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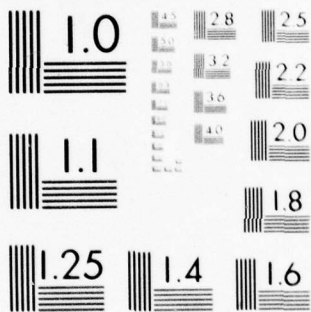
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SHIPBOARD OPTAR MANAGEMENT:
AN INVESTIGATION OF LINE OFFICER
BUDGET FORMULATION AND EXECUTION
PRACTICES

by

Robert J. Shade

June 1979

Thesis Advisor:

J. D. Horton

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Shipboard OPTAR Management:
An Investigation of Line Officer
Budget Formulation and Execution
Practices

by

Robert J. Shade
Lieutenant Commander, United States Navy
B.A., University of North Carolina, 1968

Submitted in partial fulfillment of the
requirements for a degree of

MASTER OF SCIENCE IN MANAGEMENT

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ABSTRACT

This study identified and evaluated practices used by line officers engaged in the management of shipboard Operations and Maintenance, Navy (O&MN) funds aboard ships of the Atlantic and Pacific Fleet surface forces. As a preliminary action, the flow of O&MN funds to ships and the guidance provided by surface force commanders to their subordinates were discussed. The investigation determined what alternative policies were available to commanding officers and department heads for budget formulation and budget execution, which policies were actually implemented, and which policies were the most advantageous. Additionally, research was conducted to ascertain whether Navy training for surface warfare officers adequately prepared them for the level of financial management performed aboard ship.

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I. INTRODUCTION

It is probably safe to say that if you asked a civilian or a naval officer to list the functions which the commanding officer of a warship performs, financial management would not be included in his response. Moreover, if financial management were included in his response, it would certainly be added as an afterthought. However, the commanding officer of every U.S. Navy ship is responsible for managing a budget which may range in size from over a million dollars for the largest vessels to \$60,000 for the smallest. A medium sized ship, such as a guided missile destroyer, has a budget of over \$450,000.

The role of the shipboard budget (called an Operating Target, or OPTAR) is similar in some, but not all, respects to an operating budget in a civilian non-profit organization or government agency. Ship OPTAR funds do not pay for a number of major ship requirements, such as crew salaries, fuel for the engines, or ammunition, while operating budget funds of most non-profit organizations (and profit oriented organizations) pay for virtually everything required for daily operations. The ship OPTAR does pay for many items which are essential to both normal operations and emergency operations, such as seamanship equipment, preservation and cleaning supplies, maintenance parts for the ship's machinery and electronics, foul weather clothing, damage control equipment, crew habitability items, and administrative supplies. Thus, while the OPTAR budget of a ship is not the sole fund source for all undertakings it

plays a major role in providing the material required to support all activities. Further, although the proper management of the OPTAR budget will not alone ensure that a ship is ready when required to carry out its assigned mission, the improper management of the budget over a period of time will degrade readiness. The implication of the foregoing is that the commanding officer must integrate the use of his OPTAR into his management plans to achieve readiness objectives.

While OPTAR funds have always played an important role in support of ship maintenance, the scope of this role has been expanded in recent years. OPTAR has traditionally funded material required to correct casualties to machinery and electronic equipment aboard ship, while equipment overhauls have generally been funded from other sources and accomplished by activities such as tenders and shipyards. However, a program initiated in 1976 has shifted the responsibility for a portion of the total machinery/electronics overhaul workload to ships' personnel, and has provided additional OPTAR funds to ships for this purpose. This action has increased the importance of a viable management plan for the utilization of maintenance related OPTAR funds.

As noted earlier, the commanding officer is the individual the Navy holds responsible for ensuring that OPTAR funds are used effectively. While on most ships a Naval Supply Corps officer is assigned to advise and assist him in the administration of the OPTAR budget, the commanding officer actually formulates the policies which will guide his subordinates in the development of a budget and the execution of that budget. The subordinates who

are principally responsible to the commanding officer for the utilization of OPTAR funds are the department heads. Thus the captain and the department heads are the line managers of the shipboard financial management structure, while the supply officer is a staff officer corresponding to the comptroller of most other organizations.

In view of the importance of the OPTAR budget to ship readiness, and the role played by Navy surface warfare officers in managing OPTAR funds, the author considered that an investigation of the management practices used by shipboard officers possessed merit as a research topic. The objective of the investigation was to determine what alternative policies were available to commanding officers and department heads for OPTAR budget formulation and budget execution, which policies were actually being implemented, and which policies were the most advantageous. In order to attain this objective, it was necessary to conduct background research into the source of funds for shipboard OPTAR, the legal responsibilities of naval officers under U.S. Code (as applicable to financial affairs), and the regulations and guidance which are provided to commanding officers of ships by their superiors in the chain of command.

A second major objective of the investigation was to ascertain whether Navy training for surface warfare officers adequately prepared them for the level of financial management performed aboard ship.

Since OPTAR management has not been the focus of scholarly research, few published sources of relevant information exist.

There exists, of course, considerable material in the area of general financial management, budgeting, and budget execution as related to profit oriented organizations. There exists also a smaller body of literature concerned with financial management in non-profit organizations. While these sources were consulted, the author was required to obtain most of his information on shipboard practices from three sources within the Navy. The first of these sources consisted of directives, regulations, and manuals issued by various headquarters in the chain of command for surface ships. The second source of information was a series of interviews with officers involved in OPTAR management and surface warfare officer training programs. The third source was research conducted at the headquarters of the Commander, Naval Surface Force, U.S. Pacific Fleet, where the author was permitted to review the financial plans submitted by the commanding officers of over 150 ships.

This presentation consists of six chapters. The first two chapters provide background information designed to describe the source of OPTAR funding, recent developments in OPTAR funding levels, and the regulations which have been established by higher authority to guide commanding officers in managing OPTAR funds. The third chapter is concerned with practices utilized by commanding officers in budget formulation and budget execution, while the fourth chapter deals with the same topics at the department head level. The fifth chapter focuses on financial management training for surface warfare officers. The final chapter summarizes the conclusions reached from this research.

II. SHIPBOARD OPTAR FUNDS:
SOURCE, LEGAL ASPECTS, AND
GENERAL TYPE COMMANDER FUNCTIONS

Each year, the commanding officer of every commissioned ship receives authority to obligate a portion of the total funds established by Congress for support of the Navy during that year. The traditional title for this ship-controlled fund is OPTAR, which is an abbreviation for the phrase Operating Target. The purpose of this chapter is to provide a description of the source of these funds, the path by which they are channeled to the ship, their intended use aboard ship, certain broad legal aspects concerning their expenditure and control, and the overall role played by the immediate superiors of a ship's commanding officer.

A. OPTAR DESCRIPTION, SOURCE, FUNDS FLOW SYSTEM

1. Description

OPTAR money is one category of the funds used to support the operation and maintenance of ships. In fact, it is a relatively small variable in the funding equation for the total yearly operation of any single ship. It is granted to the ship's commanding officer to enable the purchase of items which are critical to the well being and effectiveness of both the ship and its crew. In terms of the ship itself, OPTAR funds many of the repair parts for corrective maintenance performed by the crew (as opposed to corrective action by industrial activities such as yards and tenders), virtually all of the maintenance consumables used for preventive maintenance, and numerous survival/safety

items such as portable damage control and fire fighting fittings. Items which are essential to crew support, such as mattresses, medical supplies, and sanitary cleaning supplies, are supported by OPTAR funding. Office supplies, paper, duplicating machinery (rental) and other necessary administrative consumables are also funded from this source.

In the larger context, OPTAR funds are one segment of the annual funds appropriated by Congress for the "Operation and Maintenance" of the armed forces. This appropriation, in essence, represents resources used to fund the operation of hardware and bases and to pay civilians, as opposed to funds appropriated for capital acquisitions (ships/aircraft), or to pay for military manpower. The Navy's part of this appropriation is called "Operations and Maintenance, Navy" or O&MN, which is further subdivided into numerous allocations to finance diverse operational requirements [1,130]. One allocation funds ship repairs and overhauls, another aircraft rework, and others provide for operating shore bases. Thus the funds which eventually become OPTAR at the ship level constitute a fraction of the O&MN appropriation (the specific allocation is known as the "Supplies and Equipage" account, or simply "S&E").

2. Funds Flow to Ships: Recent History

The channeling of O&MN funds to ships is a complex process which has, within the recent past, undergone fundamental changes. Until 1968, O&MN funds associated with ships were controlled by the Bureau of Ships and its successor, the Naval Ships Systems Command. This reflected the U.S. Navy's unique organizational

structure. Under that structure, the Navy's operating forces (fleets, ships, aircraft squadrons) reported to the Chief of Naval Operations (CNO), who was and still is primarily responsible for operational matters to the Secretary of the Navy (SECNAV). The leaders of the technical support and logistics organization of the Navy reported directly to SECNAV, and were independent of the CNO. Known collectively as the "Shore Establishment", the principal agencies in this branch of the Navy were the Bureaus and the local fleet support bases such as shipyards, aircraft rework facilities, and supply centers, the commanding officers of which reported to the heads of specific bureaus for guidance and funding. Each bureau chief was responsible for specialized technical matters (i.e., Bureau of Ships, Bureau of Ordinance, and so forth). A critical point was that operating units had a dual chain of command -- to CNO via intermediate echelons for operation, and to the bureau chiefs in their particular area of jurisdiction. As a logical part of this relationship, the Bureau of Ships, rather than CNO, controlled the OPTAR (and other O&MN funds) allocated to ships. Operating force echelons (such as type commanders) acted as intermediaries in channeling O&MN funds to ships, and had an advisory function to BUSHIPS regarding the amount of OPTAR funds allocated to each ship [2,17].

During the period 1966-1968, the dual organization of the Navy with regard to operations, maintenance, and funds flow was replaced with a single chain of command. First, the Bureaus were replaced by the "systems commands", whose heads were directly responsible to the Chief of Naval Materiel (CNM), instead of to

SECNAV. CNM in turn, reported to the CNO for guidance. This reorganization occurred in 1966 [1,27]. A concurrent program, which affected the entire Department of Defense (DoD), was Project PRIME. This initiative was aimed at developing a management system which would give activity and unit managers more complete control of all of their resources and at the same time permit full recognition, accounting, and reporting of all resources used in carrying out operations, as distinguished from capital investment. One essential element of this program was the flow of virtually all O&MN funds down the operational chain of command from CNO, with each echelon exercising appropriate control and supervisory functions. This overall scheme of funds flow and accounting began in 1968, and is called the Resource Management System (RMS) [1,45-47].

3. RMS Funds Flow

The process of funds flow begins when Congress approves a fiscal year Defense Appropriations Bill and it is signed by the President. Under current law this bill should be signed prior to the commencement of the Fiscal Year on 1 October, but it may occur considerably later if Congress delays action on the budget or there is veto by the President. In such a situation, Congress initiates and the President signs a Continuing Resolution to allow interim spending by DoD activities at the previous year's level [3, D-2].

The appropriation act is implemented by the Department of the Treasury, which issues an appropriation warrant to the Comptroller of the Navy (NAVCOMPT) via the Secretary of the Navy

(SECNAV). Prior to distribution, the O&MN appropriation (like all others) must be apportioned by the Office of Management and Budget (OMB). The apportionment process is discussed in the next section of this chapter. Following apportionment, authorizations to incur obligations and make expenditures against the appropriation are granted to the various administrative levels as follows: from OMB through Secretary of Defense to SECNAV (represented by NAVCOMPT); from SECNAV to CNO. Subsequently the CNO Fiscal Management Division (OP-92) issues operating budgets to all major claimants. Major claimants are officers, systems commands, or operational commanders designated as an administering office under the O&MN appropriation. The major claimants for funds destined to become ship OPTAR are the major fleet commanders-in-chief, CINCLANTFLT and CINCPACFLT. The fleet commanders-in-chief then grant expense limitations to the next echelon in their chain of command, the type commanders.

For most surface ships, the type commanders are Commander Naval Surface Force, Atlantic and Commander Naval Surface Force, Pacific. Under RMS, the type commanders are Expense Limitation Holders. The surface type commanders have a principal role in the management of O&MN funds affecting ships. In fact, most O&MN funds are centrally managed at the type commander level. Included in these funds are repair funds for Shore Intermediate Maintenance Activities (IMA) and tender based IMA's, the type commander contribution for overhaul funding at shipyards, and type commander sponsored military temporary travel [1, 136]. The money allocated to ships for OPTAR thus represents a relatively minor part of the

type commander's total O&MN authority. The amount of OPTAR for each ship is established at type commander headquarters by staff financial management officers and is communicated to the ships by message or notice, usually just prior to the start of the fiscal year.

It should be noted that the chain of command concept of funds flow and supervision is not followed below the type commander level, for the two echelons of command between the type commander and the ship play only a minor role in the OPTAR affairs of their units. Funds go directly to OPTAR holders from the force commander, and the control reports filed by ships go directly back to his staff. The intermediate echelon Group and Squadron Commanders are considered to be "indirectly responsible" for management of funds aboard ships in their units, and in most cases they become involved only in situations where management problems arise or special circumstances dictate their intercession [4, 2-1/5, 2-1].

B. LEGAL ASPECTS OF FUND MANAGEMENT

1. Restrictions on Spending

There are numerous legal restrictions on the expenditure of funds within the government sector with which all Navy officers should be familiar. On a unit basis, the most critical are those associated with Sections 3678 and 3679 of the Revised Statutes of the U.S. Code (31 USC 628 and 31 USC 665, respectively).

