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Aviation Depot Level Repairable management and accounting procedures among Naval Reserve Air Squadrons at NAS Alameda, NAS Miramar, NAS Moffett Field, And NAS Whidbey Island

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THESIS

Aviation Depot Level Repairable
Management and Accounting Procedures
Among Naval Reserve Air Squadrons at
NAS Alameda, NAS Miramar, NAS Moffett Field
and NAS Whidbey Island

by

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This thesis reviews existing tracking practices of Aviation Depot Level Repairables (AV-DLRs) among selected Naval Air Reserve Squadrons on the west coast. It examines the interface between carcass tracking and financial management of AV-DLRs among Aviation Supply Depots and Naval Reserve Comptrollers. It appears that significant improvements have been realized in AV-DLR tracking since AV-DLRs migrated from the Appropriations Purchase Account to the Navy Stock Fund on 1 April 1985.

It is evident that a clear line of communication must be established and maintained between the carcass tracking function and the financial accounting function at the Reserve Comptroller level so that better management decisions may be made.

It is equally clear that XR86 Program and NAVCOMIS are effective adjuncts in the management of AV-DLRs. A concerted effort should be directed toward implementing these management tools in areas where they are not being utilized.

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Aviation Depot Level Repairable Management and Accounting Procedures Among Naval Reserve Air Squadrons at NAS Alameda, NAS Miramar, NAS Moffett Field, and NAS Whidbey Island

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ABSTRACT

This thesis reviews existing tracking practices of Aviation Depot Level Repairables (AV-DLRs) among selected Naval Air Reserve Squadrons on the west coast. It examines the interface between carcass tracking and financial management of AV-DLRs among Aviation Supply Depots and Naval Reserve Comptrollers. It appears that significant improvements have been realized in AV-DLR tracking since AV-DLRs migrated from the Appropriations Purchase Account to the Navy Stock Fund on 1 April 1985.

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TABLE OF CONTENTS

I. INTRODUCTION

A. BACKGROUND

It has been determined that it is often more cost effective to repair an item which is repairable than to procure a replacement. This applies especially to those items which require wholesale management and have a long procurement lead time. Since repairables are normally expensive and require a long procurement lead time, the repair of defective units becomes the primary source of replenishment for repairables. Therefore, unserviceable units must be returned in accordance with prescribed Depot Level Repairables (DLR's) turn-in procedures to be repaired as quickly as possible and returned to stock (retail or wholesale) Ready For Issue (RFI). Carcass turn-ins which are delayed, not turned in, shipped to the wrong destination or lost in transit adversely affect the system support of repairables. This results in a negative impact with respect to resource management and resulting increased costs; therefore, strict carcass turn-in discipline must be maintained. [Ref. 1:p.I-35]

Equally important is the aggressive tracking of individual carcasses after turn-in and accurate accounting procedures to insure that the field activity is charged the correct dollar amount which matches the obligation in their

optar log. Timely feedback of data which can be utilized as a tool to match and properly account for obligations is vital to insure that Aviation Depot Level Repairable (AV-DLR) funds are properly accounted for. This data is of particular significance since many AV-DLR issues are very expensive items which can quickly snowball into megadollar expenditures and/or losses.

Prior to 1 April 1985, AV-DLR´s were managed as an investment type appropriation which supported the procurement of this specific category of material. AV-DLR´s were maintained in the Appropriations Purchase Account (APA) and were issued essentially "free" to the end user. [Ref. 1:p.1-5]

In April 1985, the Navy initiated a three year test of the stock fund concept for AV-DLR´s. Under this concept, the Navy Aviation Supply Office (ASO) assumed cognizance over AV-DLR functions which included procurement of AV-DLR material, inventory management, carcass tracking and financial management. Due to the newness and complexity of the evolution, AV-DLR programs and resources were not always managed and utilized to the maximum extent possible. [Ref. 2:p.1]

Recent dialogue between Mr. Dick Kincade (Comptroller, Chief of Naval Reserve) in New Orleans, Louisiana and LCDR John R. Laster, focused on the need for an unbiased assessment of AV-DLR tracking and financial management at

selected Naval Air Reserve Squadrons (NARS) on the west coast. Mr. Kincade was of the opinion that improved tracking coupled with the timely feedback of "pulse data" would greatly enhance accountability and could result in substantial monetary savings within the Commander, Naval Reserve Forces (COMNAVRESFOR) claimancy [Ref. 3].

B. THESIS OBJECTIVES

The objective of this thesis is to focus on the presen tracking practices of AV-DLR´s among selected NARS on the west coast. It will attempt to identify weaknesses which may exist with respect to tracking of AV-DLR carcasses. It will identify what feedback data is generated, the time parameters involved and evaluate distribution of this data. It will also evaluate the interface between the carcass tracking system and the financial accounting function at respective NARS.

C. SCOPE, LIMITATIONS, AND ASSUMPTIONS

Due to time and travel constraints, on site visits were not feasible at all locations. Data was collected via telephone conversations, interviews where possible, and Navy publications and instructions. Specific AV-DLR tracking measurement parameters were not available for NARS´s because it is integrated with the host base reporting procedures; however, it was felt that broad application of these reports would be useful as an acceptable measure of AV-DLR management.

