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MANAGEMENT OF THE NAVY FLYING HOUR PROGRAM: RESPONSIBILITES AND CHALLENGES FOR THE TYPE COMMANDER

by

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ABSTRACT

This thesis examines the Navy Flying Hour Program at Commander, Naval Air Forces Pacific Fleet (CNAP) in order to understand the complexities and challenges of managing this program at the Type Commander level.

An overview of the Flying Hour Program's budget formation and approval process is presented in order to provide a basic understanding of how fiscal resources for the Flying Hour Program are derived, documented, and granted within the Department of the Navy and the federal budget system. The analysis on the Flying Hour Program then centers on the specific procedures used at CNAP to ensure the efficient use of funds while simultaneously maximizing program effectiveness. Problems with managing the Flying Hour Program at the Type Commander and recommendations for resolving them are also presented as part of this study.

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I. INTRODUCTION

A. BACKGROUND

In accomplishing its primary mission of defending our nation, the Navy maintains and operates a large and varied inventory of aircraft. Along with their aircrews, these aircraft perform a variety of missions which include: air-to-air combat, air-to-ground combat, antisubmarine warfare, early warning, electronic warfare, logistics support, reconnaissance, transport, aircrew training and several others.

It is the responsibility of the Navy Flying Hour Program (FHP) to manage the resources used for maintaining highly trained aircrews and mission ready aircraft. With over two dozen types of aircraft, each with different variations or modifications and located throughout the world with different operating requirements, the responsibility for maintaining the material readiness of the Navy's air forces is no simple managerial task.

The importance of the Navy's Flying Hour Program is summarized in a report prepared by the General Accounting Office (GAO) for the chairmen of the Subcommittees on Defense, House and Senate Appropriation Committees dated July 1989. In this report it states:

> "The ability of the Navy to perform its mission effectively is critical to the defense of the nation and its success in wartime. To that end, it is essential that the Navy's tactical air forces, which strike naval and land targets, be flown by crews proficient in their military flying tasks. These tasks, and related ship-based take-offs and landings, are difficult and dangerous, requiring highly developed skills. The Navy's primary means of developing and maintaining these skills is hands-on training

through its Flying Hour Program, which funds the number of hours Naval aircraft can be flown." [Ref. 1:p. 2]

The importance of the Navy Flying Hour Program requires a thorough understanding and critical analysis of its financial administration in order to improve future effectiveness, especially in these times of increasing budgetary constraints.

B. OBJECTIVES AND SCOPE

This thesis describes the fiscal administering chain of command for the Flying Hour Program, from Program Manager in the office of the Chief of Naval Operations to the unit commanders who must use the funds provided to accomplish their operational missions. Specific emphasis is given to Commander, Naval Air Forces Pacific Fleet (CNAP), who together with Commander, Naval Air Forces Atlantic Fleet, account for over 80 percent of the Flying Hour Program's funding [Ref. 2]. It is at this Type Commander level that fiscal guidance from above is translated into operational requirements, and where budgetary justification is first formulated.

This thesis will analyze the Type Commander's role in the Flying Hour Program's budget formulation and execution while identifying current problems encountered with this complex and challenging responsibility. Finally, a summary of recommendations will be presented to provide possible alternatives for improving future Flying Hour Program management.

C. METHODOLOGY

The primary source of information on the Flying Hour Program was through personal interviews with various participants at the Headquarters of Commander, Naval Air Forces Pacific Fleet in San Diego, California. These included managers from the offices of the Comptroller, the Force Material Officer and Force Readiness Officer.

Additional data was collected through telephone interviews with personnel at various branches in the office of Commander in Chief, Pacific Fleet and Deputy Chief of Naval Operations for Air Warfare.

The remainder of data was collected through the review of numerous publications on all aspects of the Navy Flying Hour Program including: OSD, GAO, Navy and other government reports, Navy instructions, related research papers and public articles.

D. THESIS ORGANIZATION

This thesis is divided into five chapters.

Chapter One provides an introduction to this thesis where the purpose, methodology, and structure of the study are explained.

Chapter Two describes the budget formulation process and administering of funds above the Type Commander level. The inputs used to justify a budget request and the chain of events to satisfy the Navy's Flying Hour needs will be presented.

Chapter Three discusses the specific management of Flying Hour Program funds at the Type Commander level. The various components that make up the Flying Hour Program will be examined along with the different management procedures used to

effectively coordinate them into a single program. Type Commander responsibilities with budget formulation and program execution are presented to provide greater understanding of the procedures used at this level.

Chapter Four documents several problems with managing such a large and complex program at the Type Commander level.

Chapter Five summarizes the data presented and provides possible solutions to problems identified. It also reveals areas of the Flying Hour Program that deserve further research.

II. FLYING HOUR PROGRAM FUNDING

This chapter presents the organization for budget formulation and program execution of the Navy Flying Hour Program. An overview of the federal budget process is presented for the purpose of providing a complete understanding of the flow of funds in the Flying Hour Program. The document used as a basis for Flying Hour Program budget requests and program execution, the OP-20 Report, is examined in detail to explain how operational needs are translated into budgetary proposals.

A. BUDGET FORMULATION

1. Budget Formats

Budget formulation for the Navy Flying Hour Program involves two distinct, but interrelated, formats. Both of these formats are considered during the Planning, Programming, and Budget System (PPBS) process which uses the information provided to formulate the Program Objectives Memorandum (POM) and the Six Year Defense Plan (SYDP). Described later, the first two years of the POM will become the budget input that is submitted to Congress. [Ref. 3:p. C-16]

The first format of inputs considered is the program format which is, in turn, utilized to form the program budget. This format uses Program Elements (PE) which are groupings of forces, manpower, and costs associated with an organization, project or function. [Ref. 3:p. A-8]

As shown in Figure 2-1, these Program Elements are grouped into one of eleven major programs. The Navy Flying Hour Program is funded from three of these eleven programs. They are; (1) strategic forces, (2) general forces and (3) intelligence and communications. The Navy Flying Hour Program further delineates the use of funds by designating activity groups and sub-activity groups in each program, depending if the funds are for Aircraft Flight Operations (AFO) or Aircraft Operation Maintenance (AOM). See Table 2-1 [Ref. 4:encl (1)]. This program format for budget formulation is thought to comprise the output side of the budget since it identifies what specific military missions are being funded.

The other format used for budget formulation is the appropriation format. As seen in Figure 2-1, this format delineates the budget by appropriation account. The Navy Flying Hour Program falls into two appropriations: (1) Operations and Maintenance, Navy (O&M,N) for active forces and, (2) Operations and Maintenance, Naval Reserve (O&M,NR) for reserve forces [Ref. 3:p. A-12B]. Although not always the case, the O&M,N and O&M,NR appropriations are further divided into budget activities which are numbered and categorized consistent with the major programs. The appropriation format is considered the input side of the budget since it is what congress uses to disburse funds to different DOD activities.

In FY 1988 program (2), general purpose forces, accounted for 56.5 percent of the total Navy budget request while the other two programs which contains funds for the Flying Hour Program, strategic forces and intelligence and communications, represented only 6.4 percent and 2.9 percent respectively [Ref. 3:p. A-7]. For this reason

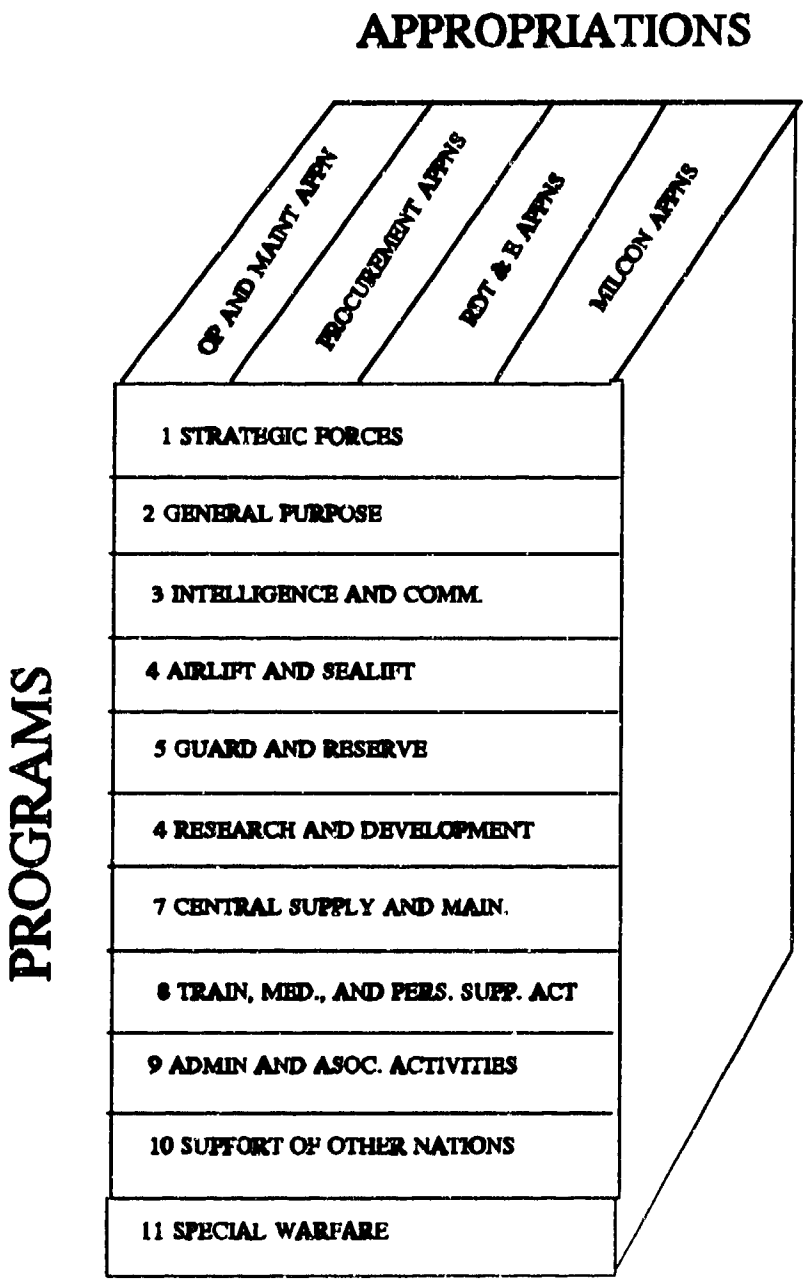

Figure 2-1 Program/Appropriation Relationship

and because later discussion will concentrate on managing the Flying Hour Program for active forces at the Type Commander level, the following discussion on budget inputs will center on program (2), general purpose forces and the Operations and Maintenance, Navy (O&M,N) appropriation.

2. Navy Chain of Command

Being the Responsible Office for O&M,N and O&M,NR appropriations, the Chief of Naval Operations has overall responsibility for the budget inputs to the Flying Hour Program but this responsibility has been delegated to the Deputy Chief of Naval Operations for Air Warfare (OP-05) and then even further down to the Special Assistant for the Flying Hour Program (OP-05E). [Ref. 5]

When formulating Flying Hour Program inputs for eventual inclusion into the executive budget, OP-05E analyses historical cost information for each type/model/series (TMS) of aircraft in the Navy inventory. As shown in Figure 2-2, there are five major claimants which comprise the Flying Hour Program [Ref. 1:p. 14]. Of these, the two Commander-in-Chief's account for over 80 percent of the total Flying Hour Program budget. [Ref. 5] For such a large and complex program the CINC's delegate virtually all responsibility (not accountability) for the Flying Hour Program to the two Type Commanders; Commander, Naval Air Forces Pacific Fleet (CNAP) and Commander, Naval Air Forces Atlantic Fleet (CNAL).