Section 3678 states that, "...sums appropriated for the various branches of expenditures...shall be applied solely to the objects for which they are respectively made, and for no others."

This means that money appropriated by Congress for one purpose cannot be used for another. For example, O&MN money cannot be used for major procurement, such as the purchase of a new ship (ships are acquired under the Shipbuilding and Conversion, Navy, or SCN appropriation).

Section 3679 specifies that it is illegal to expend more money for a specific purpose than has been appropriated by Congress. Violation of this law must be reported to the President by letter via the chain of command, and conviction of being responsible for exceeding appropriation authority can result in a jail term for the offending officer. It should be noted that Section 3679 responsibility is not associated with the OPTAR and therefore does not extend down to the ship level. The type commanders, as holders of expense limitations issue operating budgets to themselves from which they issue OPTARs to ships. As an operating budget holder the type commander is considered a responsibility center under the government accounting system (a responsibility center is the lowest entity under RMS having full control of resources and liability under Section 3679). They must ensure that their expenditures are not in excess of the amount granted in order to avoid a violation of Section 3679. To do this, they must ensure that subordinate ship commanders do not exceed the OPTAR granted to them. (For accounting purposes, ships are designated as cost centers under the responsibility center. A cost center is a device for collecting and reporting integral costs of a responsibility center.) Therefore, while a ship's commanding officer is not liable under the provisions of Section

3679 if he overspends his OPTAR, he is accountable under normal rules of discipline to his superior [5, 2-2].

It should also be noted that a ship's commanding officer is in violation of Section 3678 of the revised statutes if he spends money from one appropriation for an item which legally should be purchased under the authority of another. A frequent case is the use of OPTAR (O&MN) to buy equipment of over \$1000 value, which legally must be purchased only under the appropriation Other Procurement, Navy (OPN). A section 3678 violation must be reported via the chain of command, and a ship's commanding officer who misappropriates funds can be held responsible by his superior.

2. Apportionment

The apportionment process, mentioned briefly earlier, has considerable impact on the spending pattern of all government agencies, including the Navy. The original intent of the apportionment system, first mandated by Congress in 1870, was to ensure a relatively even outflow of funds throughout the year. This continues to be an important function, because of national debt funding considerations. Currently, the major intent of apportionment is control of funds in order to avoid a Section 3679 violation. After annual appropriations have been approved by Congress and the President, OMB divides the total into quarterly amounts. No agency may spend more than the amount established for each quarter, and doing so is a violation of Section 3679. The amounts specified in each quarter are not necessarily the same. This system, of course, is the reason that the OPTAR of fleet units is received in quarterly segments.

The apportionment process has, over the period since the end of World War II, been expanded in scope to encompass more management functions than merely control of the rate of expenditure. Apportionments are also used by OMB as a tool to establish funding reserves and conduct program reviews with the objective of saving money. An implication of this broadened scope is that apportionment may now apply to certain "contractual obligations" which OMB may be interested in monitoring, such as major weapons system acquisition contracts.

C. GENERAL ASPECTS OF TYPE COMMANDER OPTAR MANAGEMENT

In addition to legal responsibilities under Sections 3678/3679, type commander responsibilities for administering funds include equitably evaluating requirements and distributing funds to ships in a responsive manner, effectively monitoring the management and utilization of funds by subordinate cost centers, and preparing justification to higher authority when additional funds are required. Specifically, this entails the centralized coordination of systems for budgeting, financial planning, analysis of obligations and expenditures, and cost accounting at each level.

In the performance of these duties, type commanders must perform several general functions which impact on the flow of OPTAR funds to ships and which significantly impact on the manner in which ship personnel utilize and account for OPTAR. The fundamental action is the establishment each year of a planned OPTAR amount for each ship. Once yearly totals are established, decisions

must be made regarding the size of quarterly grants in order that the requirements of apportionment are met. Closely tied to the responsibility to channel funds to the ships is that of accounting for the expenditures over the year: To this end type commanders establish ship reporting requirements which both satisfy their need to make reports to the major claimant and meet internal control requirements.

One aspect of the control function is the establishment of type commander policies regarding internal division of funds granted to ships. For example, it is a normal policy to specify that a percentage of total OPTAR be dedicated to repair part needs and not be used for other purposes. Such an administrative division of funds is called fencing, which is often resorted to for high visibility programs as an aid to ensuring proper utilization of resources at the shipboard level.

These policies and other guidance are promulgated primarily through printed directives, specifically as part of the Force Supply Manual in both NAVSURFLANT and NAVSURFPAC. Each type commander dedicates a full chapter and several appendices to financial management topics. Specific aspects of current type commander financial guidance are discussed in the next two chapters.

III. TYPE COMMANDER FUNDING ACTIONS, BUDGETING GUIDANCE, AND CONTROL REQUIREMENTS

This chapter describes the general environment established by administrative type commanders in which shipboard financial managers operate. The major guidance for ship OPTAR management is contained in COMNAVSURFLANTINST 4400.1A, Surface Force Supply Procedure, and COMNAVSURFPACINST 4400.1B, Force Supply Manual. In each reference a full chapter is dedicated to financial management, with ship OPTAR management occupying a significant portion of that chapter. The policies and regulations are generally similar, but each type commander has evolved requirements which reflect differences in emphasis or operational experience. Since these differences are the exception rather than the rule, the content of the two manuals is sufficiently similar to be discussed in general terms, if important deviations are noted when occurring.

A detailed discussion of all articles in the type commander regulations concerning shipboard OPTAR management is beyond the scope of this study, and would in any case merely represent a duplication of effort. This chapter, in keeping with the goals expressed in the preface, has been devoted to those aspects of type commander policies and regulations which deal with funds flow to the ship, responsibilities of key shipboard personnel, budgeting of OPTAR funds, budget execution, and reporting procedures. The references for this chapter, except where noted, are type commander regulations. Additionally, certain recent

developments in surface force organization and ship funding programs are presented as background information since they have had a significant impact on the size of OPTAR grants and management practices.

A. FUNDING PROCEDURES

1. OPTAR Grant Procedures

Prior to the start of each fiscal year, the type commanders promulgate a message to each ship establishing its OPTAR grant for the year in quarterly apportionments. The normal procedure is to establish a standard amount for each class of ships within the force. For example, the FY1979 grant to FF1052/1078 class frigates in NAVSURFPAC was \$288,000 in quarterly amounts of \$72,000.

The amount of OPTAR a ship class receives relative to others in the force is determined by a number of factors. The most important of these are the complexity of the weapons/electronics installation, the size of the ship, the size of the crew, the type of propulsion plant, and the range of operations. The size of the weapon/electronics installation aboard a ship is probably the most significant of these factors, because the cost of parts replacement rises rapidly as the amount and sophistication of the electronics installation increases. Thus virtually all combatants utilize considerably greater amounts of OPTAR for maintenance and support of electronics than do amphibious or logistics support ships. The type of propulsion plant also has a significant effect on the relative size of the OPTAR grant. A

two shaft destroyer obviously will require more consumables, maintenance, and repair items than a single shaft frigate. The requirements of a two shaft LST, with a diesel propulsion plant, will be quite different from the two shaft destroyer with a steam plant. Manning level also has a significant impact on OPTAR needs. A larger crew requires more mattresses, toilet articles, safety clothing, and so forth, which must be replaced on a regular basis. The size of the ship has an impact on the amount of cleaning and preservation consumables which must be purchased. Ship employment patterns have a very critical impact on OPTAR spending of almost every category. In engineering for example, lube oil utilization is directly proportional to the underway time of the ship. This is even more pronounced with diesel powered ships than with steam ships. The lube oil requirements of a four diesel ship engaged in local operations only, such as a Naval Reserve Force minesweeper, are considerably less than the requirements of a four diesel ship such as a fleet ocean tug or salvage ship which deploys regularly. Likewise, a ship which spends most of its time inport (such as a tender) has a lower expenditure rate for personnel related OPTAR items than a deployer with all personnel living aboard [6].

With these factors in mind, type commanders establish a relative funding level for a class of ship when it initially joins the force. From then on, the yearly amount granted to a ship is based on the initial level, plus an increase for inflation, if the type commander receives sufficient funds to do so. OPTAR increases have averaged 7% for NAVSURFLANT ships in recent years [6].

In NAVSURFPAC, the average increase for Fiscal Year 1978 was 13%, but there was no increase for Fiscal Year 1979 [7]. The relative size of the grant will change dramatically only if a major modification to the ship's configuration takes place or a revision in funding emphasis occurs. If, for example, a ship were to undergo a major conversion which added a new weapons system requiring additional maintenance support and thus additional money, it would receive a revised OPTAR grant to reflect the changes. A specific example is the difference between an all gun DD931 class ship, which received an OPTAR of \$352,000 for FY1979 in NAVSURFPAC, and a missile equipped DD931, which received \$444,000 [7]. Additionally, the type commander reviews the ability of each class of ship to live within its OPTAR over the long term. If it becomes obvious that the funding level is too low for a specific class, upward adjustments must be made.

2. OPTAR Increases

Under normal circumstances, type commanders expect that a ship will not require an increase in its OPTAR during the course of a year. There are occasions when the type commander considers that an increase to either a ship's quarterly OPTAR grant or overall OPTAR grant is justified. There are two methods by which this is accomplished. The first is by an advance (NAVSURFLANT) or loan (NAVSURFPAC). In this case, money from a future quarter or quarters is authorized to be obligated in the current quarter, with the result that funding in the future quarters is reduced by the amount necessary to repay the advance/loan. Obviously, the ship's total grant for the year remains the same. The second

method is an augmentation, which represents an increase in the year's total grant. As would be expected, the type commanders have established precise guidelines regarding the circumstances which justify either type of increase and the procedures for requesting increases.

An advance/loan is usually granted to correct imbalances which may be caused by normal operational schedules, or to take advantage of special opportunities to use additional funds more effectively at the present time than in the future. An example of the former case would be a ship which was scheduled to deploy at the end of the first quarter for the next two quarters. In this situation, advances from those two quarters would be drawn to increase stock of consumables not readily available in the deployment area. The second case is demonstrated by a yearly lease for copying equipment which is arranged to achieve better rates than if the contract were let on a quarterly basis. Thus, a loan or advance is considered a normal management tool for effectively using the OPTAR granted to a ship.

Unlike an advance/loan, an augmentation results from a situation which is not normal and could not reasonably have been foreseen. It does not constitute a regular management option for the individual commanding officer. The type commanders consider that the following categories of circumstances constitute grounds for favorable consideration of an augmentation:

- a. Disasters, such as fires or flooding, resulting in the requirement to replace large quantities of OPTAR funded items such as damage control equipment or bedding.

b. Special or emergency operations outside the normal employment pattern, such as salvage operations or crisis deployment.

c. Exceptionally expensive individual repair part purchases which are mandatory and which will deplete the ship's OPTAR to a level at which normal parts support can no longer be maintained.

If a commanding officer believes his situation meets any of these criteria, he must perform several management actions preparatory to actually requesting an augmentation. The first of these is to assess accurately his current OPTAR balance. The second step is to review OPTAR records and cancel unneeded or low priority requisitions; this will release funds within the supply system which will be returned to the type commander for reprogramming. Having taken these actions, the final step prior to requesting an augmentation is to determine, as precisely as possible, how much additional funding is required and the specific item or items for which it will be spent.

Both type commanders have developed message formats for submission of augmentation requests. These formats require precise documentation of the reason for the request, the ship's current OPTAR status, reprogramming actions taken, a detailed listing of the items needed, and the amount requested. The format for loan requests is basically similar to that for augmentation requests, except that the projected utilization of the requested money can be stated more generally and actions to allow reprogramming are not required.

Beyond advances/loans, and augmentations for unforeseen circumstances, a special category of augmentation exists for

very restricted purposes. One example of this is Charter and Hire Costs. These consist of certain expenses incidental to port visits, including pilotage, tug assistance, garbage removal, and the like. Additionally, certain expenses associated with support of an embarked helicopter detachment are included in this category. These types of augmentation essentially constitute a reimbursement for extra expenses incurred, and do not change the amount of discretionary funding available to the commanding officer, even though the total OPTAR expended by the ship is increased.

B. FENCING AND OTHER FUNDS CONTROL TOOLS USED BY TYPE COMMANDERS

1. Fencing

As mentioned in Chapter One, on certain occasions type commanders resort to the administrative partitioning of OPTAR funds granted to ships, a process called fencing. Under this process a certain amount of the funds granted to a ship can be spent only for a specific purpose. One fence which both type commanders establish for all active fleet ships under their control is between funds spent for repair and non-repair purposes. In NAVSURFLANT, the two categories are known as "Repair Parts" and "Consumables". In NAVSURFPAC, they are called "Repair Parts" and "Other". The fencing of "Repair Parts" funds is specified in the Annual Funding Message which details the OPTAR grants.

The major purpose of fencing is to assure that an adequate amount of money is reserved for each ship to fund the repair and corrective maintenance of equipment. The type commanders feel

that their broad perspective and analysis of consumption data give them the tools to make the decision regarding how much should be specifically identified for repair parts. It should be noted that this fence is a one way barrier; ships can spend more on repair parts than the type commander identifies for that use (as long as the total OPTAR grant is not exceeded) but cannot spend more on Other/Consumable items than the type commander identifies for that purpose.