Individual carcass tracking was labor intensive and not practical; therefore, the decision was made to track exception cases where practical. This approach was a viable one since ASO publishes a monthly report which documents actual bills by Unit Identification Code (UIC). Since time was a critical element, the focus or snapshot that was isolated was 1 October through 30 June in Fiscal Years (FY) 1987 and 1988.

D. RESEARCH APPROACH

Numerous telephone conversations (commencing in June 1988) with research sites revealed that since its inception in April of 1985, the AV-DLR carcass tracking system had experienced implementation difficulty. The primary concern of carcass trackers was the individual carcass, its movement within the tracking system and Transaction Item Reports (TIR's) that accompanied each physical movement from one level of repair to another. The primary focus on the financial side of the house was the total dollars invested in AV-DLR transactions and any disparities which may exist between the Operating Target (OPTAR) log at the Reserve Squadron Comptroller level and the actual amount charged for the transaction.

On-site visits and numerous interviews were conducted to glean data with respect to carcass tracking and concurrent financial management at selected sites. Particular attention

was directed toward the differences at each location and why these differences existed.

Host Tenant Agreements (HTA's) will be reviewed for content and completeness to discern specific interaction between the host and tenant commands. Specific operational guidelines should be delineated and specific reporting requirements and time parameters should be addressed in this document.

E. ORGANIZATION OF THE THESIS

Chapter II, DESCRIPTION AND HISTORY OF AVIATION LEVEL REPAIRABLES, will address current methods utilized to track AV-DLR's. The focus will lie in basic tracking techniques instead of specialized cases which may apply to classified items or items which might require special handling due to size limits or other unique considerations.

Chapter III, AVIATION DEPOT LEVEL FUNDING AND ACCOUNTING PROCEDURES, will focus on the Federal Budget process, the Navy Budget process and the flow of funds to and through the COMNAVRESFOR claimancy to the Command level. Specific interest will be placed upon accountability and responsibility after funds have been allocated to the Command level.

Chapter IV, ADJUNCT SYSTEMS FOR AV-DLR CARCASS TRACKING, will focus on NALCOMIS and the XR86 as an aid in AV-DLR carcass tracking. It will also review current personnel

assets which are available to achieve the carcass tracking mission.

Chapter V, RESEARCH METHODOLOGY AND RESULTS, will provide an analysis of the operational data collected from the various NARS.

Chapter VI, RECOMMENDATIONS AND CONCLUSIONS, will summarize key aspects of the study, present conclusions of the study and make recommendations for future actions and possible areas of further research into the area of AV-DLR´s carcass tracking and financial management.

II. DESCRIPTION AND HISTORY OF AVIATION DEPOT LEVEL REPAIRABLES

A. GENERAL

This chapter will address the development of the current AV-DLR system and how the present carcass tracking network functions. Since carcass tracking systems are not completely standardized at the end user level, this chapter will discuss the general focus of the system. Deviations from location to location will be addressed in Chapter 5. This chapter will provide a description of AV-DLR tracking process from the point that the failed part is inducted into the system through its repair. There will also be a discussion of how a carcass that becomes lost within the system is tracked down and finally accounted for. To establish the situation that led to the development of current AV-DLR system this chapter will began with a brief history of the system.

B. HISTORY OF THE AV-DLR PROCESS

Prior to the incorporation of the current AV-DLR management system, aircraft parts that constituted the AV-DLR program were considered to be free issue. Free issue meant that the squadrons that were the end users of the parts did not pay any of their operating funds to obtain new or repaired parts nor were the squadrons held strictly accountable for the turn in of AV-DLR carcasses. Since the

operational maintenance departments were not held accountable for the return of the carcass of the failed parts, there was little incentive for those who repaired the aircraft to closely monitor or track the disposition of the failed components carcasses. It should be noted that free issues were funded via an investment type appropriation which was part of the Appropriation Purchase Account.

To improve accountability within the AV-DLR system, CNO, in December 1982, directed all aircraft parts that fell under the AV-DLR program be funded by the Navy Stock Fund (NSF) and responsibility for carcass tracking be given to the Aviation Supply Office (ASO) [Ref. 2:p.1]. Prior to this change AV-DLR parts were funded either by Aircraft Procurement Navy (APN), Weapons Procurement Navy (WPN), or Other Procurement Navy (OPN) appropriations.

