration of engineering service contracts?

b. What techniques and procedures do you use to prepare and produce independent cost estimates?

c. How much input do you feel that you have into the selection process for service support contractors?

d. What improvements would you like to see that would make service contract administration better?

e. How have the procedures and practices of the contracting and ordering officers helped or hindered your job of administration?

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