The Type Commanders submit execution cost data on their portions of the Flying Hour Programs to OP-05E quarterly via the Flying Hour Cost Report (FHCR). This report designates costs by activity group (AG): (1) Tactical/ASW Forces, (2) Fleet

TABLE 2-1 FLYING HOUR PROGRAM GROUPS

PROGRAM - ACTIVITY GROUP - SUBACTIVITY GROUP

Program	AG	SAG	Titles
I			**Strategic Forces**
	A3		Strategic Communications
		BF	Aircraft Flight Operations (AFO)
		BR	Aircraft Operations Maintenance (AOM)
II			**General Purpose Forces**
	B2		Tatical Air & ASW Warfare Forces
		BG	Aircraft Flight Operations (AFO)
		BU	Aircraft Operations Maintenance (AOM)
	B3		Fleet Air Support
		BA	Aircraft Flight Operations (AFO)
		BB	Aircraft Operations Maintenance (AOM)
	M4		Fleet Air Taining
		BD	Aircraft Flight Operations (AFO)
		BP	Aircraft Operations Maintenance (AOM)
III			**Intelligence and Communications**
	J7		Environmental/Prediction Support
		BK	Aircraft Flight Operations (AFO)
		BV	Aircraft Operations Maintenance (AOM)

Air Support forces or (3) Fleet Air Training, and by sub-activity group (SAG): (1) Aircraft Flight Operations (AFO), (2) Aircraft Operation Maintenance (AOM). [Ref. 6:p.1]

AFO costs include those incurred for purchases of petroleum, oil and lubricants (POL) consumed in the operation of aircraft. AOM costs are incurred with the purchases of support and maintenance material other than POL. These are broken down further into Aviation Fleet Maintenance (AFM) and Aviation Depot Level Repairable (AVDLR). [Ref. 7:p. 9]

AFM costs are incurred when maintenance is performed at the organizational or intermediate maintenance levels. If the maintenance required cannot be done at either of these two levels, then it is turned over to an aviation depot where AVDLR costs will be incurred. OP-05E takes a three year average of these historical operating costs from the Flying Hour Cost Reporting System (FHCRS) for each TMS and multiplies them by flying hour requirements. The method for calculating the hours required varies by program segment and will be examined in greater detail later in this chapter.

The entire package of information on cost per hour (CPH) and required hours is documented on the Operation Plan 20 (OP-20) Report. OP-05 takes the OP-20 Report and checks the Flying Hour Program requests with other fleet proposals and the Defense Guidance. [Ref. 8:p. 102] Once approved by OP-05, the OP-20 is incorporated into the budget proposal for air warfare and submitted to the fiscal management division of the CNO's office where it is reviewed by the Navy Comptroller (NAVCOMPT) to make sure it is in agreement with NAVCOMPT Notice 7111 and for compliance with CNO directives, and again the Defense Guidance. If NAVCOMPT does not agree with a

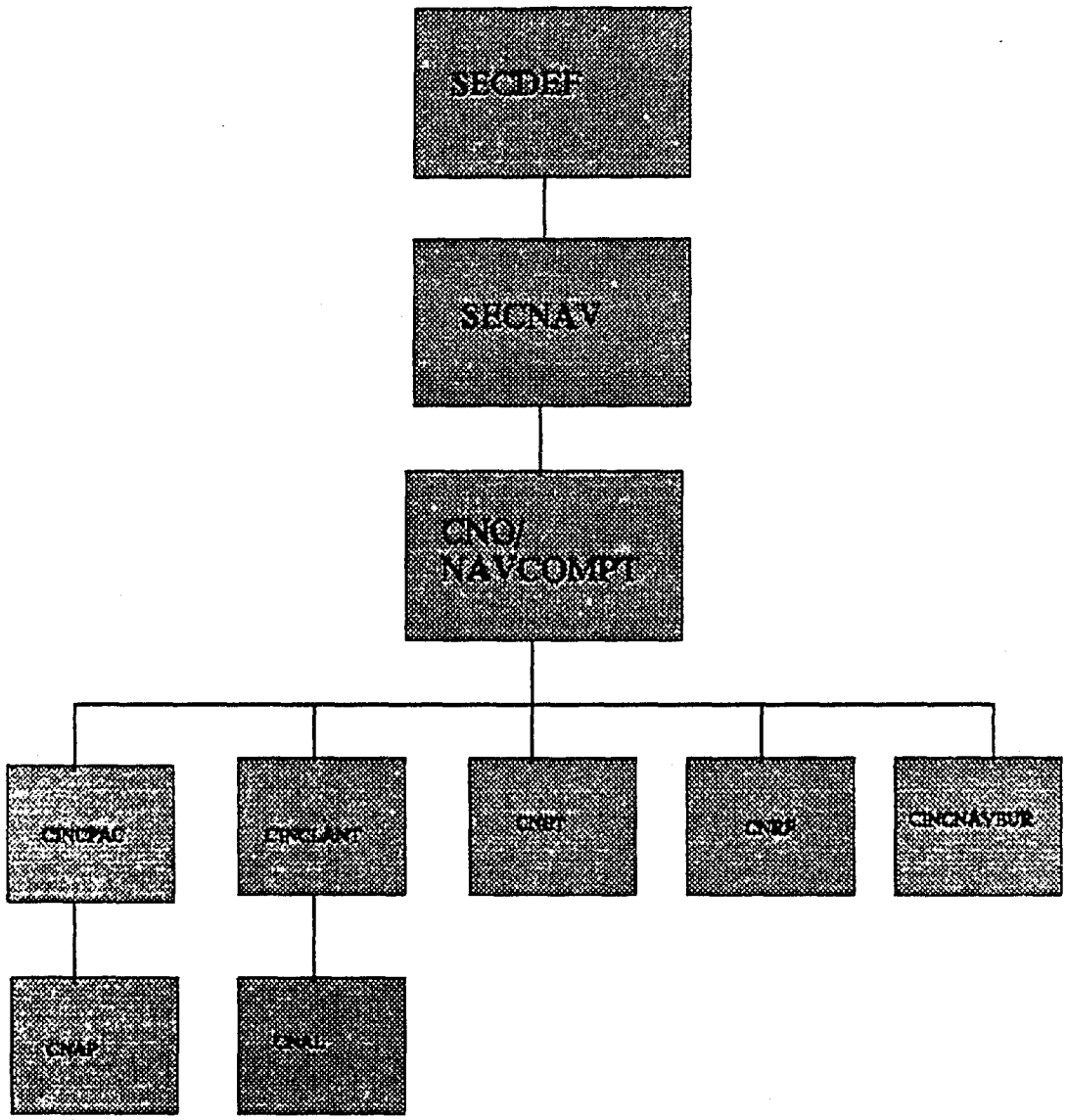

Figure 2-2 Flying Hour Program Organization

portion of a program budget estimate, it will propose an adjustment called a "mark". The submitting office must reply to a mark within 48 hours of receipt by giving a justification called a "reclama". If the disagreement between the Program Office and NAVCOMPT is not resolved with the reclama, the matter will first be referred to the CNO and then to the Secretary of the Navy (SECNAV) for the final decision. Once disputes are settled, NAVCOMPT assembles all budget submissions into a DON budget for SECNAV to submit to the Secretary of Defense (SECDEF). [Ref. 3:p. B-70]

In OSD the Navy budget proposal goes through further scrutiny and is then subject to budget hearings held jointly with the Office of Management and Budget (OMB). These hearings eventually produce the SECDEF's Program Budget Decision's (PBD) which are submitted to OMB as the defense budget for incorporation into the executive budget.

B. THE OP-20

1. Categories

The CNO's method for recording historical costs of the Flying Hour Program and projecting future costs is through the Operations Plan 20 (OP-20). There are several types of OP-20 reports published depending on the information they contain. Some OP-20's are published for the execution year on a monthly basis as Flying Hour Program operating expenses are incurred. One of these, which summarizes the total costs for program execution in the previous year, is called the history final and comes out in late January of the current budget year. [Ref. 9:p. 12] These historical OP-20 reports help

program managers at all levels keep track of their performance in program execution since the report is broken down by budget activity (program) and by major claimant.

Another category of OP-20 has three versions and is used for stating future requirements for the Flying Hour Program into next year's executive budget, otherwise known as the POM year. There will be several revisions of this OP-20 as it proceeds through the production and approval phases in the Department of Defense. There are three main versions Congress commonly references. The first edition generated by the Program Office for initial approval by higher authority is called the Program Objectives Memorandum (POM) OP-20. Once approved by CNO, NAVCOMPT, and the SECDEF, this report is referred to as the NAVCOMPT Final and the version that actually allocates funds to the Flying Hour Program is know as the Congressional Final [Ref. 10:p. 20]. Of course, the Congressional Final seldom, if ever, matches the POM OP-20 or even the NAVCOMPT Final. This usually means Flying Hour Program managers at the Type Commander level must carefully decide how and where to use limited funds for flight operations without negatively affecting safety, readiness or mission accomplishment. This complex and challenging task will be the primary discussion in Chapter Three.

The last category of OP-20 pertains to the four years after the coming budget year, referred to as the budget outyears. These are a projection of mission needs and predicted costs involved for future flight operations, and are known as planning OP-20's. These are used to complete the planning requirements used in the Six Year Defense Plan (SYDP). [Ref. 5]

2. Schedule Inputs

The POM OP-20 is broken down into the following schedules:

1. Schedule A: TACAIR/ASW
2. Schedule B: Fleet Air Training
3. Schedule C: Fleet Air Support, Strategic Air, Environmental Prediction
4. Schedule D: Naval Air Reserve Forces, Naval Air Training and Recruiting Commands and Naval Air Forces in Europe

Funding for the Flying Hour Program at the Type Commander level is contained in schedules A,B, and C. Each schedule uses different methods, inputs and formulas for deriving the projected flight hour requirements. These are described below in order of their percentage to the total Flying Hour Program funding. All use a historical cost per flight hour (CPH), as defined earlier, adjusted for differences in factors such as pricing and inflation by the Navy Comptroller. If a new type of aircraft is entering the Navy inventory then these costs must be estimated or tied to the costs of an aircraft with a similar mission, capability or function. Either way, these costs are usually only a rough approximation. This is where the similarity between formulation technique of the schedules ends.

a. TACAIR/ASW Formulation

For TACAIR/ASW budget development, OP-05E collects the following information from other divisions in OP-05 (DCNO for Air Warfare).

Force levels of aircraft are projected for the year by TMS. This is provided by a computer data base called the Aircraft Program Data File (APDF) and takes into account new procurement or any losses during the previous year due to accidents or retirement.

Crew manning is calculated by using a variable know as Crew/Seat Ratio (CSR) which is the number of full aircrews per aircraft required for a particular TMS aircraft to accomplish its mission. This figure is adjusted for variances in actual planned manning by multiplying it by an Aircrew Manning Factor (AMF). For example, if the designated CSR for an aircraft was 1.5 and there were 120 aircraft in the Navy inventory, then the Flying Hour Program would need the resources to keep 180 aircrewmen (1.5 x 120) proficient and equipped. However, OP-05E will adjust this figure by the AMF fluctuations in recruitment, retention rates, training command output, and losses to illness or accident. The final number of projected aircrewmen, in this example, could range anywhere from 126 (1.5 x 120 x 0.7) to 216 (1.5 x 180 x 1.2).