Since fencing is a discretionary tool of the type commander, its use has varied over time and with changes in the philosophy of those controlling the funds. For example, in the early 1970's, some Atlantic Fleet type commanders allowed commanding officers to make the decision regarding how much money should be reserved for repair parts. In one force, the commanding officer could use the money at his discretion, as long as he had a valid financial plan. In a second force, the commanding officer was required to place his own fence between repair parts and consumables, and to report to the type commander how much had been placed in each category; he could then transfer money from the repair parts category to consumables only after notifying the type commander. The operative philosophy for these systems was that the commanding officer should have full control of his resources, and could make better decisions about how to use his OPTAR grant due to his closeness to the problem.¹

¹This paragraph based on the experience of the author as a department head and ship commanding officer in the Atlantic Fleet during the period May 1971 - July 1975.

The value of flexibility between the repair parts and consumable categories is tacitly acknowledged by the fact that the OPTAR grants to Naval Reserve Force (NRF) ships are not fenced. This is because they receive substantially less funding than their active fleet counterparts, and must be able to use funds as necessary to meet contingencies in either category as they occur. (For example, in the last year that Gearing class destroyers were in NAVAURFPAC as "active" units, they received \$232,000 per year. In that same year, the Gearing class ships which were NRF units received only \$160,000 [7].)

2. Type Commander Priorities

Aside from fencing, type commanders influence the use of OPTAR funds by directing that certain priorities be established. The chief example of this is the guidance provided by both type commanders that medical and dental needs must receive top priority within the consumable/other category of OPTAR. This priority is enforced by including a statement in regulations that the need for additional purchase of medical/dental items cannot be used as justification for a loan or augmentation.

C. RECENT DEVELOPMENTS AFFECTING THE SIZE OF OPTAR GRANTS TO SHIPS

Two major events that have altered the general environment of OPTAR funding in the last several years should be mentioned prior to beginning a discussion of type commander budgeting and control requirements for ships. These events are the consolidation of the surface type commander staffs and the Equipment Maintenance Related Material Program.

1. Consolidation of Type Commander Staffs

In 1975, as a result of the reduction in the number of ships in the Navy, and the desire to enhance and standardize the management of those remaining, the three surface ship type commander staffs in each fleet (Cruiser-Destroyer, Amphibious, Service) were merged into a single surface force commander staff for each fleet. Additionally, the surface ship elements of the Mine Warfare Command were included under the administrative control of the new surface type commanders. This reorganization reflected a desire to recognize the surface warfare community as a single entity rather than as a collection of splinter groups.

Some impact on OPTAR funding resulted from this consolidation. COMNAVSURFLANT perceived that Atlantic Fleet amphibious and logistic support ships had been historically under-funded in relation to cruisers and destroyers. Since the consolidation, COMNAVSURFLANT has followed the policy of bringing non-combatant ships to relative parity by increasing their OPTAR grants at a rate of 10% a year, as opposed to 5-7% a year for combatants [6]. COMNAVSURFPAC has followed a slightly different philosophy. After a review period, which was used to assess the requirements of each class versus the total amount of money expected to be available for OPTAR purposes, those adjustments in OPTAR levels which were considered necessary were effected during FY1976/FY1977 [8].

2. The Equipment Maintenance Related Material Program

At the same time that the consolidation of the surface forces was taking place, events in Washington led to increased OPTAR funding for surface ships. The Secretary of Defense (SECDEF)

noted in an Amended Program Decision Memorandum (APDM) of 1975 that Navy organizational level maintenance capacity (that is, repair and maintenance carried out by ship's personnel) had historically been under-utilized because of a lack of associated OPTAR funds for repair parts and consumables for equipment maintenance. In the APDM the SECDEF also stated the perception that this situation had resulted in unready equipment, unexecuted preventive maintenance, and inappropriate work loading and expenditures at the intermediate and depot maintenance levels (tenders and shipyards). His conclusion was that increased OPTAR funding might take advantage of the large personnel investment onboard ships and provide a good return in improved fleet readiness [9]. In consequence, a test of this concept was inaugurated aboard selected ships of the Atlantic and Pacific fleets in the Fall of 1975. Designated the Equipment Maintenance Related Material (EMRM) Program, its specific objectives were to determine if additional funds would increase the quality and quantity of maintenance actions, and to determine how much money ships would spend for maintenance if they were totally unconstrained in repair part funding [10].

This program was continued in FY1977 and expanded to virtually all surface ships. Results of the program were reported by CINCPACFLT as follows in 1978:

a. Increased funding encouraged fleet maintenance personnel to devote a greater number of hours to preventative and corrective maintenance. After 1½ years of EMRM funding, shipboard maintenance manhours increased 18% from the pre-EMRM period.

b. The consumption of shipboard maintenance related materiel dollars increased by a factor of two to three compared to the period prior to the availability of EMRM funds.

c. Based on Naval Force Status (NAVFORSTST) ratings and Casualty Report submissions, improvements in shipboard readiness trends closely reflected the increase in maintenance spending. The readiness of pilot ships in the original program jumped 23% over the test period [10].

The EMRM program was cancelled at the end of FY1978 as a separate, ongoing project. It had served the purpose of demonstrating that ships could effectively use increased OPTAR funding to enhance their readiness, and it led to continued funding of repair part OPTAR at a level far exceeding the pre-EMRM period. It should be noted that the type commander policy of fencing repair part OPTAR helps to maintain the visibility of the additional funding and ensure that ships continue to utilize it exclusively for increased maintenance and repair actions. The increased funding of recent years has also led to less willingness on the part of type commanders to grant augmentations except for specific high cost, operationally essential repair parts.

D. TYPE COMMANDER GUIDANCE REGARDING FINANCIAL PLANNING

1. Requirement for a Financial Management Plan

Once the size of a ship's OPTAR has been determined by the type commander, it is the commanding officer's responsibility to utilize the OPTAR in an effective manner. Both type commanders consider that viable financial planning is an essential tool for the optimum use of OPTAR funds, and their regulations require that

each commanding officer develop an annual financial management plan. COMNAVSURFPAC takes this policy a step further by requiring each ship to submit an information copy of the plan to his comptroller. The philosophy behind this requirement is twofold. First, it ensures that the ships in fact establish a financial plan. Secondly, the knowledge that the plan will be reviewed at a higher level promotes more interest by shipboard officers in developing a well conceived and workable plan [8].

2. Preparation of Financial Management Plan

The type commanders provide considerable guidance to commanding officers regarding the formulation of an effective financial plan. While their guidance differs somewhat on specific aspects of the plan's contents, both type commanders emphasize the importance of the following general principles of budget preparation:

- a. The plan must be keyed to the ship's projected operating schedule and the OPTAR promulgated by the type commander.
- b. The formulation of the plan should be an interactive process involving the commanding officer, the supply officer in his role as the commanding officer's chief financial representative, and the line department heads.
- c. Requirements should be prioritized both on a departmental and on a shipwide basis. Each department should be allocated a portion of the OPTAR to meet its requirements.
- d. Prudent contingency funds should be established.
- e. A list of unfunded requirements should be maintained.

f. Where a single commodity is consumed by more than one department, the department head with the highest utilization rate of the commodity should be assigned responsibility for the stocking of total ship's requirements. (Examples - life jackets, safety shoes, cleaning equipment.)

In summary, the type commanders recommend that financial plans be developed on a decentralized, bottom-up basis to ensure participation and commitment by the individuals who have to make the plan work.

A typical scenario for budget preparation along the lines of type commander guidance would include the following steps:

a. Upon receipt of funding guidance from the type commander, the ship's supply officer should send a budget call memorandum to all department heads, asking for their prioritized requirements based on historical data and the tentative operating schedule. The memo should include previous department funding levels and the ship's total estimated OPTAR grant for the coming year. The department head's budget request should reflect both his own requirements and the total ship requirements for items for which he has central management responsibility. The request should also include justification for any new or radically changed requirements. The purchase of relatively expensive items with economic lives of several years (such as mooring lines, mattresses, damage control fittings) should be pre-planned and time-phased over the year so as to avoid depleting a single quarter's OPTAR. (This is known as the Phased Replacement Program.)

b. Upon receipt of the departmental submissions, the supply officer should review the requests and recommend to the commanding officer an allocation to each department and a reserve for contingencies. The commanding officer should then make a tentative decision regarding departmental targets and his contingency reserve. Normally the line drawn by the commanding officer will leave numerous requirements unfunded in each department.

c. Before the budget is finalized, each department head should be given the opportunity to review the tentative plan for his department and to comment on any serious problems he perceives which will affect his ability to operate within the proposed target.

d. Upon final approval, the plan should be promulgated in writing by the commanding officer.

3. Differences in Guidance Between Type Commanders

As noted earlier, some differences exist in the guidance for financial plan preparation between the two type commanders. The following paragraphs describe the major deviations.

The COMNAVSURFPAC model budget plan incorporates a modified Zero Based Budgeting (ZBB) system of budget planning (while the COMNAVSURFLANT plan does not). The main emphasis of the plan is that increment and decrement levels should be identified for each department. This is not true ZBB, since individual decision packages for each requirement are not prepared, but rather a device for establishing which prioritized requirements would be dropped or added if the funding level were moved up or down [11, 12]. The guidance recommends 10% increment and 15% decrement

levels in addition to the target funding level. In an interview, the COMNAVSURFPAC comptroller indicated that this guidance was inserted in 1977 because the major claimant had requested the type commander's own budget submission in the ZBB format. He added that ZBB had questionable utility with respect to a ship's OPTAR because the total funding level is reasonably stable, but that it would be a valuable tool if ship OPTAR's fluctuated radically from year to year [8].

COMNAVSURFLANT guidance with regard to the priorities for items to be purchased with OPTAR is considerably more detailed than that of COMNAVSURFPAC.

The NAVSURFLANT Phased Replacement Program is more formalized and specific than that in NAVSURFPAC. COMNAVSURFLANT provides a minimum list of the items which should be included in the program, and a sample planning form for use by department heads in preparing the phase replacement portion of their budget requests. The COMNAVSURFPAC guidance is more general and gives the commanding officer discretion in deciding which items should be the subject of phased purchasing.

E. BUDGET EXECUTION, INTERNAL CONTROL, AND EXTERNAL REPORTS

Once funds have been granted to a ship and the Annual Financial Management Plan has been approved and promulgated, the budget execution phase begins, wherein the ship's responsibility is to obligate the OPTAR effectively in accordance with the provisions of the budget. This involves establishing procedures for obligating funds, accounting for the obligation of funds and ensuring that funds are being spent for the purposes intended. There must also

be provision for modifying the financial plan as new developments warrant. Additionally, numerous external OPTAR reporting requirements are levied on ships by the type commander and other higher authorities in order to facilitate status reporting to superior echelons in the RMS chain of command. This section describes the internal and external requirements of the OPTAR budget execution process.

1. Role of the Supply Officer and Department Heads

While the commanding officer has the ultimate responsibility for the management of his ship's OPTAR, his key deputy is the supply officer. Type commander regulations specify that the supply officer is responsible to the commanding officer for the proper utilization and accountability for funds assigned to the ship. The supply officer is also charged with advising the other department heads of their responsibilities in using the funds allocated to them, and of the status of their funds on a regular basis. He thus acts as the comptroller and accountant for the ship. It is the department head's duty to ensure that the funds assigned to him are expended in accordance with the priorities established in the financial plan, and to inform the supply officer of the rationale for any deviation.

2. Shipboard Obligation and Accounting

The type commanders specify that OPTAR obligation and accounting procedures be administered in accordance with NAVSO P-3013, Financial Management of Resources - Operating Forces. While a detailed description of the procedures specified in that reference is beyond the scope of this paper, it is pertinent to discuss requisitioning and OPTAR log procedures at this point.

The individual department heads have the authority to initiate requisitions for their departments. The document normally used is the NAVSUP Form 1250, which requires various information, including the item name, national stock number, unit price of the item, and extended total price if more than one unit of the item is being purchased.

Also required on the 1250 is the fund code, which identifies the item being purchased as a repair part, a consumable, medical supply, or equipment. This is important, since, as noted earlier, the type commander fences repair part money from the rest of the ship's OPTAR. The department head (or a limited number of deputies) must sign the 1250 to approve the purchase. The 1250 is then transmitted to the ship's supply support center, where the item is issued, if onboard, or ordered by appropriate means through the supply system. The 1250 consists of an original and several copies of different colors, which serve specific purposes in the ship's internal control system. The pink copy is eventually returned to the department head who originated the 1250 for his retention as historical data and to inform him that the 1250 reached the supply center and was accepted. When the item is issued (or received aboard if it had to be ordered), a yellow copy is sent to the department head to inform him that action on the item has been completed.

The central accounting device for the ship's funds is the OPTAR Log, NAVCOMPT Form 2155A, in which all requisitions are recorded by the supply officer in chronological order as received from the department heads. The log contains a real time record

of the ship's OPTAR expenditures to date and the balance remaining at any given time. The log is also a record of expenditure by fund code, so that total obligations of "repair part" and "other" funds can be readily ascertained.

3. Budget Execution Control

Regular feedback on the amount of money obligated and the balance remaining is essential to the commanding officer and department heads if they are to fulfill their OPTAR control responsibilities. For this purpose, both type commanders require that ships use the budget status reporting system established in NAVSO P-3013, Chapter 4. The key aspect of this system is a status report to all department heads and the commanding officer every ten days. The report format provides the department heads with their fund balance at the beginning of the period, their expenditures in each fund code category over the ten day period, and their balance at the end. It also provides aggregate figures for the commanding officer. Pink copies of 1250's received by the supply officer during the period are returned to the originating department head with his copy of this report.