As of 1 April 1985, the changes that were directed by CNO were incorporated into the AV-DLR process. Approximately 54,000 aircraft parts fell into the AV-DLR category upon commencement of the program. The AV-DLR parts were now to be referred to as ´7R´ cog items. These had previously fallen into one of three cog´s 2R/8R/1R. [Ref. 4:p.1]

The individual squadrons were now, as of 1 April 1985, held responsible for the turn in of broken AV-DLR´s to the supply system or they would be charged for the loss of the carcass. This established a two price system where the squadron is billed one price for the part if a carcass is

squadron is billed one price for the part if a carcass is turned in (Net) and a higher price (Standard) if no carcass is turned into the AV-DLR system. The following is an explanation of the two prices:

> Standard Price: Obligated by the Navy, Coast Guard, and Marine Corps end users and billed by NSF when a Not Ready For Issue (NRFI) exchange DLR is not to be turned in. This price shall always be used, plus applicable surcharges, for Foreign Military Sales (FMS), sales to other services, and non-military (i.e., state and commercial contractors)
>
> Net Price: Obligated by the end user when a NRFI DLR is intended to be turned in, as indicated on the requisition by use of an advise exchange code. Billing is at Net Price initially. However, if the NRFI is not turned in within Carcass System Tracking parameters, The difference between Net and Standard Price is billed to the end user. 7R Cog families shall carry only one net and one standard price per family. [Ref. 4:p.1]

During fiscal year 1985, ASO tracked more than 393,000 AV-DLR's valued at approximately 1.6 billion dollars [Ref. 2:p.9]. According to the Naval Audit Service, "from 1 April 1985 to 17 July 1986, ASO's automated carcass tracking system recorded 49,265 asset losses Navy wide, with a total carcass value of $677 million." [Ref. 2:p.9] Since this initial incorporation period of the new AV-DLR tracking system, the net losses due to lost or missing AV-DLR carcasses have been steadily decreasing throughout the Navy. Improvements to the system have come about through "Carcass Tracking System Improvements" instructions issued by Commanding Officer, Navy Aviation Supply Office, [Ref. 5], recommendations of the Naval Audit Service in their Audit Report on the present state of the AV-DLR program dated 24 June 1988, [Ref. 2] and

finally the efforts of those using the system to improve the efficiency and effectiveness of the program.

A major change to the AV-DLR tracking system occurred on 1 April 1986. Starting on this date fixed allowances of AV-DLR´s at station supply centers were "transitioned to end-use." This action, taken by the CNO, relieved ASO of the responsibility of keeping track of transactions that occur at the shore facility level. AV-DLR´s could now be obtained from base supply facilities by squadrons without the requirement to keep ASO informed of such movements of inventory [Ref. 6:p.II-3-1].

C. CARCASS TRACKING SYSTEM

How an AV-DLR is tracked depends on the following factors: the maintenance capabilities of the installation that the failed part is turned into; the size of the part; part classification (Secret, etc.); whether the part is being turned into a shore or ship supply system; and whether the reporting procedures are mechanized or manual. For the purpose of this paper the reviewed carcass tracking systems will be limited to Navy West Coast shore installations that have Naval Aviation Reserve Squadrons.

The two most likely paths that a carcass may follow once turned into the supply system will be discussed. Although funding of AV-DLR´s is covered in depth in the following chapter, certain aspects of the funding process will be included in this section.

1. Carcass Tracking, Repaired at Local AIMD

When an aircraft component is identified as being inoperative, the Source, Maintenance and Recoverability code that is assigned to every part must be interpreted by the squadron's maintenance personnel to determine who is certified to provide maintenance on the part. This code determines if a part can be repaired by squadron personnel or if the part has to be sent to intermediate or depot level maintenance for repair. If a particular part is identified as inoperative and further identified as being a 7R cog, an AV-DLR item, the base Aviation Supply Department (ASD) must be notified. The defective part is tagged by squadron maintenance personnel with copy-2 of a Visual Information Display System/ Maintenance Action Form (VIDS/MAF) and a DD1348-1 shipping document. [Ref. 1:p.1-17]

Once informed that a squadron needs a part, ASD checks its current on station supply stock position to determine if the defective part can be replaced immediately from ASD stock. If the part is off an aircraft that is normally assigned to the base, a replacement part is typically available in Ready For Issue (RFI) form. That is, the part is ready to be issued to the requesting squadron immediately and then installed without delay.

The RFI part is then delivered to the squadron and a "one for one" exchange is made between the supply representative delivering the part and the squadron's

maintenance personnel. When the exchange is made, the supply representative that delivered the new part personally signs a squadron maintained record stating what part was being turned into the supply system for the new RFI part. Under most circumstances the two parts should be identical and have the same national stock number. The defective part, commonly referred to as Not Ready For Issue (NRFI), that was turned in by the squadron is taken to ASD's Aeronautical Material Screening Unit (AMSU). At the AMSU, the part is checked to insure that part number validation and other proper documentation has been properly completed at the squadron level and then determines the disposition of the carcass.[Ref. 1: p.1-24]

Assume for this portion of the discussion that the AMSU determines that the NRFI part **can** be repaired by the on base Aviation Intermediate Maintenance Department (AIMD). The AMSU uses an Individual Component Repair List (ICRL) to determine if the local-on base AIMD can repair the turned in part. In this scenario, the local AIMD has the qualified maintenance personnel and suitable test equipment required to repair the malfunctioning part and return the RFI item to the base's ASD supply system. There is no requirement to notify any outside authority. [Ref. 1:p.1-26]

For this type of repair situation, the squadron is charged for the cost of the repair parts and the labor that the AIMD had to expend on the NRFI item to bring it back to

an RFI status. Once the part is restored to RFI condition, the part is returned to the base ASD supply pool for future reissue.

The VIDS/MAF and the DD1348-1 that had accompanied the part to the AMSU and was subsequently maintained there awaiting the repair of the NRFI part are then filed and retained by ASD.