Primary Mission Readiness (PMR) is the last factor needed for TACAIR/ASW budget formulation and is the most subjective. The fleet commanders have developed and the CNO has approved a training and proficiency syllabus for each type of Tactical/Antisubmarine Warfare (TACAIR/ASW) aircraft. Each syllabus contains a schedule of flying events that must be completed by assigned aircrew each year to stay qualified in their particular aircraft. The number of hours required to complete all events is known as 100 percent PMR. CNO has taken this number of hours and adjusted them down to maintain a Navy wide rate of 87 percent PMR. Of this, two percent is accounted

for by the use of flight simulators, which are not funded by the Flying Hour Program, therefore the aggregate Navy PMR rate supported by the Flying Hour Program is 85 percent. [Ref. 2]

Now, with all factors in hand, OP-05E calculates the total dollar amount to be included in the Navy's Flying Hour Program request.

No of A/C x CSR x AMF x PMR Hours x PMR rate x CPH = Total $

b. Fleet Air Training Formulation

For Fleet Air Training (FAT) budget development, OP-05E again uses a historical cost per flight hour (CPH) that may be different than the TACAIR/ASW CPH even though it represents the same type aircraft. This is because of differences in support needed, operating environment and mission requirements between operating forces and training squadrons.

Another factor needed by OP-05E to calculate the FAT budget is the number of students to be trained. Students are programmed by category with each different category requiring a certain number of hours to complete the training. Obviously, a pilot just out of primary flight school would require more hours than a pilot that has previously flown this type aircraft in the fleet. These categories are:

1. A new crewman just out of primary training.
2. A transition crewman with fleet experienced but not in this particular aircraft.
3. A refresher crewman; Fleet experienced in this particular aircraft, but not current.
4 A refresher crewman with considerable experience in this type aircraft but not current (prospective CO, XO, Air Wing Commander).

5. Special student (ferry pilot, foreign pilot, etc.).

These hours are summed together and adjusted for overhead flights such as instructor proficiency, maintenance, weather aborts, etc. This total number of hours is then multiplied by CPH to get total dollars required. This figure may be adjusted if the number or type of aircraft changes or if the Pilot Training Rate (PTR) is varied because of demand.

c. Fleet Air Support Formulation

Fleet Air Support budget development is based not only on historical CPH but also historical utilization rates. Though other factors such as aircraft inventory are considered, the major factors in calculating the funds required are previous execution costs.

C. SUMMARY

This chapter has presented an overview of the budget formulation and approval process for acquiring resources in support of the Navy's Flying Hour Program. It has also begun to show the importance and challenge of managing the program. With funding requests being based on historical cost performance, the fiscal manager responsible for fiscal execution is torn between using allocated resources most efficiently and the fact that savings made this execution year probably mean less funds given to the program next year.

In this age of declining defense budgets, the Flying Hour Program will certainly get its share of fiscal cuts but, like other programs, may not see a proportional cut back in

mission responsibilities. This means the operational commander must manage his portion of the Flying Hour Program to ensure every dollar appropriated is used in maximizing operational results. It is this vital management role of the operational commander to the proper execution of the Flying Hour Program that will be examined in the next chapter.

III. FLYING HOUR PROGRAM AT CNAP

A. GENERAL

By the time the Navy Comptroller (NAVCOMPT) allocates Operations and Maintenance, Navy (O&M,N) funds to Commander-in-Chief Pacific Fleet (CINCPACFLT) as a major claimant, and then CINCPACFLT reallocates a portion of those funds to Commander Naval Air Forces Pacific Fleet (CNAP) in support of the Flying Hour Program, the resources requested for flight operations seldom match the resources provided. This is not only due to these times of shrinking defense budgets but because of higher priority programs suddenly appearing, either from unexpected occurrences such as natural disasters and third world conflicts, or because of decisions from the higher level echelon. Another way funds are often reduced is the use of appropriation withholds. These withholds are a small percentage of total the funds provided to a program and are held in reserve by major claimant, Chief of Naval Operations (CNO) or NAVCOMPT for contingency purposes. They are usually returned to the program intended if they were not needed by midyear. But these funds are not always returned and this uncertainty adds to the management challenge.

Even without these cuts in program funding, the execution of the Flying Hour Program at the Type Commander level is a complex and difficult process. This chapter will examine the program execution procedures used at Commander, Naval Air Forces Pacific (CNAP) for efficient and effective management of the Flying Hour Program.

Similar to classifications used in budgeting, the funding for executing the CNAP portion of the Flying Hour Program is divided into two major areas which correspond to sub-activity groups seen earlier. These are:

1. Aircraft Flight Operations (AFO); This includes petroleum, oil and lubricants (POL) used during flight operations and any required flight equipment (helmets, flight suits, survival equipment, etc.)

2. Aircraft Operations Maintenance (AOM); This is further broken down into Aviation Fleet Maintenance (AFM) and Aviation Depot Level Repairable (AVDLR). These provide all material and equipment necessary to perform scheduled and unscheduled maintenance on aircraft at the organizational, intermediate and depot level. These also include all maintenance related support equipment, tools and material used for flight operations.

The procedure CNAP uses to distribute these funds is by one of two means, depending on the level of management responsibility given to the operating unit. One way is by the issuance of an Operating Target (OPTAR). Almost all funds for AFO are distributed to aviation squadrons in the form of OPTAR's. Known collectively as OPTAR Functional Category Zero One (OFC-01).

The other way CNAP distributes Flying Hour Program funds is through Operating Budgets (OB) which are usually given to Naval Air Stations. These are given to Naval Air Stations and are used extensively with AOM funding since most maintenance facilities are located at air stations. When AOM is performed while deployed away from an air station, then it is funded by an AFM OPTAR given to the maintenance facility, and these are referred to as OFC-50 funds.

Disregarding slight differences with expenses included as part of the OFC-01 category, these classifications are traced directly to the sub-activity groups explained in Chapter Two. The difference between OFC-01 funds and those which were budgeted as AFO funds is that OFC-01 funds include several items that were originally budgeted as AOM. This regrouping of funds occurs at CNAP in order to provide the squadron commanding officer direct financial control over as many costs as possible which impact on his squadron's safety. This also avoids some of the shifting in fund responsibility from ship to station each time a squadron deploys.

The specific emphasis of this chapter is to analyze each funding category which CNAP must manage in support of the Flying Hour Program and show how funds in each are disbursed, used and reported.

B. AIRCRAFT FLIGHT OPERATION FUNDS

1. Fund Allocation

The expense limitation on AFO funds granted by CINCPACFLT to CNAP is further apportioned to subordinate aviation commands with inputs from their operational commanders using Operating Targets (OPTAR's), Operating Budgets (OB's) and Annual/Quarterly Planning Figures (APF/QPF). The dollars provided from these documents reflect estimated flight hour requirements of individual units, adjusted to reflect funding constraints and utilized in conjunction with historical cost per hour standards to compute aircraft flight operation grants APF's and QPF's are assigned to the Commanding General of the Fleet Marine Force, Pacific Fleet (CG FMFPAC) for

Marine Corps aviation units and to Naval Air Forces Pacific Fleet Carrier Air Wing Commander's (NAVAIRPAC CAG's) for all squadrons assigned to air wings. The use of APF's allows the force/wing commander the ability to align resources as they deem necessary to achieve operational and training responsibilities assigned. Basically, an APF is a lump sum figure given to the operational commander which is divided between several aviation squadrons at his discretion. QPF's are used as another management tool for operational commanders to indicate to CNAP how annual funds should be allocated into quarterly portions which also coincides with the time period which funds are granted by CNAP. After these planning figures have been used to decide the timing and amount of funds to be given to subordinate squadrons, the operational commander will submit OPTAR Authorization Notifications to Fleet Accounting and Disbursing Center, Pacific (FAADCPAC) and CNAP monthly. [Ref. 11:p. II-1]

This allocation procedure pertains to all operational units in the TACAIR/ASW category except for the fixed wing antisubmarine patrol aircraft (VP) community and the light antisubmarine helicopter (HSL) community. For these squadrons, inputs to determine operating targets are given to CNAP by the Functional Wing (FUNCWING) Commanders; COMPATWINGSPAC for VP and COMASWWINGPAC for HSL. [Ref. 2]

Fleet Replacement Squadrons representing the Fleet Air Training portion of the Flying Hour Program and Fleet Air Support squadrons receive OPTAR grants directly from CNAP. Finally, the aircraft assigned to various air stations on a permanent basis

will have AFO requirements funded out of the base operating budget which provides resources for the operation and maintenance of that facility.

The difference between Operating Target (OPTAR) and Operating Budget (OB) is that an OPTAR is an administrative rather than legal limitation on expenditures provided to an operating unit. The various OPTAR's which support the Flying Hour Program come out of the operating budget that CNAP is responsible for managing. The Operating Budgets of naval stations also come from CNAP but are managed by an individual comptroller who, like CNAP, is subject to the legal statutes of U.S. Code 1517 during the life of the appropriation which supports that activity. In the case of the O &M,N appropriation, this period is three years. [Ref. 11:p. II-1]

OPTAR holders are responsible for remaining within the OPTAR grant assigned by CNAP and ensuring bills reflected on Summary Filled Orders/Expenditure Difference Listings (SFO/EDL) are correct to ensure the OPTAR grant is not exceeded during the three year life of the appropriation. Operating Budget holders have more discretion on how funds are used but must still ensure flight operation funds are not used for other purposes. [Ref. 11:p. III-1]

2. Fund Execution

Once fiscal limitations of AFO funds are formulated with inputs from the force and wing commanders and approved by CNAP, quarterly OPTAR grants are given to each operating unit or squadron. Receipt of an OPTAR is considered authorization to place obligations against CNAP funds up to the amount of the OPTAR grant. This distribution of funds down to each operating unit means a further delegation of the

responsibilities for proper and efficient use of Flying Hour Program funds to the squadron commanding officer. Although this responsibility holds no legal consequences for poor management of resources, commanding officer performance evaluations are based heavily on fiscal administration of OPTAR grants. [Ref. 2]

When OFC-01 funds are used by placing orders for desired material, it reduces the OPTAR funds available. The nature of the charge (fuel, oil, equipment, etc.) is identified on the requisition document by a fund code. Along with the fund code, the requisition records; type aircraft, operating unit, part number (if applicable), dollar value, amount (gallons, units, etc.) and the transaction date. A copy of all requisitions are processed at FAADCPAC in order to track and later verify total obligations by squadron.

At the same time, each aviation command is required to maintain a Requisition/OPTAR Log to record obligations and report periodic information on expenditures to the CAG, FUNCWING, and/or CNAP so they can monitor overall program execution and to reconcile differences with FAADCPAC. This Requisition/OPTAR Log is maintained by the squadron material officer but the accuracy of the log is the duty of every pilot in the command since they will often have to sign and retain a copy of the fuel requisition for incorporation into the log at the end of a flight.

At the end of each month, squadrons will total obligations in the Requisition/OPTAR Log by fund code and report the results to FAADCPAC, CNAP, and their force commanders using the Budget OPTAR Report (BOR). [Ref. 11:p. IV-1]

Since the majority of AFO funds are used for petroleum, oil and lubricants (POL) used in flight operations and therefore their rate of use fluctuates directly with the operating tempo (OPTEMPO) of aviation forces, it is very difficult to allocate quarterly resources with a high degree of accuracy because it is nearly impossible to predict the future need for naval air forces. It is therefore necessary to let some OPC-01 funds cross the quarterly limits on their use. This is especially true for CAG's who have over 80 TACAIR/ASW aircraft which have been apportioned their operating funds on the basis of projected operating cycle of the carrier air wing (CVW). As seen in Figure 3-1, even a small change in the deployment cycle of a carrier air wing can equate to large changes in PMR hours and therefore the OFC-01 funds required.