The type commanders specify that the commanding officer shall schedule regular reviews of the overall financial plan to determine if it remains valid and to modify it when necessary to reflect changes in priorities and schedules. The commanding officer should also use this review session to assure himself that department heads have complied with the provisions of the plan as the year progresses.

4. External Reporting

External reports are required by higher authority to provide information on OPTAR for accounting and control. The following reports are germane to the discussion of budgeting and control.

a. Budget OPTAR Report is transmitted monthly by message to the appropriate Fleet Accounting and Disbursing Center, with an information copy to the type commander. This report summarizes current OPTAR information for entry into the automated accounting system, and it also serves as a tool for the type commander to review ship OPTAR status. The format for the report is contained in type commander regulations.

b. If the ship exceeds its OPTAR, a message report must be sent to the type commander (and the immediate superior in the chain of command) containing the following information:

(1) Amount of over-obligation.

(2) Cause of the over-obligation and measures being taken to prevent recurrence.

(3) Description of action taken to reduce the over-obligation.

c. The type commanders expect that a well conceived financial management plan will obligate all OPTAR funds available each quarter. If a ship commanding officer can foresee that more than 3% of his OPTAR will not be obligated by the end of the quarter, he must originate a message to the type commander by the 22nd day of the last month of the quarter offering the funds for redistribution.

IV. COMMANDING OFFICER OPTAR MANAGEMENT PRACTICES

In the preceding chapters, the source of OPTAR and the management environment established by type commander regulations and policies were discussed as a necessary prelude to the investigation of financial management aboard ship. Having thus established the scope of a commanding officer's authority to manage his OPTAR, it is now possible to deal with the major issues of budgeting and control aboard ship. This chapter deals with the management relations between the commanding officer and the department heads, while the next chapter emphasizes internal management of the department. The overall objective is to identify specific alternatives for managing shipboard funds and to develop conclusions regarding which practices are the more advantageous. This will be accomplished through a multi-step process. The first step is to establish, using recognized concepts and practices from management literature oriented toward the public sector, the critical decision points in financial management policy and the possible alternative strategies associated with each of these points. The second step is to relate these decision points and the alternatives to the specific case of naval shipboard organization and OPTAR management in order to postulate the range of policies which a commanding officer might select. The third step is to review evidence from the fleet regarding which alternatives are actually practiced and the effectiveness of those alternatives (where information giving an

insight on effectiveness is available). Finally, the alternatives for each decision point which seem most advantageous (both with respect to the concepts in the management literature and the evidence from the fleet) are identified in a conclusion section.

A. ESSENTIALS OF PUBLIC SECTOR FINANCIAL MANAGEMENT

1. Budgets in Non-Profit Organizations

A comprehensive definition of a budget might be stated as follows:

a. A financial plan serving as a pattern for, and a control over, future operations.

b. Hence, any estimate of future costs.

c. A systematic plan for the utilization of manpower, material, or other resources. [12, 3].

The implications of the foregoing are that a budget for any organization, in either the private or public sector, serves a dual function of both establishing guidance for tactical decisions throughout its lifespan and as a standard against which actual performance may be measured in making control decisions.

Professor Robert N. Anthony, a recognized authority on the management of non-profit organizations, and a principal instigator of the Resource Management System (RMS) within the Department of Defense, has stated that while budgeting is recognized as important in profit-oriented organizations, it is far more critical in non-profit/public-sector organizations. The reason for this is that for profit earning firms, most costs are related to production, and the amounts of expenses such as

materials and labor used will vary directly with the level of activity established. Thus the percentage of discretionary costs is relatively low. In contrast, the discretionary costs in a non-profit organization may be rather large, and subject to management decisions [13, 229]. (The engineer of a ship with a large number of machines requiring overhaul and with a limited supply of funds will have to make many choices about where the money should best be spent.) The budget in non-profit organizations, therefore, is an instrument which promulgates the funding decisions of top management regarding specific objectives for the year (or other period) to the internal echelons of the organization and, if appropriate, to external authorities.

The control function of the budget is also critical in non-profit organizations. When the established budget for subordinate units is compared to actual expenditures, top management receives an indication that actual resource utilization is being directed toward stated objectives. This factor is even more important when there are few other measures of progress or output on which to base an assessment of interim performance, a situation which often occurs in non-profit organizations. The value of a budget as a control device is, however, dependent on the existence of a system within the organization for collecting and reporting information on the status of budget execution to management. It is therefore fundamental to practical budgetary control that the planning and control functions be interlaced to the point where they become nearly indistinguishable [14, 7].

2. Management Structure and Funds Flow

As in any organization, the internal financial management structure of a non-profit organization is a critical factor in the pursuit of its objectives. All organizations, except the very smallest, contain several management echelons, and top management must delegate some degree of authority for making decisions and of accountability for the results of those decisions. The establishment of criteria for subordinate accountability in public sector organizations is made difficult by the absence of clear-cut output measures, such as profit. In commercial organizations with reliable output measures, considerable latitude can be given to managers in making decisions regarding the use of resources, because declines in output or profitability will soon reveal errors. In non-profit organizations, in the absence of rapid and accurate feedback on performance, less discretion can be given to subordinates. However, the amount of decision-making authority which can be delegated will vary with the nature of the organization and the philosophy of top management. Anthony's perception of this subject is as follows:

In general, decentralization is a good idea; that is, those who are close to "where the action is" are in the best positions to make operating decisions within policies prescribed by higher authority. One of the objectives of those who are seeking to improve management control systems is to facilitate more decentralization by providing better ways of assuring that top managements' intentions are in fact carried out. [13, 77]

The question of the role of subordinate managers in organizations is a topic of considerable interest and research in the field of organizational development. Several theories concerned with the decentralization versus centralization of decision-making

have developed. At one extreme, the Traditional Theory advocates centralization where feasible, but recognizes that decentralization of decisions may be necessary in certain cases where geographic separation or operational requirements dictate. The basic assumption of this theory is that subordinates must be closely supervised and controlled. At the other extreme is the Human Resources Theory, which endorses the following basic ideas:

a. The manager's basic task is to make use of his untapped human resources.

b. He must create an environment in which all members may contribute to the limits of their ability.

c. He must encourage full participation of subordinates on all important matters.

The implications of such a policy of management are that by maximizing decision participation of subordinate managers, and by allowing them freedom in the management of their own organizational units, the top manager will facilitate overall performance to a level greater than if he were making all important decisions. In other words, the manager is no longer viewed as a controller but rather as a developer of subordinate talent and a facilitator of overall organizational performance [15, 44].

Like all aspects of the organization, the structure for budgeting and control must be placed at some discrete point along the spectrum between the Traditional Theory (centralized) and the Human Resources Theory (decentralized/participative). As Anthony has noted, the tendency has been for organizations to move toward the decentralized concept. The final decision, however, must be

made for each individual organization by its top management, based on perceived objectives, operating environment, and personnel potential.

This decision will impact on the role of subordinate managers in the budgeting and control process. At one extreme, they will have little discretion in the formulation and execution of the budget, while at the other extreme their discretion will be great. Where there is any degree of delegation, it is essential that the budget be related to the individual responsibility centers (defined in this context as any subordinate unit in an organization, such as a department) [13, 228]. This will permit the use of the budget as operational guidance for the subordinate. Logically, the control system should also be related to the responsibility center, to provide information in the same format as the budget and to permit top managers to hold subordinates responsible for conformance to the budget. Finally, the flow of funds within an organization should be along the lines of operational responsibility, not be received from, nor controlled by, a third person or department. A manager should have control of his resources to the same degree that he is held responsible for their proper employment [13, 284].

3. Method of Budget Formulation

Once top management has evolved a management policy for financial matters, the technique for budget formulation must be established. If a centralized approach is used, the process will simply involve the highest echelon establishing requirements, prioritizing those requirements and allocating funding accordingly.

In most situations, it would be impossible for a sizable organization to develop a viable budget in such a simplistic manner. At the very least, inputs from lower echelon managers would be required to establish what requirements existed. In organizations which follow a policy of delegation of decisions to any degree, responsibility center managers must be involved, not only in identifying the items which should be funded and their respective priorities, but also in developing the amount of funding which should be allotted for each item and to each responsibility center. The amount of involvement by subordinate managers can vary from the mere submission of recommendations, with decisions regarding allocation of funds made totally by top management, to a system of negotiations where the amount of funding allotted to the department results from joint agreement between upper echelon and lower echelon managers.

Anthony advocates the negotiation system for situations where clear-cut priorities cannot be assigned to all items being considered or where the costs of an action cannot be firmly estimated [13, 246]. The process of negotiation in budget preparation has other implications. First, the negotiation discussion for budgetary purposes logically complements the process of determining a responsibility center's specific objectives for a year or other period, since reaching stated objectives usually depends to some degree on funding available [16]. Second, the subordinate responsibility center manager is more likely to be committed to using his initiative to attain budget objectives if he participates in developing them, than if he has them dictated to him on a basis which he perceives to be arbitrary [17].

The budget process, in all but the most centralized organizations, requires several steps. First, top management must provide to its subordinates guidelines which specify goals, objectives, and the constraints under which the budget is to be prepared. This guidance should include the amount of money expected to be available and other information considered useful to subordinates, such as the desired format for their submissions. Second, the subordinate responsibility centers prepare budget requests. Third, a budget review takes place, in which subordinates discuss their requests with their immediate supervisors. This process takes place in each echelon in the organization until top management is reached. Each supervisor must formulate his budget request based on the inputs of his subordinates, making judgmental decisions about which items (and the amount of funding) from his several subordinates that will be included. Fourth, opportunity should be afforded for subordinate responsibility centers to appeal tentative budget decisions by top management prior to finalization of the budget. Finally, after a firm budget has been established, it is disseminated down the chain of command and becomes the authorized plan to which the organization is expected to adhere.

4. Budget Control and Execution

The system used to manage budget execution must consist of two parts. The first part, the data collection and reporting system, provides management echelons with the information required to compare the obligations of funds with the budget plan. The other part consists of the means used by management

for making changes in the budget as a result of changed priorities, unforeseen developments, or to correct for errors of subordinates.

The reporting system must be tailored to the needs of the specific organization. One of the most critical decisions which faces management is the determination as to which information really is useful in monitoring budget execution, and how much of that information is necessary. For example, different types of information will be required (1) for making decisions about how well subordinates are performing and whether the plan should be changed and (2) for simply ensuring that aggregate spending limits have not been exceeded [18, 37]. Moreover, different echelons of management may require diverse quantities and types of information.

The information for decision-making should be arranged in a format which facilitates comparison of the current position with the budget objective. The mere presentation of raw, aggregate figures is not nearly as useful as the presentation of data in a format which allows the decision-maker to discern the amount of activity taking place in specific budget categories and the trend from one reporting period to another [19, 47]. This categorization of information indicates where deviations from the plan are occurring, and allows the manager to take necessary action to determine why the deviation is occurring and what corrective action should be taken. On the other hand, the cost and effort required to gather data and prepare the report must be considered. These costs may restrict the data presented to a few

key indicators. Additionally, the time required to compile an elaborate report (particularly in non-computerized organizations) may result in the presentation of information that is obsolete by the time it is received by top management. Thus a balance must be achieved between raw data and categorized figures.

The frequency with which reports are to be submitted is also an important question in the design of the system. Logically, the reports should be submitted frequently enough to provide timely information for comparison and decision-making. If reports are submitted too frequently the net changes in the reports will be insignificant, while if there is too long an interval between reports deviations may become excessive before they are detected by management. The cost and time considerations mentioned in the previous paragraph with regard to the amount of information gathered must also be applied to decisions regarding the frequency of reporting.

The behavioral aspect of management policy also enters into considerations of the content and frequency of reports to managers. For example, a manager who has delegated considerable authority for decision-making to subordinates may desire a more detailed reporting system than one who has centralized the decision-making process. The decentralized manager can thus allow considerable leeway to subordinates while receiving timely feedback on their actions, and become involved only when the system indicates major deviations to the general plan have occurred.

Two categories of control actions exist. The first is in response to a specific contingency, such as a major deviation

from budget due to error, the need to replace items lost through negligence or natural disaster, or a change in funding policies imposed by superiors in the chain of command. The second category represents actions taken as the outgrowth of decisions made at periodic budget reviews (which should be conducted at regular intervals throughout the lifespan of the budget). The budget review presents an opportunity for top management and responsibility center managers to assess whether the initial budget objectives and priorities remain valid in light of subsequent developments. The budget can then be left in its original form, fine tuned, or significantly revised, depending on the findings developed during the review [13, 287].

There are two basic philosophies for executing control action in either of the two situations discussed above. The first is to maintain reserve funds which can be used to meet contingency requirements as they emerge or to fund revisions in the budget resulting from a periodic budget review. The reserve can be maintained either at the top management level, at the responsibility center level, or at both echelons. Anthony estimates that the size of overall reserves in a non-profit organization should be approximately 5% of the operating budget. The second philosophy is based on the concept of reprogramming. Under this system, reserves are not maintained, and any control actions are effected by moving funds between responsibility centers or between budget categories within a responsibility center. The advantage of the contingency reserve system is that funds are readily available when needed, and a control action can be undertaken without having

a major impact on other aspects of the budget. The disadvantage is that subordinates may come to depend on having access to the reserve. The revision system, on the other hand, makes it obvious to subordinates that any overspending on their part will impact on another part of the budget. However, since this is true, responsibility center managers may attempt to overfund some budget categories during the budget preparation cycle to create hidden reserves [13,]. It is also possible to use a combination of both systems to control budget execution.