A variation of the scenario that has just been described is a situation where one base has made an agreement with another base's AIMD facility to repair certain NRFI parts. These agreements may exist between two or more bases' AMID's where one base's AIMD will repair a specific category of parts for an aircraft and another base's AIMD will repair a different set of parts. This type of agreement can save money by eliminating duplication of effort at AIMDs. [Ref. 1:p.1-26]

This situation is called an inter-AIMD transfer. The defective part that is turned into the supply system by a squadron follows the same path as previously discussed until it reaches the AMSU. At the AMSU, it is determined that the part can not be repaired at the on-base AIMD but repair can take place at another base's AIMD that has previously agreed to do such work. Once again the ICRL is used to make the decision as to where the NRFI part must be sent for repair. [Ref. 1:p.1-27]

The original VIDS/MAF is maintained by the AMSU that is transferring the part while a new VIDS/MAF is attached to the part being transferred along with the DD1348-1 shipping document. The NRFI part is then shipped to the AIMD that will repair the part. When the part arrives at the repairing AIMD, it will be inducted into the AIMD's repair system as if the part had originated from an on-base squadron. The only exception is that the shipping documents must be maintained to ensure that the part, when repaired, is sent back to the ASD that initially inducted the part so that their supply stock can be replenished when the part is returned to RFI status. [Ref. 1:p.1-28]

2. Carcass Tracking, Beyond Capability of Maintenance

When the repair of NRFI item is Beyond the Capabilities of Maintenance (BCM) of the local AIMD, 7R cog DLR's must be sent off station for repair. This is the point where actual carcass tracking begins and the terms standard and net price become more meaningful.

The initial carcass turn in procedures are the same as described for the tracking of parts destined for a local AIMD and inter-AIMD transfers. The change occurs when the part is inspected at the AMSU. Here, at the AMSU, it will be determined that the local AIMD support is not capable of repairing the part by referencing the ICRL.

When the ICRL fails to list an appropriate site to repair the NRFI part, the Master Repairable Item List (MRIL) must be consulted to determine the disposition of the NRFI item. The MRIL contains shipping instructions as to where a AV-DLR must be sent. The repair facility will most likely be a depot level DoD funded facility but it is also possible that the NRFI part may be sent back to a civilian manufacturer. The tracking system is basically the same for both scenarios. For most NRFI items the MRIL will list more than one facility that is capable of repairing the NRFI part. In this case the repair site closest to the shipping point should be selected. [Ref. 1:p.1-23]

MRIL information comes in two formats. One is microfiche and the other is referred to as Mechanized MRIL. Mechanized MRIL is available to installations that are equipped with computer systems that are compatible with the MRIL software. Once incorporated into the computer network, Mechanized MRIL can be used to determine the best depot level repair site. Economy with respect to shipping costs, is a major consideration at this point.

Once the repair facility has been determined, the NRFI item is typically shipped via an Advanced Traceability And Control (ATAC) center which provides further technical screening and preservation, and aids in the general tracking of the AV-DLR in need of repair. When the NRFI part is shipped, the ASD will ensure that the DD1348-1 with a

Document Identifier (DOCID) of BC1 is sent with the part requiring repair. The BC1 indicates that the part is a AV-DLR that is being tracked by an Inventory Control Point (ICP). The DD1348-1 must contain information as to who initially turned in the part, which squadron and what ASD. This information will be imperative in the tracking of lost carcasses. [Ref. 6:p.II-3-3]

When the additional screening process is complete at the ATAC, the NRFI part will be shipped to the appropriate repair facility or, as more often occurs, the part is sent to a Designated Shipping Point (DSP). A DSP is a facility that stores the part prior to its being inducted into the actual repair facility, which is referred to as a Designated Overhaul Point (DOP). The DOP may be either a Government sponsored Naval Aviation Depot (NADEP) or a civilian contractor [Ref. 1:p.1-24]. When the NRFI part is initially shipped from the air station's ASD, a Transaction Item Report (TIR) is sent to the designated ICP. For AV-DLR's the ICP is ASO. The TIR keys ASO to establish a Carcass Tracking Record (CTR). The CTR is ASO's method of keeping track of the final disposition of the carcass. Typically, contained within the TIR is a D6R report which signifies that the ASD shipped the failed part to a repair facility or, as is more often the case, the part has been sent to an ATAC. If no carcass is to be turned in or the carcass will be sent later on, the TIR will be sent to the ICP without a D6R. In the event that no

carcass is to turned into the system, the TIR is simply a requisition for an additional part. In this situation the requesting ASD will be charged standard price [Ref. 4:p.1].

ASD must maintain records on all parts that are shipped through the carcass tracking system. These records are called activity Carcass Tracking Record Files (CTRF). Within these files the ASD keeps proof of shipment documentation, part identification information, and what activity or squadron initially turned in the failed part [Ref. 1:p.1-38]. These records are important for the tracking of lost AV-DLR's.

When the D6R reaches the ICP, the ASD that sent the NRFI part into the repair system is initially charged the net price for the carcass. This charge is then levied against the OM&N pool of funds that is designated for each squadron's AV-DLR expenses. This pool of funds is administered by the base's comptroller.