The variations on PMR shown in Figure 3-1 deserve further explanation at this point. As explained earlier, the CNO has calculated the required number of flying hours by TMS to be fully mission ready (100 percent PMR) and has required TACAIR/ASW forces to operate at a minimum of 85 percent of this figure. This means that annually, and on average, Navy and Marine Corps aviation units will fly 85 percent PMR. This does not mean that every aircrewman will fly 85 percent PMR every month or even for the year. Some squadrons will fly more than 85 percent PMR for a year while others will fly less, but the Navy wide average will be 85 percent. Most TACAIR/ASW units deploy onboard Navy ships and fly much more when at sea than when back at a Naval Air Station. Operational commanders must have flexibility when using their forces if they are to be effective in accomplishing their day-to-day missions,

and although they have the authority for changing the PMR of each squadron under their control, they are still responsible for the safety and training of those forces.

The fact that a change to the deployment schedule of a carrier air wing affects the OPTEMPO of all squadrons assigned, means that the amount of operations may fluctuate greatly below or above what was expected when QPF's were formed and therefore CNAP has authorized CAG's to either carry-over five percent of one quarter's QPF into the next quarter or to exceed a quarter's QPF by five percent for the first three quarters of the fiscal year. Any carry-over in excess of five percent shall be reclaimed by CNAP. This authorization is known as a zero-sum provision because it only changes the timing of fund distribution, not the total amount. Any excess funds expended in the first three quarters will be subtracted from the final QPF. [Ref. 11:p. III-1]

For squadrons not assigned to a carrier air wing (CVW), the unobligated balance shall be reclaimed by CNAP. This is because operating squadrons assigned to FUNCWING or FMFPAC do not deploy on the same schedule with each other and therefore changes in deployment cycles make small variations in overall OPTEMPO.

3. Budget OPTAR Report

The Budget OPTAR Report (BOR) is due into FAADCPAC, CNAP and the operational wing commanders by the second working day following the month of the report. It is the BOR that is the primary financial management device used at CNAP for administering the Flying Hour Program. It is also the basis for official accounting records which form the inputs to the CNO Flying Hour Cost Report. The reason that BOR's are used for official accounting of program execution and not requisitions processed at

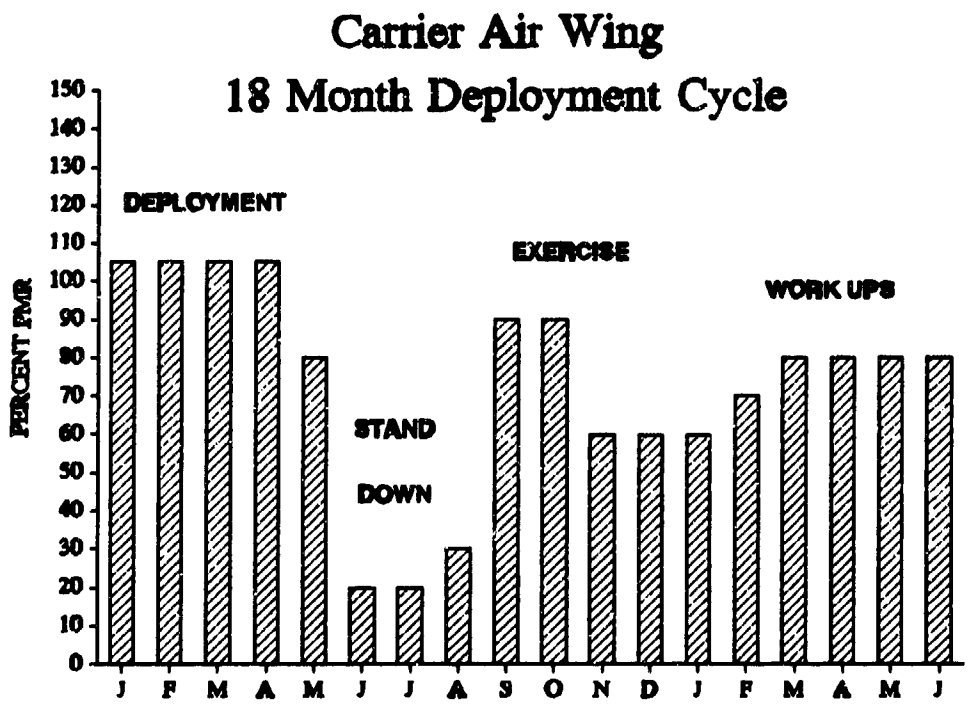

Figure 3-1 Carrier Air Wing Operating Cycle

FAADCPAC is because BOR's provide the basis for obligational accounting while requisition processing keeps tracks of actual expenditures. Obligational accounting is somewhat like a personal checkbook, each time a unit contracts for goods or services it decreases the balance in its account whether or not the bill for these goods or services has actually been paid. These goods or services are given with the understanding that reimbursement will be made sometime in the future. This commitment is called an obligation. Once an obligation is liquidated and funds are disbursed, it becomes an expenditure. In the long run obligations and expenditures should be approximately equal but in the short run they can be quite different. A common reason for differences between obligations and expenditures happens when pilots purchase fuel for their aircraft while at either an Air Force base or overseas. The obligation for the purchase of fuel will be recorded when the aircraft returns to it's home base, and reported to CNAP in that months BOR. The requisitions for payment (when the obligation becomes an expenditure) may not reach FAADCPAC for 12 months and, in the case of O&M,N appropriations, can legally be paid two years after the year of execution.

It is the timeliness of the information on obligations which is the reason CNAP, FAADCPAC, and operational commanders use the BOR as the primary tracking device for Flying Hour Program execution. Its accuracy and timeliness is of extreme importance since future funding decisions are contingent on past execution. There is a BOR for each group of funds disbursed. These are distinguished from each other by an OPTAR Functional Category (i.e. OFC-01, OFC-50). The AFO BOR reports:

1. Obligations by fund code.
2. Total amount of OPTAR used.
3. Flight hours for the month and cumulative for the fiscal year.
4. Monthly fuel consumed.

CNAP receives, records, tracks and validates over 144 BOP's each month. Discrepancies are reconciled with the reporting squadron and corrected when verified with FAADCPAC records. [Ref. 12:p. 43]

The information provided by the BOR allows CNAP to insure that:

1. Financial transactions are not incurred in excess of funds distributed.
2. Funds are used only for the purpose they are intended.
3. Unliquidated obligations (unpaid bills) are reviewed periodically to make sure they are still valid.
4. Funds not utilized at one unit can be redistributed among other commands.
5. A line of communication exists between CNAP and operating units to allow timely transfer of financial concerns, needs or ideas.
6. An effective internal review program is tracking the performance of local program managers.

C. AIRCRAFT OPERATING MAINTENANCE FUNDS

1. Maintenance Levels

Aircraft Operations Maintenance (AOM) funds are for the purpose of supporting the maintenance requirements of the Flying Hour Program. These

requirements are satisfied at one of three levels in the Navy depending on the complexity and uniqueness of the work to be performed.

The first level of maintenance is the most common or routine maintenance performed on each type of aircraft. It is called organizational level (O-level) maintenance because it is performed at the squadron, the organization which has direct control over naval aircraft. This level of maintenance can range from washing the aircraft to changing an engine. It includes whatever is necessary and within their capability to keep the squadron aircraft operating at full mission capability (FMC), parts and expertise allowing. The most common use of AOM funds for organizational level maintenance, since labor is not part of AOM, is for relatively inexpensive parts and supplies which are used in large amounts called "consumables". These consumables are so named because once they are used or worn, they are thrown away. Examples of consumables are: tires, bolts, paint, soap, grease and paper towels.

Many times a part is found to be inoperative at the organization level and to repair it is beyond the capability of the squadron. This is when the next maintenance level will be used. Known as intermediate level (I-level) maintenance, this level consists of maintenance facilities called Aircraft Intermediate Maintenance Departments (AIMD's) which are usually located on Naval Air Stations or air capable ships. AIMD's are organized by the area of expertise. For example, a Naval Air Station would have an AIMD for engines, electronics, hydraulics, and other appropriate systems.
This centralization of maintenance functions allows AIMD's to use specialized skills, equipment and parts more efficiently then if they were handled at every squadron.

If an AIMD determines that the maintenance required is beyond their capability or the squadron maintenance manuals indicate that it is not an AIMD repairable, then the third level of aviation maintenance is required. This is known as depot level maintenance and the items requiring this level of maintenance are known as Aviation Depot Level Repairables (AVDLRs). Depot level maintenance is where the complex and timely overhaul work is accomplished, whether it is a electronic circuit board or an aircraft engine. These maintenance functions are centralized throughout the United States at sites called Naval Air Rework Facilities (NARF's). Unlike AIMD's, NARF's are not located at every Naval Air Station and the ones that are do not always serve the requirements of every type of aircraft at that station. This means that parts requiring depot level maintenance must sometimes be shipped great distances for repair. This is not to say every time a squadron needs depot level maintenance it must ship the part to the appropriate NARF and wait until it is returned.

When a part requires Depot Level Maintenance the squadron will turn in the part to an AIMD and draw a good one out of the inventory of parts held there and that are ready for issue (RFI). AIMD's are usually stock points for parts they are responsible for repairing. If the broken part can be repaired by the AIMD, it is repaired and returned to the RFI inventory. If it can not be repaired at the AMID it is shipped to the appropriate NARF for repair or replacement. A good part is returned to the AIMD and put back in the RFI inventory. This allows for greater availability of replacement parts but also complicates the management of the supply system.

If depot level maintenance is required on a large assembly of the aircraft or the airframe it sometimes becomes more fiscally efficient to send a team of NARF technicians to the location of the aircraft to complete the required maintenance. The funds for this maintenance will still come from the ship or station which were allocated AOM funds for support of that particular aircraft.

Naval Air Rework Facilities also conduct extensive overhauls on naval aircraft that can only be completed at the NARF location. These periodic inspections cover every system on the aircraft and usually include stripping and repainting the aircraft. Though this is depot level maintenance being performed, it has been planned and budgeted into the purchase of the aircraft and therefore is not charged to AOM funds and not considered in the management of the Flying Hour Program. [Ref. 2]

2. Fund Allocation

In the latter half of the 1980's, it was recognized that improvement in managing the Aircraft Operations Maintenance funds was possible but required a working knowledge of aviation maintenance activities. It was at this time that the responsibility for allocating AOM funds and monitoring the execution of those funds at CNAP was transferred from the office of the Force Comptroller to a new office in the department of the Force Readiness Officer. This office, known as the AVDLR/AFM Project Office, not only has individuals who have management expertise and experience in the areas of Navy supply and accounting but also those who have an in depth knowledge of how aviation maintenance programs operate. This office took over the major functions of managing AOM resources. These functions as listed in the local mission statement include:

1. Manage the distribution of AVDLR/AFM funds within the Flying Hour Program.

2. Evaluate subordinate unit program execution/operations to determine effectiveness of management controls, operating procedures, organization, and work load with the principle emphasis to improve AVDLR/AFM management effectiveness.

3. Coordinate, review, and recommend policies and procedure.

4. Integrate efforts of staff functionaries in the areas of material, supply, and comptroller to ensure consideration of AVDLR/AFM resource issues.

5. Strategic planning and corporate information management.

This does not mean the Force Comptroller has given up complete responsibility of this portion of the Flying Hour Program. It means the Force Comptroller and CNAP recognized that the complexity of allocating and tracking AOM funds required an office with specialization in that area.

Budgeting and accounting for AOM, as for all of the FHP, still is the comptroller's responsibility. AOM allocation and execution decisions by the AVDLR/AFM Project Office are coordinated within CNAP to coincide with an overall effective Flying Hour Program.

One of the first goals of the newly formed AVDLR/AFM Project Office, which was another reason for its creation, was to determine a set of aircraft operating variables which could be put into a formalized database and used to allocate AOM funds. Though much progress has been made in identifying those variables that affect AOM costs; such as aircraft type, age, geographic location and deployment schedule. no formalized equation or computer system has been developed for predicting AOM costs.