B. DECISION POINTS IN SHIPBOARD MANAGEMENT

The preceding section reviewed general concepts of budgeting and budget execution control in non-profit or public sector organizations. Most of the research and reporting on this subject has been focused on organizations such as hospitals, service organizations, government industrial activities, and government regulatory agencies. A major factor in financial management of most of these organizations is that their operational budget is the single most important source of funds for carrying out all functions. It funds personnel salaries and materials used in reaching objectives. By contrast, as has already been noted, the sources of support for an operational Navy ship are diverse, and most are not under the direct control of the commanding officer. He does not have full control over money paid to his personnel, the funding of repairs performed by external maintenance activities, or the fuel used by the engines. While he makes decisions regarding the utilization of all of these resources, he does not have to

evaluate the dollar impact of a specific decision on a central budget in the manner that a civilian manager often must. The OPTAR budget thus is only one of the several aspects of management spectrum aboard ship which must be successfully integrated with others to reach specific objectives.

Numerous other differences exist between civilian organizations and the shipboard organization that can have an impact on financial management practices. First, the military requirement for discipline in combat situations sometimes appears to preclude adoption of management theories which advocate full participation of subordinates in decision-making. Second, the operational and managerial environment of a ship is extremely dynamic compared to that of a civilian organization. The ship may be dispatched on missions with little advance warning, be given a surprise materiel inspection by higher authority, or encounter a multitude of hazards in the course of normal operations. All of these events can necessitate a surge of unanticipated OPTAR expenditures. A third difference is the restrictions imposed by higher authority on spending, such as the fence between "other" and "repair parts." A fourth major difference is that there are few direct output measurements which can be used to judge the efficiency and effectiveness of OPTAR utilization. The major device which the Navy uses to evaluate the readiness of its ships -- their output -- is the Naval Forces Status (NAVFORSTST) reporting system, which is based solely on reports submitted by the ships on the level of training and operational status of equipment. Since OPTAR utilization is only one of many factors involved in readiness, the system does not isolate how effectively OPTAR is being used.

With these differences in mind, the balance of this section will concentrate on exploring the alternatives available to commanding officers for structuring their financial management systems. Based on the discussion of financial management conducted in the first section of this chapter, there are four major policy or structure decisions which must be made. There are: (1) the amount of financial management authority to give subordinates during budget preparation and execution, (2) the procedure for formulating the budget, (3) the reporting system for control of budget execution and the type and frequency of budget control actions, such as periodic reviews, and (4) the policy to be used for meeting contingency requirements.

1. Management Structure

Virtually all Navy ships have three line departments (Operations, Engineering, and either Weapons or Deck) and a Supply Department. The commanding officer must decide the amount of OPTAR decision-making authority he will grant to the line officers in charge of these departments, and how much he will retain for himself (or indirectly vest in his supply officer as his financial officer/comptroller). This decision really consists of two parts, since a fence imposed by type commanders exists between "repair parts" and "other" funds.

A commanding officer could use any one of several strategies for control of "other" OPTAR. First, he could maintain it centrally under the cognizance of the supply officer and have his department heads submit requests for large individual items and general supplies directly to him or via the supply officer. Under

this scheme, the commanding officer would be making most of the decisions himself, or delegating the decision authority to the supply officer for routine funding decisions. This system would de-emphasize the need for a budget, except in the case of very expensive items, which could be phased over several quarters. Most consumables, administrative supplies, damage control equipment, and so forth, would be purchased when the need developed. The advantages of this system are the reduction of financial management errors by subordinates, a very simple reporting system on financial data, since only the supply officer would be performing transactions, and the comfort of knowing that the remaining balance at any time could be used for contingencies without the need to change departmental budgets. There are also several significant disadvantages. First, department heads lose considerable management flexibility because they can initiate few significant projects without requesting the needed materials from the commanding officer. Second, the process of obtaining permission for the project and obtaining the needed funds is time consuming. Third, this system provides little opportunity for department heads to develop skills in financial management.

A more flexible system would be to grant department heads a small budget for the purchase of frequently required consumables, such as cleaning gear, painting supplies, and administrative material, while retaining central funding for major purchase items such as mooring lines, damage control equipment, and engine lube oil. In this case the commanding officer enjoys the security of making important financial decisions, but also provides

the department heads with a measure of flexibility and experience in controlling funds.

A third option would be to give department heads extensive financial responsibility by placing the majority of funds in their hands. In this situation, a viable shipwide financial plan would have to be developed at the beginning of the fiscal year and a reporting and control system established. This option affords department heads considerable experience in managing funds, and enhances their ability to integrate the use of OPTAR funds into their overall management planning.

The options for the control of "repair parts" OPTAR are generally the same as for the "other" category. Centralized or decentralized systems can be established. The major consideration is that "repair parts" money must be used for both planned maintenance actions, such as equipment overhaul, and for corrective action when an equipment breaks down. The latter utilization must always receive first priority to ensure that the ship is ready to conduct operations.

A centralized system for "repair parts" OPTAR can be relatively simple. The commanding officer grants authority to the department heads to requisition parts from supply when needed to repair equipment which is inoperative due to a casualty. For overhaul funding, the department head must submit a request to the commanding officer in the same manner as described above in the paragraph on "other" systems. The advantages of this system are that urgent repairs can always be expeditiously funded from the central fund, which acts as a large contingency reserve, and

the commanding officer always knows how much money remains. Thus he can always stop overhaul projects when necessary to preserve a reserve for emergencies. The disadvantage of this system is primarily that department heads lose the ability to make significant plans with regard to machinery overhaul, because they do not know how much funding they can count on for this purpose. It is also possible to end the quarter with a surplus of "repair part" funds if too large a reserve has been kept.

The decentralized option would be to split most of the "repair parts" money among the three departments, based on their previous utilization of "repair part" money, and leave only a small reserve for contingencies. The disadvantage of this system is that if one department suffers a major casualty which is very expensive, funds may have to be withdrawn from the other departments. A middle of the road approach would be to allot each department head sufficient funds to accomplish a reasonable amount of overhaul work, but maintain a large central reserve for corrective repairs.

2. Budget Formulation Procedures

Except when the most centralized procedures are employed for budget formulation, involvement by department heads is necessary to establish what requirements exist. The first decision to be made concerns the extent and type of guidance which should be given to department heads. They may be asked to construct their budget submissions without guidance as to the amount of money available, or they may be given that information as a rough guideline to judge how much they can reasonably expect to receive.

The first procedure at times leads to a more complete identification and prioritization of departmental requirements, at other times it leads to frustration if a large portion of the requirements cannot be funded. (However, the unfunded requirements list is useful if extra funds are provided to the ship, or as a starting point for formulating the next year's budget.) The second procedure may result in department heads identifying only enough items to justify what they perceive to be an obtainable share of the total funds available and thus not developing a comprehensive unfunded requirements list.

Budget decisions can be centralized or decentralized. One option is for the commanding officer to make the decisions himself or in consultation with the supply officer. Another is to discuss the inputs with the department heads prior to making a final decision. If this course is taken, the commanding officer has to make the subsidiary decision of whether to hold the budget discussions in a group meeting with all department heads present or to discuss the budget individually with each department head. The open meeting usually results in a faster and less complex decision process, but it also often results in open arguments between department heads over priorities. The individual discussions probably lengthen the process, but a private discussion between the commanding officer and the department head provides a more favorable arena for jointly establishing objectives and for fostering a higher level of commitment to these objectives than the forum of a meeting of all department heads.

3. Reporting and Control System

The commanding officer must decide what information will be useful for controlling the execution of the budget, the format for reports, and the frequency of reports. The starting point for constructing a reporting system is the ten-day budget report system established in NAVSO P-3013, which has been made mandatory by both type commanders (Exhibit 1). The report presents aggregate figures by department, which are useful for establishing overall trends and for monitoring how close each department is to exhausting its budget allocation. But it does not present any information on the activity in individual budget categories within each department. For example, what percentage of the total obligated by each department is "other" or "repair parts" OPTAR? In fact, the commanding officer cannot readily tell how much "repair parts" money he has remaining, even as an aggregate figure. Within the "other" category, there is considerable justification for presenting the figures in the same format as the budget itself has been prepared. For example, if the major categories in the Weapons Department budget have been "maintenance supplies", "cleaning and preservation supplies", "seamanship equipment", "safety equipment", and "administrative supplies", the report will be more useful if it shows the changes over the reporting period and the ending balance for each of these categories. This information is of significance to both the commanding officer and the department head because it allows meaningful comparisons with the financial plan. The additional record keeping necessary to provide a base for such a report format is minimal.

SUP
7303
11 Oct 1976

From: Supply Officer
To: Commanding Officer

Subj: Ship's Departmental Budget OPTAR Report

1. For the period 1 Oct 1976 through 10 Oct 1976 the status of the ship's departmental budget OPTAR (all categories combined) was as follows:

DEPARTMENT	PRIOR BUDGET BALANCE	INCR/DECR IN THIS PERIOD	BUDGET AVAILABLE	STOCK ISSUES	DTO ¹ REQ.	ENDING BUDGET BALANCE	USED ² FYTD
WEPS	300.00	4,500.00	4,800.00	200.00	550.00	4,050.00	7,500.00
ENG	400.00	3,400.00	3,800.00	300.00	450.00	3,050.00	7,000.00
OPS	200.00	3,500.00	3,700.00	200.00	450.00	3,050.00	6,500.00
SUP	200.00	2,000.00	2,200.00	100.00	500.00	1,600.00	5,500.00
CO	200.00	100.00	300.00	--	--	300.00	100.00
SUBTOTAL	1,300.00	13,500.00	14,800.00	800.00	1,950.00	12,050.00	26,600.00

Notes

1. Direct Turn Over Requisitions - material which has been ordered by a department head, which supply officer immediately delivers upon receipt. This material is not carried as stock in the ship's storerooms.

2. Fiscal Year To Date

EXHIBIT 1

SAMPLE TEN DAY BUDGET REPORT
SOURCE: NAVSO P-3013

The frequency and format for periodic budget reviews represents another decision confronting the commanding officer. Should they be conducted quarterly, monthly, or only when a contingency situation occurs? Should a periodic review take the form of a meeting with all interested parties, or should it be conducted privately between the commanding officer and each individual department head? The same arguments discussed for budget preparation apply in the case of the budget review.

The commanding officer may also establish any additional control policies that he deems consistent with the amount of management freedom he has granted department heads. For example, he may require each department head to notify him when he signs a requisition above a designated threshold cost. He may not permit department heads to obligate more than a specified percentage of the quarterly budget prior to completion of a certain date within the quarter, or, conversely, he may require that they obligate a specified percentage prior to a certain date. In short, numerous control tools are available to support whatever policy the commanding officer chooses to establish.

4. Contingency Policies

As noted at the beginning of this section, the operational environment of a warship is extremely dynamic, and any one of many developments can have a major impact on OPTAR utilization. In consequence, the commanding officer must establish a viable policy for dealing with contingencies. As discussed earlier, two major systems (or a combination of the two) can be used. The first system features the use of contingency reserves. If this system

is used, a subsidiary decision must be made concerning whether the reserves will be maintained at the commanding officer level, the department head level, or both. It can be argued that the department head, in managing his organization, should have the flexibility provided by a reserve to deal with the minor contingencies which occur in a dynamic environment. On the other hand, the commanding officer may consider it desirable to exercise complete control over all contingency funds so that contingency situations will be brought to his attention by the department head concerned.

The second system for dealing with contingencies is the revision policy, whereby all deviations in the budget or emergent requirements must be dealt with by reprogramming from one budget category to another, or from one department to another. This policy, in its purest form, is too inflexible and disruptive for the shipboard operational environment. However, one option for the commanding officer is the use of this system for departmental budgets, together with the maintenance of a central contingency reserve. In this case, the department head, with the permission of the commanding officer, corrects minor problems by moving funds from one budget category to another. Major corrections or new requirements are funded from the central reserve.

If the contingency system is used, the appropriate size of the reserve or reserves must be decided. Anthony's 5% figure, mentioned in the first section of this chapter, was predicated on an agency operating in a fairly stable environment. A ship

needs a substantially larger percentage of its budget as a reserve if frequent revisions of the budget are to be avoided.

C. FLEET FINANCIAL MANAGEMENT PRACTICES

This section presents the results of the research conducted regarding the actual practice of OPTAR management in fleet units, with the objective of comparing shipboard practices with the guidance provided by the type commanders and the financial management principles applicable to non-profit organizations. The data used in this section were obtained from two sources. The first was a series of interviews with 25 officers (19 line, 6 supply) involved in OPTAR management as department heads and supply officers. Exhibit 2 is a list of the questions asked of each officer. The second source became available as a result of a COMNAVSURFPAC decision to require all commanding officers to submit a copy of their annual financial plans to the force comptroller. COMNAVSURFPAC allowed the author complete access to the plans, which yielded considerable data useful to this study. The information extracted from both sources showed the actual alternatives for financial management which commanding officers selected, and, where possible, the effectiveness of the alternatives selected. The information obtained is discussed in the same categories as those discussed in the preceding section.