When the ATAC, or 'Hub' as it is commonly referred to, receives the carcass, it then forwards a D6A report to the tracking ICP. The D6A report is confirmation that the carcass has been turned in and does match the part description that the shipping ASD has assigned to the part. At this point the shipping ASD is relieved of any further financial responsibility. The Hub is also required to maintain a CTRF of all parts that are processed through it. [Ref. 1:p.1-29,39]

Next the ATAC will ensure that the part is properly preserved and packaged and then ship the carcass on to the DSP. When the part is shipped to the DSP, the DD1348-1 is sent with the part reflecting a DOCID of BC2. As with the BC1, the BC2 is to inform the receiving activity, the DSP in this case, that the part that has been received is an AV-DLR and requires special tracking. The DSP then sends a D6K to the ICP informing them that the carcass has been received. The carcass will be kept at the DSP until the DOP can induct it into the repair cycle. [Ref. 4:p.20]. Figure 2.1 presents a visual overview of the AV-DLR carcass tracking system.

ACTIVITIES INVOLVED IN CARCASS TRACKING SYSTEM "MATERIAL AND INFORMATION FLOW"

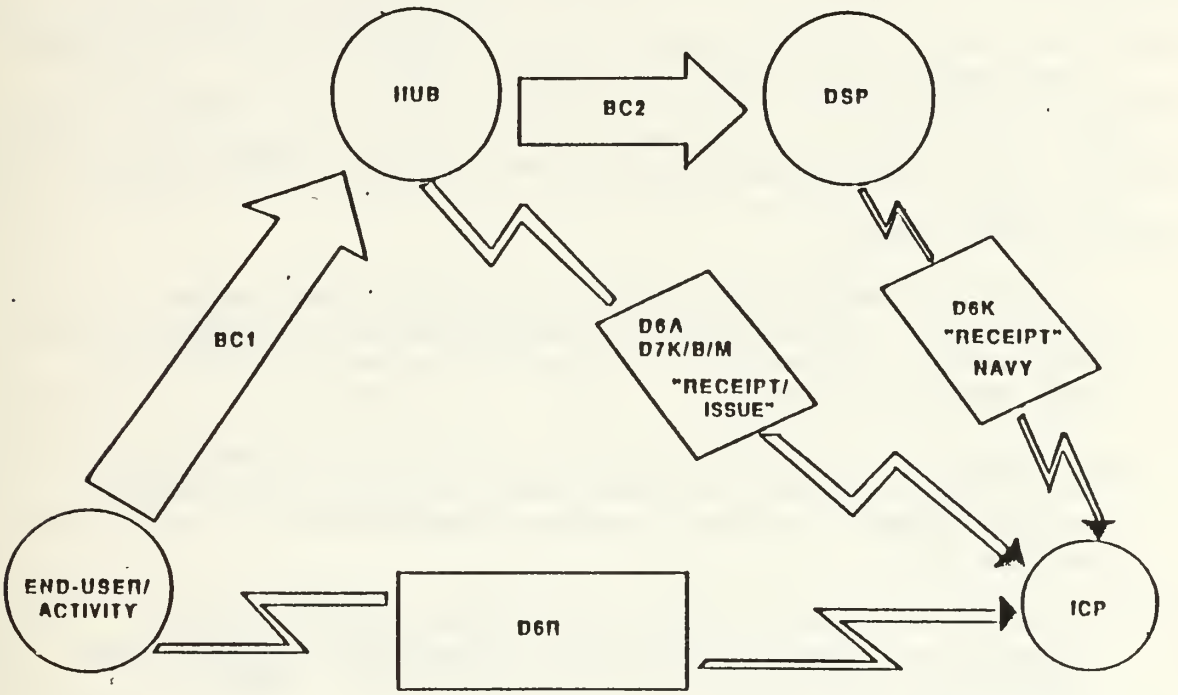


Figure 2.1

Carcass Tracking System

3. Carcass Tracking, ATAC Exclusions

Not all AV-DLR´s are sent via the Hub to the appropriate repair facility; some are sent directly to the repair site from the ASD. If an ATAC was not involved in the shipment of the NRFI part, the DSP that received the part must maintain a CTRF on file for the inducted part. The D6A report is forwarded to ICP. The following is an abbreviated list of ATAC exclusions taken from the DRAFT DEPOT LEVEL REPAIRABLES MANUAL:

- Excessive Weight and Volume. A list of excessive Weight and volume DLR´s is determined at selected activities. These DLR shipments are made to MRIL DSP and not to the Hub.

- Disposal. If the MRIL directs disposal, Activities will ask disposal instructions from the ICP. Disposal of DLR´s which are not beyond repair is not authorized.

- Classified Items. Classified items are not to be turned in accordance with the Department of the Navy Information Security Program Regulation, OPNAV Instruction 5510.1.

- Hazardous/Flammable Items. These Items will be accepted into the ATAC system if properly package and certified in accordance with Title 49 Code of Federal Regulations and NAVSUP Pub 505.