Therefore the allocation of AOM funds is formulated as it was before this new office was established. [Ref. 13]

As with AFO funds, AOM funds are allocated by CNAP granting quarterly OPTAR's and annual operating budget OB's to units responsible for supporting maintenance requirements. For Naval Air Stations and Naval Air Facilities, CNAP uses NAVCOMPT Form 2168-1 to authorize obligations for AOM as part of that station's Operating Budget. The amount of funds allocated is usually on the basis of historical execution with adjustments made for fiscal constraints, changes in number/type aircraft, and inflation. This means historical cost per flight hour for AFM and AVDLR is multiplied by the projected hours per TMS to get funds required by type of aircraft. These are then allocated based on which stations or ships will support these aircraft and, in the case of deployable aircraft, at what times. Program elements within the Fleet Air Training and Fleet Air Support budget categories are applied directly to the station which supports those aircraft. For example, PE 24251N is for training P-3 aircrew and NAS Moffett Field provides support for VP-31, the P-3 fleet training squadron. Therefore, NAS Moffett receives the majority of AOM funds associated with PE 24251N on its operating budget. [Ref. 4:P. III-1]

For air capable ships which support deployed aviation squadrons or detachments, and for Marine Corps aviation units, AOM funds are provided by AOM OPTARS which also coincide with funding decisions made for AFO resources. These ships or MAGS (Marine Air Groups) are to report AOM obligations to CNAP by use of

Aircraft Operations Maintenance (AOM) budget OPTAR reports (BOR's). [Ref. 4:, encl (3)]

For squadrons conducting organizational maintenance, AOM funding is provided as part of CNAP's AFO grant and AOM obligations are to be reported on a single flight operations BOR. This simplifies the administrative reporting requirements for squadron commanders. Upon receiving squadron BOR's, CNAP will gather costs by the appropriate account from which funds were provided.

Transient aircraft which are solely supported by a CNAP station or ship for a period of a week or less, will have all costs of aircraft maintenance funded by the host station's operating budget and reported in the station's flying hour cost report or the host ship's OPTAR and reported on the AOM budget OPTAR report. If transient aircraft require support for more than a week, the host station or ship should attain funding from the transient aircraft's controlling custodian (i.e. CNAL, CNARF or CNET) prior to the aircraft's arrival. In this case, costs are not reported to CNAP on FHCR/AOM BOR but to the controlling custodian by separate correspondence (SEPCOR).This action allows CNAP to build the cost of supporting transient aircraft into the AOM budget base. [Ref. 4:encl (3)]

In cases where AOM funds allocated are insufficient for a units needs, a request for additional funds may be submitted to CNAP if one of the following has occurred:

1. Abnormally high costs brought about by specific maintenance efforts or poorly designed material. An example of this was seen when defective parts in the F-18 tail section were discovered and needed to be replaced.

2. Unexpected increase in cost of parts or material due to either rate of use or price. Since many items are purchased outside the Navy Supply System (Defense Logistics Agency (DLA), Government Service Agency (GSA), DOD stock fund, etc.) prices can rise unexpectedly.

3. An unexpected need to increase repair capability. A station/ship may find that it needs new equipment or materials to keep the aircraft mission capable.

Funds provided in response to augmentation requests will come from either: 1) a surplus of funds from another unit, 2) a funding augment or return of a withhold from higher authority, 3) an early allocation of funds from a later quarter, or 4) the balance of funds at CNAP obtained through AVDLR credits. This last source will be explained in greater detail later in this chapter.

3. Fund Execution

a. General

Whenever maintenance is performed on Naval aircraft, the action required and material used is documented on a standard form known as a Visual Information Display System /Maintenance Action Form (VIDS/MAF). If the maintenance is completed at the squadron (organizational level) maintenance department the VIDS/MAF is closed out by squadron personnel and a copy showing material used is sent to the local accounting activity. If parts are found which need a higher level repair capability than available at the squadron, a copy of the VIDS/MAF is attached to the part and it is forwarded to the nearest AIMD for repair or replacement. If repaired, AIMD will

annotate the amount of I-level maintenance performed on the VIDS/MAF before sending a copy to the local accounting activity. If the item is beyond the capability of maintenance (BCM), AIMD will annotate a standard charge for replacement and ship the part to a Designated Overhaul Point (DOP) for required depot level repair work. If the old part is not available for turn-in, a higher price is charged and a credit is given when the old part is received by supply.

b. Accounting and Reporting

In order to collect AOM costs and relate them specifically to the budget activity, sub-activity, program element and TMS aircraft for which they were budgeted, CNAP requires certain accounting and reporting procedures from the major users of AOM funds. This information is fed into CNAP's Flying Hour Cost Analysis System (FHCAS) and correlated with FAADCPAC official records on AOM obligations to validate the accuracy of information prior to submitting to OPNAV for use in budget formulation. For AOM OPTAR holders, such as air capable ships and Marine Corps aviation units, accounting for AOM fund execution is similar to the procedures used by squadrons to report AFO fund execution. The exception being that squadron BOR's do not need to explicitly specify AG/SAG or TMS of aircraft since it is derived from the squadron's identification. Since AOM services at the Intermediate or Depot level are provided to several squadrons, it is necessary to identify the recipient of services provided. This is accomplished through the use of Type Equipment Codes (TEC's), which are four letter codes annotated on all maintenance forms and requisitions. Every TMS aircraft in the Navy/Marine Corps inventory is given a TEC and a different TEC is given for the same

type aircraft used in different activity groups, (i.e. TACAIR/ASW, FRS and FAT). All major components of aircraft (engines, transmissions, landing gear, ejection seats) also have their own distinct TEC.

In order for CNAP to properly manage the execution of AOM funds and to attain future funding levels for each TMS aircraft commensurate with actual AOM costs, it is critical that costs are correctly matched to Type Equipment Codes (TEC) of the final consumer. Activities providing AOM services are to ensure that the combined total dollar value of costs assigned to the TEC for miscellaneous costs is less than ten percent of the total activity's AOM allocation. The greater the dollar value of miscellaneous costs, the less accurate the AOM costs for a particular aircraft. Through accurate and timely reporting, CNAP is able to: 1) correct deviations between budgeted and reported AOM costs per hour, 2) reprogram AOM funds during the fiscal year in order to maximize the effectiveness of these funds, and 3) prevent future fiscal year budget reductions in AOM caused by faulty reporting. [Ref. 4:encl (5)]

Shore activities with their own Operating Budgets structure their accounting of AOM fund execution by using a job order system to collect costs by the appropriate AG/SAG (i.e. TACAIR/ASW, FRS, FAS, and AFO or AVDLR) and to report costs by the appropriate TEC on the Flying Hour Cost Report which is sent to CNAP. This shore activity accounting structure serves two purposes: (1) The collection of cost information under a standardized system to uniformly identify and report costs to higher authority; and (2) the collection of cost information in a manner which provides reports suitable for local management purposes. Because of this latter purpose, shore activity

accounting structure adds additional levels of cost definition to the levels used by the Type Commander.

This increased detail of the sources of costs in AOM is provided by Job Order Numbers (JON's). Local accounting activities and FAADCPAC have developed JON structures to produce accrued expenses at the various levels required by CNAP but also with the flexibility to allow collection of detail costs at any level desired by local management. This includes the capability to distinguish costs by:

1. Departments cost centers, and reimbursable customers.
2. Divisions/Work centers within each department/cost center.
3. Type of material purchased.

Job Order Number's are annotated on all documentation for the procurement, consumption, application or work request for resources under the management of shore activities and allows the local manager to track the use of budgeted resources by both customer and provider.

c. Supply System

Parts and materials purchased by AOM funds fall into one of two categories, consumable or repairable items. As seen from the examples presented in Table 3-1, consumables are those items with relatively high usage, low price and are usually disposed of after the end of their useful life. Consumables used in AOM usually come from the Department of the Navy Stock Fund (DONSF) but can also be obtained from four other stock funds which provide support to Navy units. These are Department

of the Army Stock Fund (DOASF), Department of the Air Force Stock Fund (DOAFSF), Defense Logistics Agency (DLA) or General Services Administration (GSA). Though these funds are operated as separate entities, each can purchase material from one another or from commercial activities. All of these funds are known as working capital funds or revolving funds because they are used to purchase and hold inventories of supply items until needed by customers. Prices of products supplied by these funds cover the costs of operating the fund. In the case of DONSF, the initial purchase of inventories is made out of Navy procurement appropriations but then replacement costs are reimbursed from the portion of the O&M,N appropriation for each customer. The pricing of products by fund managers also allows for regrouping the costs from obsolescence, loss, transportation and inflation while price stabilization, expansion of inventory and wartime spares require direct appropriations. [Ref. 3:p. G-4]

The other category of items used in AOM is the repairable. Repairables are those items that are large, complex, and/or expensive which can be repaired at a fraction of the cost required to replace them. The AVDLR portion of AOM consists only of repairables. The management of repairables used in AOM are managed solely by DONSF via the Aviation Supply Office (ASO) and is similar to the management of consumables except that repairables required a much more complex administrative system.

When AIMD determines that a part requires depot level maintenance a Ready For Issue (RFI) part is drawn from a stock point and issued to the customer, as a replacement. The inoperative part, called a carcass, is required in exchange. If the operating unit's location or mission requirements does not allow for an exchange when

TABLE 3-1 SAMPLE LIST OF AOM CONSUMABLE ITEMS

	Material	Use
1.	Paints, wiping rags, towel service, agents, preservatives, and cutting compounds.	Used in prevention and corrosion control of aircraft, cleaning engines, and support equipment (SE).
2.	Pre-expended bin material	Pre-expended, consumable material meeting requirements used in maintenance of aircraft, engines, aircraft components, SE, etc.
3.	Fuels and Lubicants	POL used in I-level maint., aircraft, hydraulic fluids, engines, aircraft components, and SE.
4.	Hands tools	Consumable hands tools used in maintenance of aircraft, engines, and aviation ground support equipment.
5.	Saftety/Flight Deck Shoes	Safety/Flight deck shoes used in maintenance shops, with maintenance support equipment, or on the flight deck flight operations by maintenance personnel only.
6.	Packing and Preservation material	Items consumed in packaging/ preservation of maintenance repairables for protection.
7.	Special Clothing	Authorized special clothing for unusually dirty work while performing maintenance on

issuing the RFI part, the maintenance activity will be charged the full cost of purchasing a new part called the standard price which is set by ASO. If the old part is turned into the supply system for repair, the maintenance activity will only be charged for average repair costs for that particular part, called the net price. Net prices average sixty percent of the standard price but it is not unusual for a piece of electronic equipment to have a net price of less than ten percent of the standard price. This significant difference in cost charged to a facility's OPTAR or operating budget emphasizes the importance of ensuring that old repairables get to their Designated Overhaul Point (DOP) so that the price credit can be received. In the case of OPTAR holders, this credit is returned to CNAP for redistribution.