1. Management Structure

The annual financial plans provided a useful indicator of commanding officer policies with regard to centralization or decentralization and of the general amount of financial management

Exhibit 2

Questions Used During Shipboard Interviews

1. Describe your role in formulation of the ship's financial plan.
2. Were discussions about the budget for your department held at a general meeting of all department heads and the commanding officer or during a meeting between you and the commanding officer on an individual basis?
3. Have you ever participated in a budget review with the commanding officer to assess the status of budget execution?
4. What role did your subordinates play in assisting you to develop your department budget estimate for submission to the commanding officer or supply officer?
5. Aside from the ten day budget report prepared by the supply officer, what financial records do you use?
6. Have you requested additional funds from the commanding officer subsequent to the time the budget was finalized? If so, what caused the need for more funds?
7. Has the commanding officer ever reduced your budget during the year?
8. Do you allot any part of your department budget to the individual divisions or work centers?
9. At what level in your departmental organization do you assign supply petty officers (department/division/work center)?
10. At what organizational level do you maintain supply logs?
11. Who has the authority to sign requisitions in your department (for "other" and/or "repair part" funds)?
12. What supply and financial management training should be provided to surface warfare officers at each level of management aboard ship (CO/department head/division officer)?
13. Based on your experience, was the training at department head school adequate to prepare you for shipboard financial management? If not, what subjects should be added?

responsibility extended to line department heads. This indicator was the amount of total ship OPTAR which was allocated to the line department heads as a percentage of total OPTAR. Logically, the greater the dollar value of a department head's budget, the greater his responsibility as a financial manager, regardless of precisely which items he is responsible for managing on a particular ship. A budget established with central management as the guiding philosophy will show the items to be managed under the commanding officer's control placed either in separately identified categories or consolidated in the supply officer's budget.

Exhibit 3 displays the data extracted from the annual financial plans of over 95 ships. The figures are presented separately for "other" and "repair parts" money. The figures showing commanding officer allocations of "other" funds to line departments are presented in Part A of Exhibit 3. According to the financial plans, no ships appeared to be organized according to a pure centralized system of management. However, the 30 ships in the "Under 50%" category reflect a very high degree of centralization. Those in the "50-59%" category reflect that the commanding officer retains control over a substantial portion of the OPTAR, but that department heads have meaningful responsibilities. A significant commitment to decentralization appears to exist in ships where 60-69% of the OPTAR is allocated to departments, and a strong commitment to decentralization by the commanding officer is reflected where more than 70% of the OPTAR is allocated to departments. As Exhibit 3 shows, approximately 70% of commanding officers allocate 50% or more of their "other" funds to line department heads.

Exhibit 3

Commanding Officer Allocation of Funds to Line Departments

Part A. Allocation of "other" funds to Line Departments

Percentage to line departments	<u>Under 49</u>	<u>50 - 59</u>	<u>60 - 69</u>	<u>70 Plus</u>
Number of ships in each category	30	27	26	16
Percentage of ships in each category	30	27	26	17

Part B. Allocation of "repair part" OPTAR to Line Departments

Percentage to line departments	<u>0</u>	<u>Under 49</u>	<u>50 - 69</u>	<u>70 Plus</u>
Number of ships in each category	65	4	9	19
Percentage of ships in each category	67	4	9	20

Source: Commanding Officer Financial Plans (COMNAVSURFPAC)

Note: A number of the financial plans submitted by commanding officers were in formats which did not provide sufficient data to be useful in the analysis. Additionally, some plans did not provide specific information on either "other" or "repair part" OPTAR allocation policy. For these reasons, the total number of ships is not the same in Parts A and B.

Interviews with line department heads generally substantiated the figures in the preceding paragraph. All officers interviewed had "other" OPTAR funds allocated to their departments, and were given relative spending freedom within the constraints established by the financial plan.

The "repair part" data in Exhibit 3 reflect a much stronger commitment by commanding officers to centralized control than in the "other" category. Fully 67% of all commanding officers favored a totally centralized system, and the number with either a fully centralized (0%) or strongly centralized (under 50%) system was 71%. This distribution apparently represents a strong desire to ensure that adequate funds remain available for corrective maintenance actions necessary to operational readiness. However, a relatively large number of commanding officers (33%) do follow the option of splitting the funds between department heads and a central reserve and a significant number of this group (20% of the total) have opted for major decentralization (the 70 plus category).

2. Budget Preparation

While information regarding commanding officers' policies for formulating budgets was not available from the COMNAVSURFPAC financial plans, some indication of the ones being used was received through the shipboard interviews. An analysis of the interviews revealed that nine out of ten ships visited required a proposed budget submission by all department heads (on the tenth ship the department heads played no part in the budget process). On all ships the submissions were consolidated by

the supply officer, who then forwarded a tentative budget to the commanding officer. At this point, several different procedures were followed. On three ships, the supply officer's budget was approved by the commanding officer with no further participation by department heads. On four ships, the final version of the budget was developed at a joint meeting of the commanding officer, supply officer, and department heads (a process which took three meetings on one of the ships). On one ship the budget was finalized through individual discussions between the commanding officer and each department head. On the final ship, an Ocean Minesweeper with no supply officer attached, a modified negotiation system was employed: The three department heads negotiated the amounts for each department among themselves and submitted a joint budget to the commanding officer which he approved without change. The ships visited ranged in size from a cruiser to a minesweeper. There was no apparent correlation between the size of the ship and the method used for budget formulation.

The guidance provided to department heads regarding the preparation of their budget submissions generally was in the form of a memorandum from the supply officer, and included the amount of OPTAR which the ship expected to receive and data showing at which level each department had been funded in the previous year. On four of the ships the department heads were required to justify in writing any major increase in the amount of OPTAR requested.

3. Budget Reporting and Control

The reporting system used on eight of the ten ships where interviews were conducted was the NAVSO P-3013 ten day budget report. The officers of the other two ships had developed their own reports. In both of these cases, the reports presented the data by department and by major budget categories within the department.

Many commanding officers included information in the financial plans they submitted to COMNAVSURFPAC regarding their policies for budget execution control. All of the plans which included such information specified that periodic budget reviews would be conducted (usually at the end of each quarter). Other policies were included in some plans, but none that represented a practice common to more than two or three ships. One commanding officer specified that 50% of "other" OPTAR would be spent in the first month of each quarter, and 25% in each of the other two months. Several plans contained instructions for the supply officer to inform the commanding officer when the OPTAR reached a certain balance. (Many other commanding officers might be using such policies, but not specifying them in their written financial plans.)

Information gathered during the interviews with shipboard officers indicates that few commanding officers actually hold periodic budget review meetings with department heads. Only four of nineteen line officers interviewed could recall a formal meeting for the purpose of reviewing objectives and comparing the actual status of budget execution with the requirements of

the financial plan. None of the other line officers were aware of any follow-up method used by the commanding officer or supply officer to monitor how closely their actual obligations followed the priorities established in the budget. Three of six ship-board supply officers interviewed stated that all budget reviews took place between themselves and their commanding officers.

4. Contingency Policies

The majority of financial plans submitted to COMNAVSURFPAC include a contingency fund under the commanding officer's control. Only about 4% of the plans showed no designated contingency fund, and most of those were plans where large amounts of funds were held in accounts under the direct control of the commanding officer or supply officer. Where maintained, the mean size of the commanding officer's contingency fund was 9.8% (largest 43%, smallest 1.5%). Only one plan contained contingency reserves (identified as such) at the department level. However, many departmental budgets contained categories such as "miscellaneous consumables," which could function as reserves.

In spite of the existence of a commanding officer contingency reserve, department heads on three ships out of ten reported that when a contingency actually occurred, the commanding officer resorted to a policy of budget revision to correct the problem. For example, after a materiel inspection, the commanding officer of one ship reclaimed 20% of the funds from two departments to fund correction of deficiencies in the third department, but left the central contingency fund almost untouched. However, on six other ships which had contingency funds, department heads

reported that they had been able to live within their total budgets or that the commanding officer had used contingency funds to meet shortfalls within departments. On the other hand, most department heads reported that they had often found it necessary to internally revise their budgets, in order to stay within their total spending limits, when confronted with minor contingencies.

D. CONCLUSIONS

This section constitutes the final step in reaching the objective stated at the beginning of this chapter, the identification and evaluation of financial management alternatives used aboard ship.

1. Management Structure

The budgeting process endorsed by the type commanders (and described in Chapter II) implies that department heads will be given an OPTAR budget of their own and will have significant authority to use it in the management of their departments. As discussed in the first part of this chapter, management research has shown that organizations can be managed in either a centralized or a decentralized manner. The research conducted for this paper showed that commanding officers are managing OPTAR along a spectrum that ranges from substantially centralized to substantially decentralized control. Because of the lack of specific output measures for OPTAR management (particularly the "other" category), no conclusion can be reached regarding whether a centralized or decentralized approach is more effective in maintaining ship readiness. However, the decentralized approach,

with considerable authority granted to department heads, has significant advantages if considered in broader terms than just ship readiness. First, it provides junior officers valid experience in managing OPTAR before they achieve independent commands. Second, the effectiveness of the manner in which a junior officer manages funds can be used as an indicator of his overall ability and potential for increased responsibility. Third, if the department head's budget is assigned with the mutual understanding that it must be used to achieve specific objectives, it almost certainly will increase his motivation to reach those objectives, with resultant benefits to the ship.

The data presented in Exhibit 3 indicated that a majority of commanding officers use a centralized system for managing "repair part" OPTAR. As noted, this system has the advantage of assuring that funds are always available for mandatory corrective repairs. Recently, ship "repair part" OPTARs have been augmented as a result of the EMRM Program, with the specific objective of increasing the amount of machinery overhauls and discretionary maintenance accomplished. During the period of the EMRM Program, financial planning for equipment overhaul was not critical because program ships were unconstrained in the use of "repair part" money. Now, with "repair part" money constrained, ships are still required to perform the same amount of both overhauls and corrective maintenance. The cost of performing the overhauls must be considered before deciding how many can be planned, and still leave a sufficient reserve for funding repair actions. This leads to the conclusion that department heads should be given the

responsibility of developing an equipment overhaul plan, which includes an estimate of the OPTAR required to do each job. With a list of proposed overhauls and their associated costs, the commanding officer will be able to decide how many overhauls to fund, and how much OPTAR to reserve for emergent corrective repairs during the budget period. Once a decision has been made as to which overhauls will be funded, and the money has been assigned to department heads, they can develop a viable schedule for procuring the material and carrying out the work. Thus, a moderate degree of decentralized management seems essential to the effective utilization of "repair part" money.

2. Budget Preparation

Type commander instructions recommend a multi-step procedure for formulating an annual financial plan which allows department heads to initiate and prioritize tentative budgets for their departments, and to participate to some degree in the finalization of shipwide financial plans. This procedure resembles the "negotiation" system of budget formulation used in civilian non-profit organizations. Research indicates, based on a relatively small sample, that most commanding officers allow department heads to participate in the budget formulation process. In some cases, the commanding officer finalizes allocations to departments based on department head submissions and the advice of his supply officer. In many cases, commanding officers allow department heads to participate in the finalization process either at an open meeting or in private negotiations.

The policy of finalizing the budget by means of individual negotiations is by far the most advantageous alternative. At a minimum, it avoids the open confrontations between department heads which can occur at a joint meeting. More importantly, it provides the ideal forum for a commanding officer and a department head to determine what the major objectives for a department should be over the budget period, and it integrates the use of OPTAR into a plan to reach these objectives. Finally, because the department head participates in the budget decision process, he is probably more committed to achieving the objectives which are associated with these decisions.

3. Reporting and Review

Because of the poor design of its format, the ten day budget report is not a useful tool for the control of budget execution. The major deficiency is that the format is not structured to show performance within major budget categories. Therefore, the report cannot be used to compare actual status with budget objectives. The data presented (showing only overall department and ship obligations during the period and an ending balance) only indicate the rate of obligations and warn when a department is nearing its budgetary limit. The commanding officer cannot use it to determine if a specific department head is obligating funds in accordance with decisions made during the budget formulation process. As noted earlier, shipboard interviews revealed that only two of ten ships visited had modified the ten day report to provide budget category information.

While most annual financial plans contain provision for a quarterly budget review to assess the status of budget execution, as recommended by the type commander, most officers interviewed had not participated in such a review.

In summary, most ships visited had not developed a reporting system capable of providing useful control information and few ships were actually carrying out a budget review process. This suggests that commanding officers may not be giving the process of budget execution the same amount of emphasis that they give budget formulation, and that budget execution does not receive the same degree of command attention as other segments of the shipboard management plan.

4. Contingency Policies

As noted in the preceding section of this paper, most commanding officers maintain a reserve of funds for contingencies, rather than rely on a revision policy. This is undoubtedly the only reasonable policy for shipboard management, in view of the high number of shipboard inspections and schedule changes which result in unplanned OPTAR expenditures. The major question facing a commanding officer is the size of the reserve that should be included in the budget. The average reserve budgeted by commanding officers in COMNAVSURFPAC was 9.8% for "other" OPTAR funds. This suggests that a commanding officer formulating an OPTAR budget should consider 10% as a prudent initial estimate for his contingency reserve. This initial estimate could then be adjusted to a higher or lower level as the budget formulation

process proceeds, based on the amount of uncertainty which the commanding officer perceives to exist in the ship's operating schedule.

V. OPTAR MANAGEMENT
IN SHIPBOARD DEPARTMENTS

As the data presented in Chapter III indicates, most department heads are assigned the responsibility for managing a significant portion of the ship's total OPTAR. This responsibility includes both cognizance over funds budgeted for the operation of their own departments, as well as, in many ships, management control over funds budgeted to support shipwide needs. The purpose of this chapter is to examine the management options available to department heads, to discuss which of these are being used aboard ship, and to reach conclusions regarding which options are the most advantageous. The procedure followed is similar to that used in Chapter III, except that no discussion of management principles has been included, since the concepts discussed in the first section of Chapter III also apply generally to department management.