- Small Arms. Small Arms will be transported in accordance with NAVSUPINST 4600.70A. [Ref. 1]

As the carcass tracking system has matured, it has become apparent that under certain circumstances, sending common AV-DLR items through the Hub is excessively expensive and highly time consuming. The problem arises when a part is BCM´ed off a NAS that has a NADEP, which can repair the part. Instead of sending the part to the Hub, and back to the

NADEP, it is more efficient and less expensive to send the carcass directly to the NADEP from the ASD. In this circumstance the NADEP must maintain the CTRF and verify that the NRFI part has been turned in by the ASD. [Ref. 7]

D. LOST CARCASS TRACKING

The ICP will initiate a BK1 if a D6R is not submitted within a designated time period. The BK1 is sent to the end user activity which for this case will be ASD. The ASD must now start an investigation into why the carcass was not turned in as expected by the ICP [Ref 4:p.20]. Their first action is to confirm through the utilization of their CTRF that they had initiated a TIR with the document numbers that corresponded to the BK1 generated by ASO. If their records indicate that they had submitted a TIR which corresponded to the subject document numbers, the involved ASD must now determine if the carcass had been turned into the tracking system.

To check to confirm that the item in question had been turned into the system, Proof Of Shipment (POS) documentation would be checked to see if the carcass had left the ASD. If the ASD determines that a carcass was turned into the system, a BK2 would be sent by the ASD informing ASO that a carcass had been turned in and that the ASD has POS documentation to support their position. [Ref. 4:p.20]

Assuming that the ICP agrees with the BK2 response, no additional billing for the carcass will be sent to the ASD. That is, the net price for the carcass turn in will stand and no further reports are required of the ASD.

If the ICP does not agree or can not properly interpret the ASD's BK2 response, the ICP can take two different actions. First, the ICP can send the ASD a BK3 which is notification that the difference between net and standard price is to be billed to the ASD, or secondly, the ICP can send out another BK1 report that the ASD must again respond to. [Ref. 4:p.20]

Further investigation by the ICP may provide an answer or more information may be forwarded to the ICP from the ASD indicating that the BK3 sent by ICP was in error. If this happens, a BK4 is sent out by ICP. The BK4 is a bill reversal. It reduces the carcass price from standard price to net price. ASD does not have to respond to the BK4 but should maintain the BK4 for their records [Ref. 4:p.20]. If a transshipper activity, such as the Hub, fails to send a D6A or a DSP fails to send in a D6K within the allotted time, the ICP will initiate a BK5 report. The BK5 is like a BK1 in that it is a request to investigate the location of a particular NRFI item. In this situation the previous activity, an ASD, has POS on the item. This releases them from any further responsibility and the transshipper, the ATAC, is tasked with

finding the POS within its CTRFs or some other explanation as to where the item is located. [Ref. 4:p.20]

In response to the BK5, the transshipper activity replies with a BK6. Typically the BK6 response is an automated response stating the disposition of the NRFI part in question. [Ref. 4:p.20]

Figure 2.2 provides a visual display of the system carcass tracking follow-up/response document flow.