The DONSF is managed at three levels in order to exercise effective control over the extremely large inventory of parts. At the top, the Naval Supply Systems Command (NAVSUPSYSCOM) is the stock fund manager and is solely responsible for the smooth and efficient operations of the stock fund at all levels. NAVSUP receives obligational authority for the stock fund and delegates the responsibility for these funds to the budget project managers. As seen in Table 3-2, budget projects break the range of stock fund items into commodity groups with Aviation Supply Office (ASO) being responsible for items needed for AOM. These budget project managers do not actually carry an inventory but rather conduct the administrative duties such as price setting, distribution and budget formulation for direct appropriations if needed. [Ref. 3:p. G-15]

The third level of management of the DONSF is the stock point. Stock points are responsible for receiving, storing, distributing and accounting for the parts and

TABLE 3-2 NAVY STOCK FUND ORGANIZATION

Budget Project	Commodity	Budget Project Manager
14	Ships Parts	Ships Parts Control Center
15	Forms	Navy Publications and Forms Center
25	Special Account	Naval Supply Systems Command
21	Commissary Stores	Navy Resale Systems Office
28	General	Fleet Material Support Office
34	Aviation	Aviation Supply Office
38	Retail Fuel	Fleet Material Support Office
81	Non-Aviation	Ships Parts Control Center
85	Aviation Repairables	Aviation Supply Office

material kept in inventory at these sites. Stock points are conveniently located near the customers they will serve or onboard major aviation ships. [Ref. 3:p. G-9]

d. Performance Indicators

From the VIDS/MAF's recorded for every maintenance action conducted and from other supply documents, a system of measurements were identified to gauge the effectiveness in the execution of AOM funds. [Ref. 7:p. 37]

These include:

1. System Material Availability (SMA); This represents the percentage of requisitions that are filled for an item upon request anywhere in the supply system. The item does not necessarily have to be at a local stock point but is available somewhere and available for using. Depending on repair time and carcasses being returned to DOP in a timely manner, the availability of RFI items should stay constant.

2. Level of Repair Execution; If the percentage of AOM funding drastically changes between AFO and AVDLR, it may indicate problems with the required capabilities of organizational and intermediate maintenance activities (OMA/IMA). These problems could include manpower, parts or training.

3. NMCS/PMCS Time; The amount of time an aircraft is not mission capable because of supply (NMCS) or partially mission capable because of supply (PMCS) is usually because a required item is not available. This means that either there are not enough parts in the supply system or maintenance activities are not able to repair them fast enough for reissue.

4. Subsystem Capability Impact Reporting (SCIR); Similar to reporting NMCS/PMCS time, this provides detailed information on exactly what items or materials caused the aircraft not to be fully mission capable (FMC). This information can help in the control and distribution of vital or high use items.

5. Cannibalization Rates; This indicates the number of times squadron maintenance personnel remove good parts from one aircraft in order to repair another aircraft. This practice is discouraged except in those instances when replacement parts are not available from an AIMD or Stock Point and it essential that a particular aircraft be repaired. A high cannibalization rate is indicative of an ineffective supply/repair system.

6. Awaiting Parts (AWP) rate at AIMD's; This is the amount of time it takes an AIMD to repair an item rather than turning it for depot level work and receive an RFI in exchange. It is less expensive for the station to have items repaired locally so AIMD's are encouraged to hold and repair as many items as possible but this may cause an excessive amount of time for customers to wait for repaired items.

7. Retrograde Time; This is the amount of time it takes for a carcass to reach a DOP from when it was replaced with a RFI part. It measures the effectiveness of the supply system in tracking carcasses (retrograde) to DOP for repair and reissue.

These measurements assist managers with monitoring the level of success in accomplishing the primary goal of AOM. This goal is best described in the mission statement of the AVDLR/AFM project office, that is, "to ensure best AVDLR/AFM resource utilization for increased mission readiness". [Ref. 13]

Without an effective AOM program to support the material readiness of the aircraft and aircrew, there can be no sustained mission capability of the Naval Air Forces which comprise the Flying Hour Program.

D. SUMMARY

The execution of the Flying Hour Program is designed around a series of systems for collecting and processing recurring information in order to move effectively use limited resources. These systems are used Navy wide and known as Resource Management Systems (RMS).

Since inception in the late 1950's, RMS decentralized the responsibility for the proper and efficient use of appropriated funds down to the lowest possible manager who can measure the use and cost of resources employed in accomplishing their assigned missions. It has also allowed the collection of accounting information under a uniform

expense account structure so it could be used by the operating manager and at the same time be consistent with the information used for budgeting [Ref. 3: D-28]. RMS established responsibilities and relationships between NAVCOMPT, the major claimant, the administering office and the suballocation (or expense limitation) holders. RMS tied obligations and expenses directly to appropriations hence the use of activity and subactivity groups. Finally, RMS established the job order structure which allows the collection of costs under a uniform expense account structure.

This chapter has examined the accounts, procedures, and reports which make up the Resource Management Systems of the Flying Hour Program at the Type Commander level.

IV. CHALLENGES WITH MANAGING THE FLYING HOUR PROGRAM

A. GENERAL

The basic goal of the Flying Hour Program is to get the most effective air force possible with the resources provided. Two situations that could prevent this maximizing return on investment are: 1) Expending more resources than necessary to accomplish a mission or, 2) Conducting missions that reduce the overall effectiveness of the Flying Hour Program (FHP).

This chapter will examine specific circumstances where one of these two situations occur. Some have to do with invalid or incomplete budget formulation inputs which cause insuffcient or, at a minimum, inaccurate fiscal requirements to be funded. Some will address the unnecessary use of the resources for various purposes and others will point out the need for improved management in different aspects of the Flying Hour Program.

B. BUDGET FORMULATION FACTORS

1. Cost Per Hour (CPH)

In the budget formulation process, as explained in Chapter Two, the historical cost per flight hour for each type\model\series (TMS) is used to calculate the funds required for future Flying Hour Program needs. This CPH is derived from dividing total hours flown into total dollars spent in support of those hours and presumes there is a

direct correlation between costs and flying hours. Besides being calculated for each TMS of aircraft, CPH is broken down by Aircraft Flight Operation (AFO) and Aircraft Operations Maintenance (AOM) The problem with this method for figuring future requirements comes primarily from the AOM CPH.

Since a majority of AFO funds finance the fuel requirements of aviation forces there is a much closer correlation between costs and flight hours than with the AOM portion of the Flying Hour Program. Although this direct correlation between fuel costs and flight hours flown validates the use of CPH for predicting future AFO needs, the CPH used is not always a true representation of fuel costs incurred. This is because many times fuel is received from sources such as other nations or services and not charged to the Flying Hour Program. This happens frequently on joint exercises or multi-national campaigns and there is no record to track fuel usage by Commander Naval Air Forces Pacific Fleet (CNAP) units because normally the requisition documents are used for this purpose.

While AFO CPH are not always accurate because of poor tracking of execution, AOM CPH are not accurate because of the incorrect assumption that there is an exact correlation between costs and flight hours. As explained earlier in Chapter Three, too many variables other than flight hours affect AOM costs. These include environment, age of aircraft, and training of maintenance personnel, just to name a few. Also, many AOM costs are fixed costs and would not be eliminated with a reduction in flight hours. AOM costs per hour are even more inaccurate when broken down by TMS of aircraft as required by budget formulation. In a 1987 evaluation of the Flying Hour

Cost Report (FHCR) which is submitted by Type Commander, the Comptroller of the Navy (NAVCOMPT) concluded that:

> "The FHCR's are based on the original coding placed on the MAF by the squadron maintenance personnel. The accuracy of this coding is open to question and is not routinely and systemically checked either locally or at the fleet level." [Ref. 14:p. 10]

Since costs per hour used in budget formulation are based on historical costs incurred, there would not be a problem if the number of flight hours per TMS remained constant each year but in these times of declining defense budgets the execution CPH will increase faster than the CPH used for funding. This means even greater cuts to the Flying Hour Program than those made deliberately by policy makers.

2. Operating Tempo (OPTEMPO)

Current budget formulation procedures use a combination of factors for calculating Flying Hour Program requirements such as Primary Mission Readiness (PMR), Crew Seat Ratio (CSR), Aircrew Manning Factor (AMF), and CPH but does not accurately account for the operational flying hours placed on the system for real world tasking. These flight time requirements for fleet tasking are in addition to those for training purposes. The fact that it is not a formal input to the budgeting process can hurt program funding in two ways. These are:

1. Unexpected requirements for the deployment of air forces in other than training missions causes an increase to the CPH due to higher fuel consumption, harsher environments, and greater support requirements associated with deployed operations. This means funds budgeted for training are used for operational tasking.

2. For carrier air wings the budgeted funds cover only 12 months (fiscal year) of the standard 18 month deployment cycle. This means that an unexpected deployment of a carrier and its air wing could increase total costs many times than what was expected since what was budgeted could have been a standdown period when the air wing is doing minimum flying.

These operational requirements have and will continue to cause major difficulties with providing sufficient funds for maintaining an effective Flying Hour Program.

3. Primary Mission Readiness (PMR)

Another factor used in budget formulation which causes difficulty for the effective management of the Flying Hour Program is Primary Mission Readiness (PMR). As explained earlier, PMR is the number of flying hours by TMS required for training per crew usually stated as an average per month. Many PMR's are outdated, invalid and/or carried over from the generally accepted standards of other aircraft with similar missions. An example of this is the 25 hour per month PMR for the F-14A Tomcat. This 25 hour per month requirement was used as an accepted minimum for aircrews of the, now retired, F-4 Phantom. Though both are carrier based fighters, the advancement in technology, mission capabilities and complexity of systems may justify a greater PMR requirement. Many believe PMR is a level of readiness to achieve, however it is simply a statement of the flight hours required for each crew to conduct training in a specific aircraft flight syllabus. PMR has no correlation to the readiness and does not vary with changes in the expected operating environment, operating tempo (OPTEMPO) or crew training requirements for operational air forces. This means that budgeted resources will

not reflect additional real world mission requirements, or the need for increased crew qualifications to support those missions.

C. PROGRAM EXECUTION FACTORS

1. Staff Hours

There are many supervisory and staff billets which are filled with pilots in a status known as Duty Involving Flight Operations (DIFOPS), which requires these pilots to get minimum flight hours for maintaining currency. The principle behind these staff pilots is that by maintaining minimum qualifications in their particular aircraft they can be a source of immediate combat augmentation in a wartime situation. Navy regulations require that to maintain minimum proficiency, pilots must fly at least 100 flying hours a year. Many pilots in jobs supposedly requiring them to regularly fly do not meet this minimum. In one survey, of the 930 staff billets designated as those involving flight operations, 588 had to request waivers for not meeting minimum flying hours. Reasons for not meeting the minimums were usually because of aircraft availability or because their qualifications had lapsed and it was too difficult to become requalified. [Ref. 15:, p. 34]

Because of this, it becomes questionable as to the importance of having these staff pilots fly at all. The problem with these staff pilots is that they do not count as part of authorized crew ratios which are used in budget formulation and therefore the hours they fly must be funded out of the Flying Hour Program for operational forces.

2. Advancement Flying

A requirement which could degrade the effectiveness of the Flying Hour Program in times of declining fiscal resources was reported in 1979 as part of a GAO report and has to do with the minimum flying hours required for aircrew advancement. Specifically, the CNO and operational commanders have set minimum flight times for aircrew to advance into billets of increased responsibilities. Examples include: Aircraft Commander, Flight Leader, and Airborne Tactical Officer. These requirements absorb flight hours that may be used for other purposes. While there is no precise number of flying hours after which an individual is ready to assume the responsibilities of aircraft commander, for example, an individual's performance and capabilities should be considered on a case-by-case basis rather than depend solely on an arbitrary number of flying hours before being eligible to demonstrate proficiency and be advanced. Aircrew who have shown the capability to perform in an advanced position should be allowed to qualify for that position without having to needlessly fly additional hours. This flexibility would allow for more effective use of the funds which supported those hours.