A. DECISION POINTS FOR DEPARTMENT HEADS

The decision points which face a department head are roughly the same as those faced by a commanding officer, and the alternatives for each are similar. The organization of a department is generally similar to that of a ship, with the substitution of divisions for departments. These divisions are further subdivided into units known as work centers. Each division is led by a junior officer, and work centers are supervised by either a Chief or First Class Petty Officer. A major difference is that the

department head has no central comptroller, as the commanding officer does in the form of the ship's supply officer. A second major difference is that the department head is obviously much less independent than the commanding officer. However, the department head must still make a decision about what financial management structure he will use, the method he will use to formulate his budget submission to the commanding officer, the system he will use to control the funds he receives, and how he will cover contingencies.

1. Management Structure

Like the commanding officer, the department head must make a decision regarding the degree of authority he will allow his subordinates in financial management. In this context, a special problem stems from the fact that his immediate subordinates, the division officers, are usually in their first shipboard tour, and their total experience may range from none to three years. Thus, in many cases, he may be justifiably hesitant to allow them extensive financial management freedom, and this may motivate him toward central management of his OPTAR. In this case, he would make all decisions regarding what to purchase. In the case of "other" OPTAR, the department head would personally ensure that high visibility items in the budget were requisitioned at the proper time. He would approve requisitions submitted by department heads for routine needs such as daily cleaning and administrative supplies. For "repair parts" OPTAR, the department head would approve major overhaul work as submitted by division officers, but probably would allow division officers and certain

work center supervisors to requisition emergency repair parts on their own authority in his absence.

A centralized system such as described above has certain advantages to the department head. He always knows his OPTAR balance, since he signs all requisitions. It allows him to have final authority on all purchases, and thus ensures that all money is obligated consistent with his objectives. By having requests from several divisions pass through him, he may effect some savings by consolidating redundant requests.

The use of decentralization allows the division officers to have OPTAR budgets of their own. Several variations of this policy can be used. The department head can retain authority for major purchases and allocate money to division officers for routine needs. Alternately, he can allocate virtually all money to them, and maintain a reserve.

The ultimate decentralization policy by a department head would be to allow OPTAR funds to be assigned to work center supervisors. There is some justification for such a policy. First, most requisitions are initiated at the work center level, including virtually all repair part requisitions. This is because the requirement for the repair part is discovered at the work center and the work center is responsible for assigning maintenance control "job sequence numbers" to Form 1250's used to procure repair parts. Second, the work center, and the work center supervisor, has increased in importance over the last ten years as the key organizational unit in equipment and facilities maintenance management. A chief factor in this growth is that

the work center is the basic unit in the Navy's Planned Maintenance and Maintenance Data Collection Systems [20]. As part of these systems, the work center deficiency log has become the key tool for recording and planning maintenance actions. The work center is also the basic unit of the Navy's shipboard training and qualification program, the Personnel Qualification Standards (PQS) system. Moreover, Navy human resources management training emphasizes the role of the work center supervisor, since he is the leader of the smallest formally established organizational unit aboard ship, and he has the greatest impact on young personnel [16].

The advantages of decentralization options for the department head are several. First, he does not have to be concerned with routine supply management functions. Second, providing division officers or work center supervisors with their own budgets may encourage them to be more efficient in their use of supplies, instead of considering them free assets obtained upon request from the department head. Third, the department head may use the performance of a division officer as OPTAR manager as one criterion for evaluating overall performance. Finally, having their own budgets may allow division officers more planning flexibility in undertaking maintenance projects.

A middle of the road management structure includes both centralized and decentralized aspects. For example, the department head might retain signature authority for all requisitions, but reserve for each division officer (or work center supervisor)

a specific amount of the OPTAR. In this situation, each subordinate would be made aware of how much money had been reserved for him: he could make plans based on that amount, but would need to get final permission from the department head prior to obligating any funds.

2. Budget Formulation

The department head's options for budget formulation are identical to those of the commanding officer. Doing it without any assistance from his subordinates would be impractical, because they hold the most realistic knowledge about past utilization data and forthcoming requirements. He must at least require them to submit estimates of requirements to him for review and consolidation. If the department head elects to involve them further in the decision process, he can do so either at a meeting or through individual negotiations. The budget process within the department is not complete until the department head informs his subordinates of the commanding officer's final decision on the size of the budget, and necessary adjustments are made to amounts committed to divisions and/or work centers.

3. Records and Control

The department head must establish a policy for monitoring and controlling budget execution within his department. The three tools the Navy provides him are the ten day budget report, the pink copies of the Form 1250 (as described in Chapter II), and the divisional supply logs. The department head has the option of relying on these or modifying their use to suit his needs.

As discussed in Chapter III, the standard ten day budget report does not provide the department head with a listing by categories of his budget, but provides only aggregate figures. However, the department head receives his pink copies of the Form 1250's used to requisition material during the reporting period. These constitute his main source of information for assessing budget execution. He must match each pink copy with the appropriate budget category to establish the amount remaining in that category. (This is a time consuming process which can be considerably facilitated if the commanding officer develops a categorized ten day budget report.) The pink copies are then returned to the work center which originated them via the appropriate division officer.

If the department head is controlling his OPTAR centrally, his review of the Form 1250 pink copies is the only internal reporting device needed. However, if he is allocating a budget to each division and/or work center, and has delegated a degree of requisitioning authority to subordinates, he must devise an additional procedure to measure their use of funds against their budget plans.

One internal record which the Navy requires is a divisional supply log, which is maintained by the divisional supply petty officer [21]. This is a record of all requisitions initiated by work centers within the division, the date of the requisition, the amount of the requisition, and finally the date when the material is received. One option available to the department head is to require that supply logs be kept at the work center

level, as part of work center deficiency logs. Deficiency logs already contain most of the information which is placed in supply logs, and they can be readily modified to perform the same function as division supply logs. This procedural change eliminates a redundant layer of record keeping between the work center and the division officer.

4. Contingency Policies

Under certain conditions, the department head has the same choice with respect to contingency policies as the commanding officer. However, as noted in Chapter III, few commanding officers have authorized maintenance of dedicated reserve funds at the department level. This means that this option is closed to the department head unless he camouflages his reserve under a title such as "miscellaneous consumables." If the department head controls his OPTAR centrally, he can revise his budget easily. However, budget revision in a department where most funds had been allocated to divisions and/or work centers would involve considerably more disruption and internal adjustment.

B. FLEET PRACTICES

Information presented in this section has been compiled from the interviews described in Chapter III, and, to a lesser degree, from the financial plans submitted by COMNAVSURFPAC commanding officers.

1. Financial Management Structure

Most department heads who were interviewed managed their funds in a generally centralized manner (16 of 19). This was

especially true for "other" OPTAR. However, 75% of department heads allowed their division officers to approve requisitions for repair parts needed to correct casualties to machinery. About 50% of the department heads allowed selected work center supervisors to sign "repair parts" requisitions for material necessary to correct casualties.

Of the three department heads who used a decentralized system, two distributed OPTAR to the work center level and the third kept it at the division level. None of these three department heads granted their work center supervisors authority to approve OPTAR requisitions for "other" material. However, two did grant their division officers such approval. For "repair parts" OPTAR, these department heads followed the same practices as the centralized managers, giving division officers and selected work center supervisors authority to secure parts for essential repairs on their own signature.

Approximately 8% of the ship financial plans reviewed at COMNAVSURFPAC headquarters showed departmental budgets which included funds segregated by division and/or work centers.

2. Budget Formulation

Most department heads who used a central management system followed a relatively simple budget formulation process. This consisted of obtaining historical data from division officers (based on information from Form 1250 pink copies) for the last year or a two year period. The department head then consolidated the information by himself for submission to the supply officer.

The department heads who used a decentralized management system allowed their division officers to analyze their historical data and formulate a divisional budget, which was then reviewed and consolidated by the department head, who informed them of the adjustments prior to submitting the budget request to the supply officer.

3. Budget Records and Control System

All of the department heads interviewed used the ten day budget report and the Form 1250 pink copies as their control system. However, six had opted to eliminate the supply log at the divisional level. One maintained a supply petty officer and log at the departmental level, with the balance of supply records kept at the work center level.

4. Contingency Policies

Most department heads used a category such as "supplies" or "miscellaneous consumables" as their contingency fund. Over half had found it necessary to get permission from the commanding officer on several occasions to revise their budgets. Eight of nineteen had requested additional funds from the commanding officer.

C. CONCLUSIONS

While shipboard departments can be effectively managed by either a centralized or decentralized system, the centralized system offers the department head many advantages. He is always aware of how much money he has remaining because he signs all (or nearly all) requisitions. He is protected from financial

management errors by inexperienced division officers. The budget formulation process is generally much less complex than in a decentralized system. The department head may be able to save money by consolidating requests for supplies from different division officers. Finally, he does not need an extensive accounting/reporting system to keep himself apprised of how well he is conforming to the budget. These advantages undoubtedly explain the preference of the majority of department heads for such a system.

While a decentralized system requires more effort by a department head to establish and control, there are several potential benefits that can be derived from decentralization. First, subordinates who must use their own funds for purchasing supplies can be expected to use them more efficiently than if the funds constitute a free resource. Second, while the budget formulation process may be more complex and take longer under a decentralized system, the participation of front line managers may enhance its quality. At the very least, their participation in the process (and the fact that they receive their own budgets and budget goals) probably increases their commitment to utilizing the OPTAR funds to the best advantage. Third, when subordinates have advance knowledge of how much money is available to them, they can develop viable management plans.

The policy of most commanding officers not to grant department heads dedicated contingency funds makes their management jobs considerably more difficult. When a problem arises, they must attempt to solve the problem through reprogramming funds from

one budget category to another. A small reserve would allow them flexibility in dealing with minor problems which can occur in any budget situation, such as an unanticipated change in the price of lube oil, a reel of mooring line, or five gallon pails of paint. Large contingencies, of course, should be dealt with from the commanding officer's contingency fund.

In the area of record keeping in departmental management, the divisional supply log should be merged with the work center deficiency log, and each work center supervisor should be made responsible for keeping supply records in parallel with his maintenance records. Each work center supervisor could designate a supply clerk to perform the functions now performed by the divisional supply petty officer. This would eliminate a redundancy, since supply records kept by the divisional supply petty officer generally duplicate those in the work center, and the work center supervisor already keeps control of his own Form 1250 pink copies.

VI. SURFACE WARFARE OFFICER TRAINING FOR FINANCIAL MANAGEMENT

The objective of this chapter is to compare the training required by a surface warfare officer involved with shipboard financial management at the division officer, department head, and commanding officer levels with the training actually received. The determination of the knowledge and skills required at each level was based on several sources. First, the interviews with fleet officers described in Chapter III included questions concerning the level of training which the interviewees considered necessary for officers performing at each echelon. Second, the same questions were asked of experienced officers concerned with OPTAR management at the type commander headquarters. Third, the Personnel Qualification Standard for Surface Warfare Officer, Section 2, Division Officer was consulted to ascertain the requirements the Navy has established for financial management skills at the division officer level.

The information pertaining to the training provided to surface warfare officers was obtained through interviews with the officers responsible for supply and financial management training at the Basic Surface Warfare Officer (SWO) School (West Coast Detachment - San Diego, CA), and the SWO Department Head Curriculum and the SWO PCO/PXO Curriculum (Surface Warfare Schools Command, Newport, RI).

A. FINANCIAL MANAGEMENT SKILLS REQUIRED

1. Officers' Opinions

The results of interviews with officers currently involved with OPTAR management established that a solid consensus existed regarding the knowledge and skills related to financial and supply management required by shipboard officers at the three administrative levels. The officers interviewed included 19 surface warfare officers in department head billets and 10 supply corps officers serving either aboard ship or at type commander headquarters. Each officer was asked what knowledge and skills he believed necessary for officers functioning at each organizational level. The balance of this section summarizes their opinions.

Division officers should be generally familiar with the shipboard supply and financial system. They should also have an awareness of the source of OPTAR funds, what types of material OPTAR can and cannot be used for, the structure of the requisitioning and accounting system aboard ship, and the existence and purpose of the Coordinated Shipboard Allowance List (COSAL). The junior officer should also have the following specific skills related to financial affairs:

a. The ability to execute a NAVSUP Form 1250 and to describe the source of all data on the Form 1250, and a knowledge of the functions of the pink and yellow copies of the 1250.

b. The differences among the OPTAR fund codes, such as "repair parts," "other," "equipment" (funded out of "other"), and "medical." He should also be able to recognize whether the item being

requisitioned on a Form 1250 will be charged to OPTAR or will be a no-cost item for the ship.

c. The procedure for use of OPTAR to purchase items from beyond the ship's own system (such as SERVMART)². He should also know that open purchases from the civilian sector can be made in certain circumstances, and what shipboard procedures he should follow to initiate an open purchase.

d. The principles of financial/supply management within his division, including the role of divisional or work center supply petty officers and the interrelationships between the data on the NAVSUP Form 1250 and the information in the Navy Maintenance Material Management System.

Assuming that he has been a division officer (and has attained the skills necessary for that billet through both formal training and experience), the principal additional knowledge that a department head must acquire is the ability to formulate and use his departmental budget. He should be familiar with methods for gathering historical utilization data to develop a projection of consumables for a forthcoming year, should be aware of the procedures recommended by the type commanders for formulating a shipwide annual financial plan, and should be familiar with the ten day budget report system described in NAVSO P-3013. The department head should also be versed in management strategies (such as how much to hold in reserve for unanticipated needs),

²SERVMART is essentially a Navy supermarket for consumables and equipment which allows self-service procedures and avoids the time lag inherent in ordering the material through regular supply system channels.

the advantages of phased purchasing of major items (and type commander instructions on this subject), and the desirability of maintaining a valid, up-to-date list of unfunded requirements in the event extra funds become available. In other words, while it was believed that division officer training should be focused on the mechanics of the supply system, the officers interviewed felt strongly that training for department heads should be concentrated on the management concepts of budget preparation and execution.