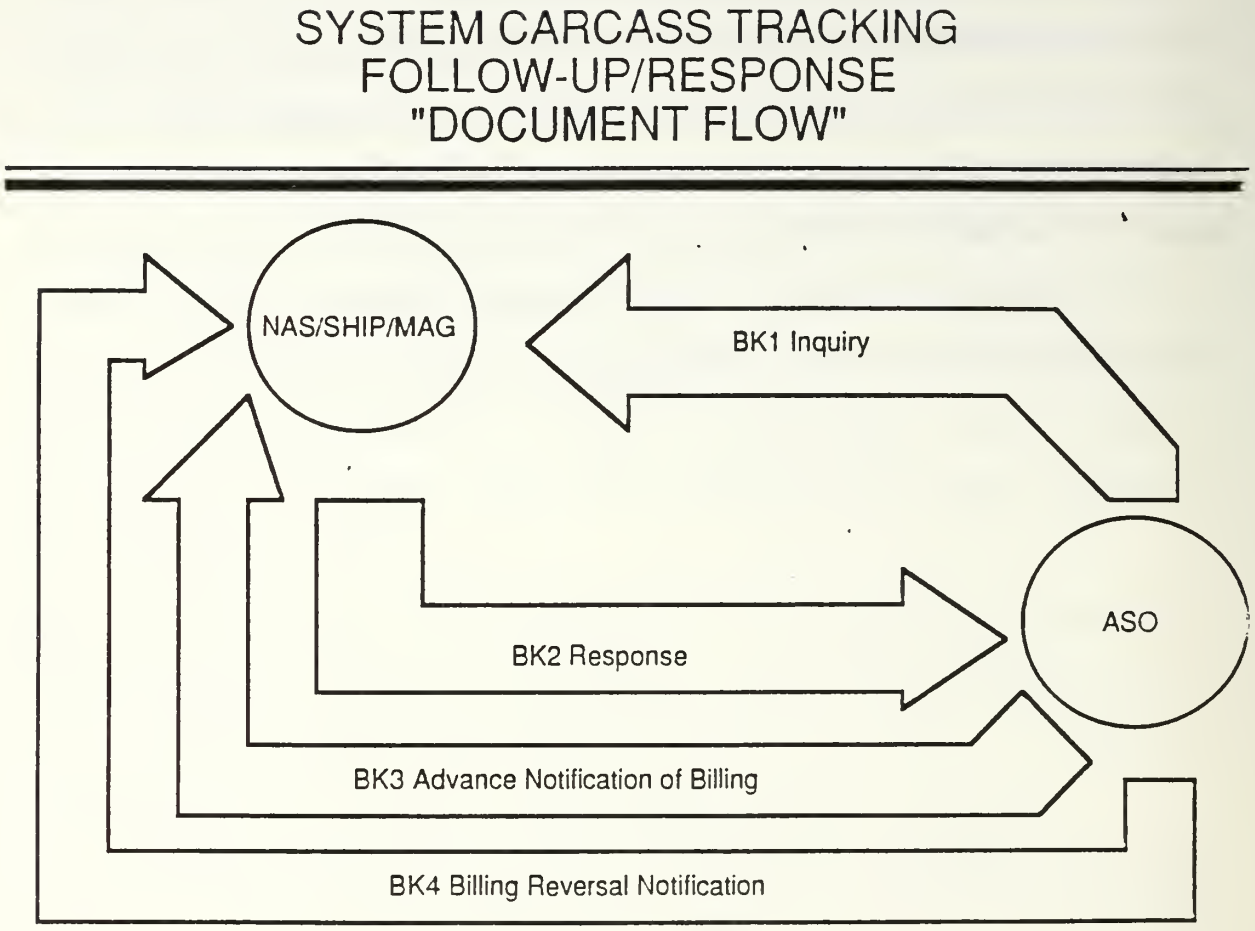


Figure 2.2

Follow-up/Response Document Flow

E. MONITORING CARCASS TRACKING

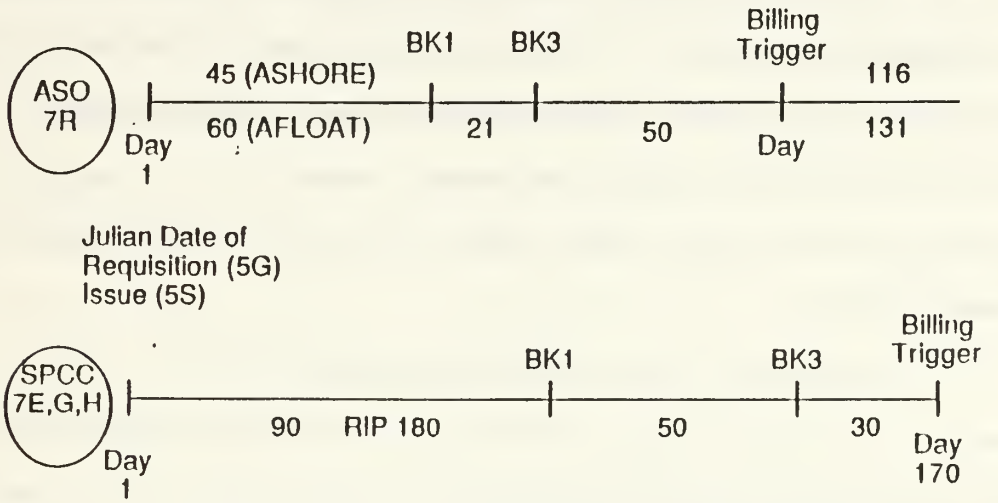
Although the ICP, for AV-DLR's, is formally tasked with the responsibility of monitoring the disposition of all AV-DLR's not held in inventory within an end user's own supply system, Commander, Naval Air Force, United States Pacific Fleet (COMNAVAIRPAC) has stated that "Each activity is held accountable for ensuring the timeliness and accuracy of initial shipment notification" [Ref. 4:p.21].

The ICP maintains the timeliness of the reporting activities by monitoring the time that it takes for any given activity to submit required reports. One of the primary reports that is monitored is the D6R report that an ASD submits to an ICP. As previously described,the ASD submission of a D6R informs the ICP that a carcass has been turned in to either an ATAC or a DSP for repair.

Normally the report is sent out immediately, because under most circumstances the squadron or end user that needs the part must make a one-for-one trade to obtain the RFI part which results in an NRFI part being placed into the supply system without delay. There are exceptions that result in no NRFI item being turned into the supply system when the RFI is issued. For instance, some aircraft parts cannot be removed without the new part in hand due to structural limitations. Other carcasses must remain in place until the replacement part can be installed otherwise it will impact adversely upon the mission capability of the aircraft.

Under these circumstances the ASD will still requisition a new part but it will not be able to send out a D6R. Since the TIR went out without D6R the ICP will continue to monitor the ASD awaiting the D6R. If the D6R is not sent out after 45 days the ICP will transmit a BK1 to the ASD. At this point the ASD has 21 days to send out an explanation as to the status of the part in the form of a BK2. If not the ICP will send a BK3 informing the ASD that a bill for the carcass will follow in 50 days if no justification is forthcoming. [Ref. 5] Figure 2.3 provides carcass tracking follow-up and billing parameters.