3. Simulators

In the summary of findings of a GAO report released in 1976 on the management of the Flying Hour Program, it recommended that more aviation training evolutions be conducted with the use of flight simulators. The Navy's response was that squadron commanding officers are encouraged to use simulators to fly as many authorized events as possible. The limiting factor for the substitution of simulators for actual flying was the quantity and quality of simulators available to the fleet. [Ref. 16:p. 84]

Another GAO report in 1979 also stated that flight simulators were not being utilized as much as they were available or authorized and when they were used, it was not as substitution of actual flying evolutions. As an example, two P-3 squadrons at NAS Moffett Field use simulators for only 72 percent of the qualification exercises that are authorized to be done in simulators. This resulted an estimated 700 unnecessary actual flight hours to be flown at a cost of $290,000. [Ref. 15:p. 31]

These statements seem to indicate an ineffective use of resources provided which could make more funds available for actual flying requirements. Besides the fact that operating units may not be utilizing simulators to the extent possible, the amount of simulator time authorized by CNO to account for PMR (currently two percent) in the budget formulation process has not changed since 1973. If the amount of simulator time authorized to replace actual flight time is based on the quantity and quality of simulators, both of which have increased in the last 17 years, then a greater percentage of PMR should be accomplished with use of simulators.

4. Squadron Accountability

Although squadron commanding officers are held directly accountable for funds allocated to their respective units in the form of an OPTAR, these funds represent less than half of the total resources provided for CNAP's Flying Hour Program (FHP). The majority of FHP funds allocated by CNAP go to maintenance facilities in order to conduct I-level and Depot level maintenance. The use of these services by squadrons are not thoroughly reviewed for efficiency or effectiveness. Variations in the use of these

services by squadrons with similar needs are not evaluated for problems in management and therefore the potential for waste in using these services could be great.

5. Undelivered Orders

Units which support the Aircraft Operations Maintenance (AOM) requirements of CNAP squadrons at all levels understand and give greatest attention to the critical necessity to maintain aircraft in a high readiness status. This causes enormous pressure on local managers to avoid delays in satisfying material requirements which postpone the completion of maintenance. Each of the participants, including supply, AIMD's, squadron maintenance departments, Air Wing Commanders, and CNAP Supply and Material Readiness Division, actively search for ways to reduce the maintenance delays caused by the nonavailibility of required items. Techniques used to expedite the receipt of parts include: local manufacturing, direct commercial purchase, and cannibalization from other aircraft.

Unfortunately, when one material requirement is satisfied by whatever means, there is little motivation to cancel the requisition made through the Navy Supply System. Reasons for this include:

1. The urgency and bulk of current problems overshadow the need to follow-up on old requests.
2. The need for the material will probably be seen again and older requisitions, when filled, can be stored as "safety" stock.
3. Personnel are unaware of importance or procedures for canceling unneeded requisitions.

4. Personnel who made the original requisition are unaware of the requirement being filled by other sources.

For whatever reason these unnecessary requisitions are not canceled, they can cause a strain on the supply system and may delay the maintenance efforts at another activity. Undelivered orders also tie up Flying Hour Program funds which are obligated when the orders are placed. These are counted as program executed resources until the end of the fiscal year when all requisitions are reconciled with local accounting activities and those no longer required are canceled. This causes an under execution of program funds which can mean a reduction in resources provided in the future.

6. AIMD Accountability

The costs incurred for Depot Level repair are determined by the number of beyond the capabilities of maintenance items (BCMs) reported by AIMDs and the associated net prices charged by depot level repair facilities. The number of BCMs in turn are influenced by the volume of components inducted for repair and the repair capability of the AIMD. The volume of components inducted into an AIMD is influenced by several factors including the number and type of aircraft being supported, the age of the aircraft, the operating environment, availability of replacements, transient aircraft support, and many others. Likewise, the repair capability of the AIMD is also influenced by many factors which include TMS of aircraft supported, afloat or ashore facilities, test equipment availability, personnel skills, technical information availability level of supply support, and management philosophy.

The problem with this system and the many factors involved when attempting to track AOM execution is that there is no standard performance measure to identify those facilities whose performance is above or below the norm. The lack of such a performance measure makes potential problem areas difficult if not impossible to identify and correct. The fleet manager of AOM funds is not able to determine what an individual AIMD needs as far as manpower, training, equipment, and increased supply support. Such a measurement standard would also identify those facilities with the most effective management by tracking the level of parts repaired locally vice turned in for deport level repair which is more expensive and keeps parts out of the supply system longer.

7. Carcass Tracking System

The carcass tracking system was designed and implemented for the purpose of tracking Aviation Depot Level Repairable (AVDLR) carcasses turned in by user activities to final repair destinations. It provides customers a financial incentive for returning carcasses for repair by charging customers a lower net price when they turn in the old part in exchange for a new or repaired part. This net price averages 35 percent of the standard price charged when an old part is not available for turn-in, and therefore the effectiveness of this carcass tracking system significantly influences the efficient use of funds and the greatest return on allocated resources.

In a 1987 Naval Audit Service survey on the AVDLR carcass tracking and billing system, $111.4 million of the sampled $121.4 million reported as lost items from nine activities were not actual asset losses. Of those reported losses, an estimated $25.4 million were actually received but not recorded by the Navy Aviation Supply Office

(ASO), the command responsible for managing the aviation carcass tracking system. [Ref. 17:p. 2]

In the survey of six Naval Air Stations, the Naval Audit Service discovered $32.6 million in erroneous billings. Financial managers at field activities were unable to properly manage AVDLR funds to prevent such overcharges because ASO uses an automated carcass tracking and financial system not designed to interface with local computer systems. [Ref. 17:p. 3]

8. Measuring Output

The primary method for identifying the combat readiness of all military units is through the Status of Resources and Training System (SORTS) known in the Navy as the Unit Status and Identity Report (UNITREP), it is an internal Department of Defense report used by the Joint Chiefs of Staff (JCS) to monitor the war fighting capability of operating forces. In the case of naval aviation squadrons it is used as an indirect measurement of the effectiveness of the Flying Hour Program, that is, the ability to translate fiscal appropriations into operational readiness. Specifically, the UNITREP reports a rating from one to five (one being fully combat ready) in several broad categories of readiness including: personnel, equipment, supply, and support. JCS uses the UNITREP to form the JCS capability report and the JCS posture statement which are used to brief Congress and the President on the status of military forces. [Ref. 8:p. 58]

One problem with this system is its objectivity. Since it is the responsibility of each squadron commanding officer to submit this report, which is reviewed by his immediate operational commanders including CNAP, a rating of his own unit may not

indicate potential problems to the extent it should or the need for additional resources. Another problem with the UNITREP rating system is that is does not differentiate between factors that can be controlled by local managers and those that can not and therefore it is not a very valuable tool for measuring the management effectiveness of the Flying Hour Program. Below are two cases where factors causing lower readiness ratings are out of the local managers control.

1. The training matrix used to identify flight evolutions required for aircrew to stay current is augmented with additional training evolutions to support a newly recognized mission capability without a corresponding increase in program funds to finance the additional flight hours.

2. Whether because of retention, recruitment, or training rate the squadron aircrew manning level is greater than expected thus requiring more flight hours to keep aircrewman proficient.

Neither of these situations is an indication of a poorly managed squadron but the UNITREP rating system would not clearly indicate this fact. This is one reason why Type Commanders use secondary measures of management effectiveness such obligation rates, matching historical execution standards, and meeting expense limitations, but these do not measure the amount of output (readiness) achieved with a given amount of input (dollars).

D. SUMMARY

This Chapter has presented serveral weaknesses with the current administration procedures used in the Flying Hour Program that can cause challenges to the effective management by CNAP. Some of these weaknesses are in the budget formulation phase

of the Flying Hour Program and therefore not under the control of the Type Commander. CNAP must work around these deficiencies in such a manner as to minimize their affect on mission accomplishment until changes are made to improve the present system. Other weaknesses presented are under the control of the Type Commander and should be studied more closely in order to analyze the best alternatives.

V. RECOMMENDATIONS AND CONCLUSION

A. GENERAL

This chapter presents recommendations to problems presented in Chapter Four. These are not to be taken as the best possible alternatives but as a starting point for further analysis. The final solutions should result in increasing the effective and efficient utiliztion of the limited resources provided for obtaining maximum readiness.

B. BUDGET FORMULATION FACTORS

1. Cost Per Hour (CPH)

As stated in Chapter Three, the Aviation Fleet Maintenance/Aviation Depot Level Repairable (AFM/AVDLR) Project Office at CNAP is actively pursuing help with determining the different variables which correlate with Flying Hour Program costs besides the number of flight hours flown. Though much progress has been made to identify those variables that affect certain costs such as AOM than just flight hours, the AFM/AVDLR Project Office is seeking greater research assistance from sources such as the Naval Postgraduate School to statistically isolate those variables which have the greatest impact on costs and therefore provide the best indicators for predicting future requirements. Students in the Operations Research Department would have the tools necessary to help CNAP formulate the equations for calculating an estimated requirement for Flying Hour Program funds. Students from the Computer Science Department could

also possibly provide a customized computer database system for facilitating budget input formulation and program execution tracking.

2. OPTEMPO

A database should be initiated to collect operating costs of naval air forces not only by TMS but also by the specific mission scenario which caused those costs to be incurred. Mission codes on aircrew flight time reporting documents should be correlated with maintenance documents to determine total costs for performing each mission. Also, the budgeting period of 12 months should have the flexibility to support the Flying Hour Program when there are changes in the 18 month deployment cycle of carrier air wings.

3. Primary Mission Readiness (PMR)

In order to use PMR for allocating funds and in a manner consistent with its use in budget formulation, it should correlate exclusively to the training of aircrew. Another budget input should be used to account for costs associated with changes in OPTEMPO, operating environment and missions. The percentage of PMR, resulting from decisions by the CNO as to an acceptable minimum flight time per aircrew should remain constant over the years but total hours (100 percent PMR) should be adjusted up (or down) with changes made to OPTEMPO , area of operation (environment) and missions conducted. When fiscal constraints make it impossible to fund additional hours, the training matrix for each TMS of aircraft should be prioritized so that squadrons achieve maximum return on training resources provided by the Flying Hour Program.

C. PROGRAM EXECUTION FACTORS

1. Staff Hours

The Navy should examine the supervisory and staff billets which currently require pilots to fly a minimum number of hours each year. If the billets are justified then they should be included in the budget formulation process and fully funded. If not, they should have they flying requirements dropped and the funds supporting those flight hours reallocated to other segments of the Flying Hour Program.

2. Simulators

A study should be performed to evaluate appropriate levels of simulator use in place of actual flight time by type/model/series (TMS) aircraft and a system developed to provide local managers the motivation for using simulators as much as appropriate. Currently, since funding for simulators is not part of the Flying Hour Program, any increase in the use of simulators translates to a reduction in funds for actual flying activities. Also, local managers currently have more flexibility over funds for actual flying then with those for simulators. Operators, many of whom are in management positions, always prefer actual flying over simulators except for evolutions that can not be performed safely in an actual aircraft.

3. Squadron Accountability

A system needs to be initiated that will delegate more responsibility for effective AOM fund execution to the squadrons where the lowest level managers use these funds in accomplishing their missions. Currently only a small portion of Aircraft

Operations Maintenance (AOM) fund execution is managed at the squadron level as part of their Operating Target (OPTAR). The Operating Budgets of CNAP and the various Naval Air Stations support AOM requirements of squadron through maintenance facilities but no direct measurement of the efficient use of these services is available or used. There are indicators of ineffective use of AOM by aviation units but these are not thorough enough or always used to provide corrective feedback. One of these is the number of instances a squadron turns a part into AIMD for repair only to be told it is not in need of repair or the repair should be done at the squadron level. Called A-799's because of the maintenance code used at AIMD's on documents to record such instances, an excessive number could indicate an ineffective squadron maintenance department. [Ref. 7:p. 44]

Type Commanders need a financial guideline and feedback mechanism to determine when excessive costs are being incurred by squadrons, ships or MAGs. Flying hour norms should be developed for AOM costs and performance evaluated against these norms.

Also, additional emphasis must be placed on timely data accumulation. This should include a method to identify data that is either missing or estimated of Budget OPTAR Reports (BORs). The Type Commander should, as a minimum, validate the reasonableness of hours flown compared with anticipated costs.