The officers interviewed did not perceive of a need for a higher level of formal training for commanding officers/executive officers, because the differences in their roles from those of department heads mostly reflect a change in perspective. They believed that the principles of management used at the highest shipboard echelon should be only an extension of those used at the department head level. Therefore, any school training established for prospective commanding officers/executive officers need consist only of a refresher course in general supply/financial procedures and overall planning/control techniques.

2. SWO PQS Requirements

The purpose of the Personnel Qualification Standards (PQS) is, as the title suggests, to delineate the standards for skills and knowledge required of surface warfare officers performing at the basic level of their profession. The qualification process during the first shipboard tour also provides these officers with a reservoir of knowledge which facilitates the addition of wider skills as they progress to more responsible billets. The standards

were developed, inter alia, by fleet officers participating in workshops. Each standard has three sections which deal with specific aspects of required knowledge and skills. The first, the Theory Section, is aimed at developing familiarity with facts, principles, and fundamentals concerning the qualifications subject. The second, the Systems Section, addresses major segments of a system or organizational structure which requires more specific attention than that provided in the Theory Section. The third, the Watchstation Section, defines the actual performance requirements expected of the officer to qualify in the subject under consideration.

The division officer PQS lists the financial/supply standards that have been established. The following paragraphs briefly describe the contents of this set of standards [22].

The Theory Section requires a substantial knowledge of the Naval Supply System and its shipboard aspects. Specific financial requirements include the following:

- a. Terms. The ability to define OPTAR, "repair parts," "consumables" and "equipage."
- b. Funding. Knowledge of the types and sources of funds available to ships. The procedures for obtaining augmentation and advances.
- c. Publications and Forms. The capability to state the purpose, content, and use of the COSAL, NAVSUP Form 1250, DD Form 1348 (used for requisitioning materials on ships with computerized systems), and NAVSUP Form 1149 (used for open purchases).

d. Divisional Supply Program. The ability to discuss the structure and operation of the divisional and work center financial/supply system, the Supply-Maintenance Management System interface, and the use of divisional supply logs. Familiarity with the format and purpose of the ten day budget status report.

The Systems Section of the PQS contains no specific requirements in the area of financial management. The Watchstation Section contains two financial performance requirements in the subsection entitled "Administrative Requirements." These are:

- a. Use the COSAL to determine allowance quantities, repair parts, equipage and national stock numbers.
- b. Prepare a NAVSUP Form 1250.

3. Proper Location for Training

All officers interviewed were asked to indicate the location where they believed financial management training for officers should be primarily conducted. They were unanimous in their responses that the training could best be accomplished in a formal school environment, rather than aboard ship. Their general opinion was that while some training in specific policies and procedures unique to the ship must, of necessity, be conducted onboard, the tempo of operations and the busy daily shipboard schedule do not permit either the line department heads or the supply officer to conduct adequate training onboard in the fundamentals of the supply system. Additionally, they felt that at the department head level, the officer who acquires budgeting

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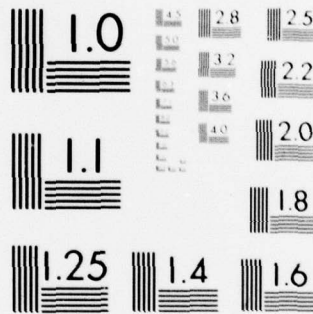
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and fund control skills through experience in the billet only, without school training, will have a detrimental impact on his department's effectiveness as he learns through his mistakes.

B. NAVY SCHOOL TRAINING

This section presents an outline of Navy formal financial training provided to surface warfare officers. The Navy has reversed its policy with respect to professional training for shipboard officers during the last two decades. Until the early 1960's, officers in the surface forces acquired most of their knowledge and skills through experience and informal training sessions aboard ship. The exception to this policy was the existence of short, shore-based schools for specific functional specialties aboard ship, such as gunnery, propulsion engineering and communications. The establishment of the Naval Destroyer School Department Head course in the early 1960's initiated a trend toward comprehensive shore-based training for surface warfare officers. In 1971, the Surface Warfare School was established to provide broad professional instruction to prospective division officers prior to their initial sea tour. The Destroyer School and the Surface Warfare School were consolidated in 1975 to form the Surface Warfare Officers Schools Command, which provides formal training at all shipboard management levels. At the time of this writing, the curriculum for each level includes instruction in financial management and supply topics.

1. SWO (Basic) Course

The administrative segment of the basic curriculum provides newly acquired officers with the fundamental knowledge

necessary to manage their divisions aboard ship. The level of instruction is intentionally keyed to the requirements established in the Division Officer PQS. The lesson plans for financial topics include the following major topics:

- a. Funding of Operating Costs - Source of OPTAR
- b. Types of OPTAR ("Repair Parts" and "Other")
- c. Development of Division Budget
- d. Procedure for Ordering or Procuring Material through supply system
- e. OPTAR Management Hints for Division Officers

In these lectures the student is exposed to virtually all of the subjects addressed in the PQS and is provided with a sample NAVSUP Form 1250, division supply log, and ten day budget report for future reference [23].

2. Department Head Course

Department head students, who normally have served as division officers aboard ship, receive essentially the same training as that provided to students in the basic course. The major subjects covered during a four hour lecture are:

- a. General Supply System Operations
- b. Brief description of references such as COSAL, NAVSO P-3013 (financial management in operational units), NAVSUP P-485 (supply procedures)
- c. Use of forms (NAVSUP 1250, DD 1348, NAVSUP 1149)
- d. Source and use of OPTAR, identification of type commander references, policies regarding augmentations/advances, format of Supply Officer's OPTAR Log, external reports associated with OPTAR, and familiarization with the ten day budget report [24].

This lecture does not include guidance regarding financial management techniques. Missing from the lesson plans are subjects such as the details of financial plan formulation, guidance on using historical data in formulating budget call inputs, the essentials of the phased replacement program established by type commanders, or alternative policies for granting subordinates authority to approve requisitions.

In summation, the instruction at the department head level provides information on the supply and financial systems aboard ship and identifies the need for a financial plan, but it provides prospective department heads with few tools for budgeting and control.

3. Commanding Officer/Executive Officer Training

The course for senior officers is of six weeks duration, covering both operational and administrative topics. The supply and financial training provided is basically a repetition of the material covered at the basic and department head levels. The only major new topic covered is the funding of the ship's general mess (which is not a function of OPTAR) [24]. In addition, the prospective commanding officers and executive officers spend one week at the type commander headquarters for staff briefings. The financial section of the staff provides information on current funding levels for each officer's ship, policies regarding augmentations/advances, and a discussion of highly visible programs [6/8].

C. CONCLUSIONS

The preceding comparison of the financial management capabilities required of the surface warfare officer with the related training provided by the Navy leads to several conclusions. First, formal training at the basic level was reasonably well matched to the requirements of division management, and closely paralleled the training which fleet officers consider necessary. Moreover, the training provided establishes a good base of knowledge that will be useful throughout a surface warfare officer's career, particularly when it is complemented by two to three years of experience in a division officer's billet.

The second conclusion is that department head training, as conducted currently, is neither adequate nor well matched to the requirements of the billets. It is redundant to cover almost the same topics in both the basic and the department head courses. The prospective department heads have had several years of fleet experience with basic supply and financial procedures. While some refresher instruction may be desirable, the emphasis in preparing these officers for their new roles should be on management principles and techniques directed at enhancing their abilities to budget funds and utilize assets in accordance with a viable financial plan. It is important that they possess this capability upon reporting to their new duty stations since they will be confronted immediately with responsibilities for effective resource allocation among several subordinate divisions.

The third conclusion is that training provided to prospective commanding officers and executive officers was adequate. A broad

review of financial and supply procedures is appropriate at this level, since it is likely that the officers will have been away from the fleet for several years. However, it is probably not necessary to dwell on budgeting and control training, since, regardless of whether or not these officers were exposed to formal training at department head school, each will have developed their own approach to the subject during at least one tour (and probably two) as a department head.

The preceding thought reinforces the conclusion that the optimum time for surface warfare officers to receive financial budgeting and control training is during the department head course. An infusion of sound concepts and alternative techniques at this stage would have the maximum impact on the shaping of their own policies as they gather experience as department heads and subsequently as executive and commanding officers.

VII. CONCLUSIONS

Each of the three preceding chapters was used as a forum to evaluate specific topics related to OPTAR management aboard ship. Chapters III and IV are concerned with management policies at the commanding officer and department head levels, and Chapter V is concerned with the training of surface warfare officers for their roles as OPTAR managers. The intent of this chapter is to summarize the conclusions of those chapters in order to develop an assessment of OPTAR management policies and the performance of line officers in their roles as financial managers.

The management structure which most commanding officers develop for budget formulation is consistent with management concepts used in non-profit organizations or service agencies ashore. Although a warship's decision-making structure must be more authoritarian than that of a civilian organization, this research has shown that the majority of commanding officers allow their department heads to participate in the formulation of the ship's OPTAR budget, and particularly in the development of their own segments of the budget. The participation of the department heads undoubtedly increases the quality of the budget, because their closeness to daily management problems and access to utilization data allow them to more accurately forecast and prioritize requirements. However, many commanding officers have missed the opportunity to use the budget formulation process as a leadership and subordinate development tool, because they have not integrated budget objectives with each department head's overall management

objectives. Integration can be accomplished most effectively through the use of negotiations between the commanding officer and the department head to finalize a department head's budget and to achieve a mutual understanding of objectives.

Two aspects of budget planning are not adequately considered onboard a majority of Navy ships. The first of these is the use of "repair part" OPTAR. A centralized system was satisfactory when only corrective repairs were performed onboard, and also when "repair part" money was unlimited during the EMRM Program. However, in the current environment of constrained funding, wherein OPTAR must be used to support both overhaul maintenance and corrective repairs, the machinery overhauls program cannot be managed efficiently by department heads unless they have a clear idea of the amount of money that will be available during the budget period. This can best be achieved by means of a budget system whereby the commanding officer distributes a portion of the "repair part" OPTAR to department heads on the basis of a machinery overhaul planning list which has been cost estimated and prioritized.

The second aspect of budgeting which should receive further consideration by commanding officers is the concept of contingency planning. Most commanding officers have adopted the concept of maintaining a contingency reserve as the only viable policy in the dynamic shipboard environment. However, as noted earlier, most annual financial plans examined did not include a contingency fund within department budgets. Such a policy forces the department head to either revise his budget or to seek additional

funding from the commanding officer for even the smallest of contingencies, such as price increases. In the stable environment of a non-military organization, the lack of a contingency fund for subordinate responsibility centers may be a valid policy for encouraging efficiency, but in the turbulent shipboard world a contingency fund is necessary to provide an essential degree of flexibility. Moreover, the need to frequently revise even a well conceived budget due to unforeseeable events results in frustration for the department head and the perception by him that the budget planning process is largely wasted effort. Therefore, a small reserve should be included in each department's budget to provide for minor contingencies, thus allowing the commanding officer's reserve to be held for major contingencies or to support unfunded essential requirements if it has not been utilized prior to the end of the quarter.

While department heads participate to a large extent in the formulation of their own budgets, and exercise control over the use of the OPTAR assigned to their departments, most limit the amount of financial management authority granted to their division officers. The policy employed by most department heads to manage their OPTAR's from a central account is effective, and centralization provides the department heads with full knowledge of how and when (their) funds are being used. However, like many commanding officers, these department heads have either consciously or subconsciously rejected the opportunity to integrate financial management into the system by which they guide and motivate their subordinates. A small minority of the department heads surveyed

had achieved this objective with little risk to themselves by committing a portion of the departmental funds to each division officer for planning purposes while retaining authority to sign requisitions. The suballocation of department budgets has the potential for enhancing management planning at the division level since the division officer and work center supervisors are aware of how much OPTAR will be available to them during the budget period.

The budget execution process receives considerably less attention aboard ship than does the budget formulation process. Of those surveyed, few commanding officers conducted an organized review of budget execution at regular intervals, and most had not established a reporting system which allowed them to assess whether or not department heads were using funds in accordance with the priorities of the budget. This lack of follow-up during the budget execution phase clearly indicates that most commanding officers have not grasped the concept that their financial plan should be an integrated part of the total management system for their ship; apparently they perceive it to be only an externally imposed requirement which is peripheral to the mainstream of their management efforts.

Navy formal training schools for surface warfare officers do little to change such a perception. The major finding presented in Chapter V was that none of the Navy schools which prepare officers for shipboard assignments provide significant budgeting and control instruction. Considerable instruction in supply procedures and regulation is provided at all schools, but concepts

for budget formulation or the use of a budget for guidance and control of subordinates are not emphasized. The logical timing for such instruction is during the Department Head Course, since officers begin the first assignment which places major financial management responsibility on them upon completion of that curriculum.

The foregoing conclusions support a general finding that the procedures practiced by surface warfare officers in conducting OPTAR budgeting and budget execution have not reached a level of sophistication consistent with the amount of funds provided and the important role which OPTAR funds play in maintaining ship readiness. The quality of OPTAR management will improve only when the Navy instills in line officers an awareness of the role of the budget as a planning tool, as a standard for comparison, and as a tool for measuring manager performance.

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