4. Undelivered Orders

Though much has been initiated to reduce the rate of unnecessary requisitions being carried and fulfilled there still exists the need for closer controls over undelivered orders.

One procedure used to provide closer scrutiny over requisitions is the Material Outstanding Validations (MOV) program which requires activities to conduct quarterly outstanding obligation validations. All Naval Air Stations, aircraft carriers and MAG's are required to have a thorough outstanding obligation validation program encompassing supply, AIMD, and squadrons. Through these validations CNAP should be able to identify those undelivered orders that are still required and those that should be canceled which will indicate those activities who have poor tracking systems. However, Naval Audit Service and fleet commander supply and material readiness inspections have noted a lack of an effective undelivered order review process. In general, the use of external audits and inspections are deterrents but to make significant improvements in the number of unnecessary undelivered orders, internal management must focus on better controls and dedicated resources to the task.

5. AIMD Accountibility

In order to enable the Type Commander to measure the performance of AIMDs in other than fiscal terms, a standardization of performance measure must be initiated at all I-level maintenance facilities. This performance standard system would include standard equipment lists, personnel training, supplies and technical publications. It would also provide a standard list of parts that all AIMDs should be capable of

repairing. No longer would claiming beyond their capability be an excuse for not repairing a badly needed part.

The initiation of such a system would provide CNAP with a method of measuring the effectiveness of AOM funds in terms of individual maintenance facilities output whihc can create the motivation to increase overall program effectiveness.

6. Carcass Tracking System

From the 1987 survey conducted by the Naval Audit Service on the carcass tracking and billing, system much has been done to improve the effectiveness of the system. This includes implementation of some of the following recommendations. [Ref. 17:p. 12]

1. Navy Supply Systems Command (NAVSUP) provide definitive guidance to Aviation Supply Office (ASO) and field activities for investigating, surveying, and reconciling lost Aviation Depot Level Repairable (AVDLR) carcasses and establish ASO as the coordinator of these reviews.

2. ASO investigate losses recorded on the carcass tracking system, coordinate appropriate surveys, reverse invalid losses, and adjust onhand balances when appropriate.

3. NAVSUP reemphasize the need for Naval supply centers to promptly report receipts of AVDLR carcasses to ASO and monitor performance during command inspections.

4. ASO strictly enforce contractual clauses requiring contractors to report receipts of AVDLR carcasses to ASO promptly.

5. ASO forward followup inquiries to all shipping destinations, including contractors, Naval activities, and other services' repair centers, that do not acknowledge receipt of AVDLR carcasses.

6. NAVSUP determine the feasibility of identifying AVDLR carcasses at the point of shipment using an automated marking and recording system to avoid future data entry errors.

The recommendation for ASO to reemphasize prompt reporting and accurate tracking must also apply to CNAP for the proper control of carcasses at the squadron and AIMD levels. Many times squadron personnel are not aware of the need of procedures for returning carcasses (retrograde). This happens frequently on deployment when retrograde will be stowed onboard a Navy ship for serveral months until return to home port before it is turned into the supply system.

CNAP must develop a method of training and motivating local units to promptly turn in and accurately document carcasses while deployed.

7. Measuring Output

Responding to the criticism in a 1989 Government Accounting Office (GAO) report that the Flying Hour Program management controls insure that commanders do exceed total dollar allocations but do not link requirements or resource expenditures to any measure of program acheivement, the Navy has an on-going research project aimed at developing objective relationships between flying hours and indicators of operational performance. This study, started in May 1988, will most likely require the Navy to transition to a different budget methodology for TACAIR/ASW flying hours since the current determination of readiness resulting from trainng activity is not an entirely objective process. Until then, the Navy will maintain Primary Mission Readiness (PMR)

as the budgetary and allocation input until a more meaningful measure of requirements and performance is complete and operational. [Ref. 1:p. 43]

D. CONCLUSION

This chapter has presented recommendations to problems examined in Chapter Four. Although no specific procedures are given, the emphasis has been to offer possible areas where alternatives could be found and to serve as a catalyst for further graduate research.

As with the aircraft themselves, the Flying Hour Program management must be constantly improving to provide the greatest return on investment, especially in the coming years of fiscal constraints.

The Type Commander is a dominant force in the Flying Hour Program and must walk the tight rope between efficient program execution and the "use or lose" budgetary process. A basic understanding of the management procedures and responsibilities of CNAP in the Flying Hour Program have been the focus of this study.

APPENDIX

GLOSSARY OF ACRONYMS

TERM	MEANING
AFM	Aviation Fleet Maintenance
AIMD	Aircraft Intermediate Maintenance Department
AMF	Aircrew Manning Factor
AOM	Aircraft Operations Maintenance
APF	Annual Planning Figure
ASO	Aviation Supply Office
ASW	Antisubmarine Warfare
AVDLR	Aviation Depot Level Repairable
AWP	Awaiting Parts
BCM	Beyond Capability of Maintenance
BOR	Budget OPTAR Report
CINPACFLT	Commander-in-Chief, U.S. Pacific Fleet
CMC	Commandant of the Marine Corps
CNAL	Commander Naval Air Force, U.S. Atlantic Fleet
CNAP	Commander Naval Air Force, U.S. Pacific Fleet
CNO	Chief of Naval Operations
COMNAVAIRLANT	Commander Naval Air Force, U.S. Atlantic Fleet

COMNAVAIRPAC	Commander Naval Air Force, U.S. Pacific Fleet
CPH	Cost Per Hour
CSR	Crew Seat Ratio
CV	Aircraft Carrier
DLR	Depot Level Repairable
DOD	Department of Defense
DON	Department of the Navy
DOP	Designated Overhaul Point
FAADC	Fleet Accounting and Disbursing Center
FHCR	Flying Hour Cost Report
FHP	Flying Hour Program
FMC	Fully Mission Capable
FRS	Fleet Readiness Squadron
FY	Fiscal Year
GAO	General Accounting Office
GSA	General Services Administration
IMA	Intermediate Maintenance Activity
JCS	Joint Chiefs of Staff
MAG	Marine Air Group
MC	Mission Capable
MOV	Material Obligation Validation
MTIS	Material Turned Into Store

NARF	Naval Air Rework Facility
NAS	Naval Air Station
NAVCOMPT	Navy Comptroller
NAVSUP	Navy Supply Systems Command
NACSUPSYSCOM	Navy Supply Systems Command
NMCS	Not Mission Capable Supply
NRFI	Not Ready For Issue
NSF	Navy Stock Fund
OB	Operating Budget
OFC	OPTAR Functional Categories
O&M,N	Operation and Maintenance, Navy
O&M,NR	Operation and Maintenance, Navy Reserve
OMB	Office of Management and Budget
OPBUD	Operating Budget
OPTAR	Operating Target
OPTEMPO	Operating Tempo
OSD	Office of the Secretary of Defense
PMR	Primary Mission Readiness
PMCS	Partial Mission Capable Supply
POL	Petroleum, Oil and Lubricants
POM	Program Objective Memorandum
PPBS	Planning, Programming and Budgeting System

RFI	Ready For Issue
RMS	Resource Management System
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SYDP	Six Year Defense Plan
TACAIR	Tactical Air Forces
TEC	Type Equipment Code
TMS	Type Model Series
TYCOM	Type Commander
UNITREP	Unit Status and Identity Report

LIST OF REFERENCES

1. U.S. General Accounting Office, GAO/NSIAD-89-108, Naval Aviation: The Flying Hour Program's Budget and Execution, July 7, 1989.

2. Interview Between M. Brigden, LT, USN, Code 019A, Commander Naval Air Forces Pacific Fleet, Naval Air Station North Island, San Diego, CA, and author, 17 September 1990.

3. Practical Comptrollership Manual, 1990, Naval Postgraduate School, Monterey, CA.

4. Commander Naval Air Forces Pacific Fleet, COMNAVAIRPAC Instruction 7305.1, "Instructions Concerning Aircraft Operations Maintenance Funds", 21 February 1986.

5. Telephone Conversation between M. Hoyt, LCDR, USN, Office of Flying Hour Program Manager (OP-05E) and the author, 24 August 1990.

6. Commander Naval Air Forces Pacific Fleet, COMNAVAIRPAC Instruction 7300.5, "Flying Hour Cost Reporting", 25 August 1989.

7. Bozin, S.D., Improving the Management Control of Aviation Fleet Maintenance Funds, Masters Thesis, Naval Postgraduate School, Monterey, CA, December, 1981.

8. Murray, N.M., The Marine Corps Flying Hour Program, Masters Thesis, Naval Postgraduate School, Monterey, CA, June 1986.

9. Chief Of Naval Operations, Operations Plan 20: FY 89 History Final, 26 January 1990.

10. Kuhnreich, J.C., Managing the F-14 Flight Hour Budget in an Environment of Decreasing Financial Resources, Masters Thesis, Naval Postgraduate School, Monterey, CA, September, 1988.

11. Commander Naval Air Forces Pacific Fleet, COMNAVAIRPAC Instruction 7310.1. "Instructions Concerning Aircraft Operations Maintenance Funds", 21 February 1986.

12. Burton, R.N., Management Control of Flight Operations (OFC-01) Funds, Masters Thesis, Naval Postgraduate School, Monterey, CA, December, 1982.

13. Interview between Benson-Schlax, CDR, USN, Code 70X, Commander Naval Air Forces Pacific Fleet, Naval Air Station North Island, San Diego, CA, and author, September 1990.

14. Comptroller of the Navy, Letter DTD 4 February 1987; SER NCB-155/2739h. "Evaluation of AVDLR Flying Hour Costs".

15. Comptroller General of the U.S. Report, LCD-79-451, Flying Hour Programs of the Military Services: Opportunities for Improved Management, General Accounting Office, June 18, 1976.

16. Comptroller General of the U.S. Report, LCD-75-451, Flying Hour Programs of the Military Services: Opportunities for Improved Management, General Accounting Office, June 18, 1976.

17. Auditor General of the Navy Report, 123-N 88, Carcass Tracing and Billing for Aviation Depot Level Repairable, Department of the Navy, June 24, 1988.

BIBLIOGRAPHY

Bozin, W.G., Improving the Management Control of Aviation Fleet Maintenance Funds, Masters Thesis, Naval Postgraduate School, Monterey, CA, December, 1981.

Byrne, V.J., Analysis of the Aircraft Flying Hour Program at the Pacific Missile Test Center, Masters Thesis, Naval Postgraduate School, Monterey, CA, December, 1987.

Chief of Naval Operations, OPNAV Instruction 7310.1E, "Report of Flying Hours and Related Costs", 19 September 1986.

Commander Naval Air Forces Pacific Fleet, COMNAVAIRPAC Instruction 5440.2L, "Standard Organization Responsibility Manual", 26 January 1989.

Commander Naval Air Forces Pacific Fleet, COMNAVAIRPAC Instruction 7310.2, "Financial Regulations Concerning Flight Operations Administrative Funds", 2 January 1986.

Commander Naval Air Forces Pacific Fleet, Flying Hour Projection System OP-20 Report, 26 January 1990.

Comptroller General of the U.S. Report, PLRD-83-62, The Defense Budget: A Look at Budgetary Resources, Accomplishments, and Problems, General Accounting Office, April 27, 1983.

Interview between R. Lien, LCDR, USN Deputy Comptroller, Commander Naval Air Forces Pacific Fleet, Naval Air Station North Island, San Diego, CA, and author, 20 September 1990.

Interview between Turner, CDR, USN, Code 30A, Commander Naval Air Forces Pacific Fleet, Naval Air Station North Island, San Diego, CA and author, 20 September 1990.

Wildavsky, A.B., The New Politics of the Budgetary Process, Scott Foresman, and Company, 1988.

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