CARCASS TRACKING FOLLOW-UP AND BILLING PARAMETERS



BK1: Where is the CARCASS? Or notification that your BK2 was rejected (CC65)

BK3: Notification that you will be billed. Trigger reset for additional 35 days (for Reject Codes B&F in CC65) Trigger set by initial BK1 (for other Reject Codes)

Figure 2.3

Follow-up and Billing Parameters

The accuracy of the carcass tracking system has been and is continuing to be enhanced through the incorporation of computer systems that reduce human error and standardize inputs into the system. These new systems will be discussed in detail in chapter IV. Accuracy has also been maintained though the feedback loops established to keep base comptrollers and supply personnel aware of the carcass tracking situation. Such loops have been established by COMNAVAIRPAC.

In accordance with COMNAVAIRPACINST 7305.1, all comptrollers and supply officers must monitor the following BK reports if they are attached to activities that manage or track AV-DLR carcasses:

- Volume and dollar value of BK3's received by the station Fiscal Year To Date (FYTD)
- Volume and dollar value of BK3's received for which no BK2 response was submitted (FYTD)
- Volume and dollar value of additional billings received on financial listings (carcass charges FYTD)
- Volume and dollar value of BK2 responses not acknowledged by the ICP (i.e., credit reversal of additional billings not received (FYTD)).

F. SUMMARY

The purpose of this chapter was to describe why the present AV-DLR system was established and how the current carcass tracking system operates. The chapter began by reviewing the problems that existed within the AV-DLR system prior to incorporation of the present carcass tracking

system. Following the review of past problems, a brief history of the implementation of the current system was described. Next, how the carcass tracking system is designed to operate and how lost carcasses are investigated was explained. Finally, the chapter concluded with an explanation of who is held accountable for the proper execution of the AV-DLR program.

III. AVIATION DEPOT LEVEL (AV-DLR) FUNDING AND ACCOUNTING PROCEDURES

A. GENERAL

Funding for the procurement of AV-DLR support is achieved via the federal budget process. This process is discussed in this chapter and specific definitions which relate to the process are identified. The budget process within the Navy will also be described with an emphasis on allocation of funds and sub-allocation within the Naval Reserve claimancy.

The specific flow of funds (allocation) will be presented and appropriations identified as necessary to provide a clear understanding of how AV-DLR funding interfaces with the Navy budget as a whole.

B. THE FEDERAL BUDGET PROCESS

The primary focus of the federal budget is resource allocation among numerous government agencies. Resource allocation is a significant influence upon budgeting within the federal government for a number of reasons. The central issue is that consensus among the competing departments and agencies is virtually impossible. Each department and agency utilizes its particular strategy to maximize its portion of the budgetary pie. In an effort to deal with the vast competition, the Federal Budget Process is divided into four main phases:

(1) Executive Formulation

(2) Congressional Enactment

(3) Budget Execution

(4) Audit

1. Executive Formulation

Executive formulation is divided into Planning, Programming, and Budgeting stages of the Department of Defense's (DOD's) formulation process. Three years are required to complete the Planning and Programming and Budgeting phases; however, there are always three different fiscal year budgets active at the same time. [Ref. 8:p.A-3]

The Planning, Programming and Budgeting System (PPBS) was implemented by Robert McNamara in the 1960's during his tenure as the Secretary of Defense. The novelty of the system upon initial implementation was the focus being more on objectives and goal achievement. The long-term alternative means for achieving those goals and objectives was the goal rather than focusing on the existing financial base and annual incremental improvements to it. The result was that planning had been elevated to a level with budgetary management and control. The PPBS system also joins planning and budgeting by means of a programming process which essentially defines a procedure for distributing available resources equitably among the many competing departments and/or programs. In effect, the PPBS is a viable tool to assist senior managers in decision making with respect to

resource allocation in a multi-billion dollar defense establishment. [Ref. 8:p.A-9]

The planning phase begins with the preparation of the Joint Strategic Planning Document (JSPD), by the Joint Chiefs of Staff (JCS). This document is used by the Secretary of Defense (SECDEF) to formulate the Defense Guidance (DG). The DG includes the perceived threat, opportunity assessments and statements of specific issues which require further analysis by senior managers. The planning phase ends with the SECDEF's issuance of the DG which is the document that provides guidance for preparation of the Program Objectives Memoranda (POM). [Ref. 8:p.A-10]

The purpose of the programming phase in PPBS is to translate the strategy (an idea) into a viable, well defined force structure which can be expressed in terms of men, money and material (concrete terms). This is labor intensive and requires systematic procedures that assign a cost to the specific force objectives for financial and manpower resources over a five year period in the future (Five Year Defense Plan).

The POMs are prepared by each of the services. These documents describe each service's total program requirements in terms of men, money and material which are needed to economically accomplish its mission and meet the DG as put forth from the SECDEF. The POM is also a tool to recommend

and justify changes from the approved Five Year Defense Plan (FYDP) as previously written.

All POMs are reviewed by the JCS. Approximately thirty days after the services publish their POM's the JCS issues the Joint Program Assessment Memorandum (JPAM). This document simply assesses the POM input and makes recommendations to the Secretary of Defense with respect to adequacy of the composite force and resource levels presented in the Service POMs. The Secretary of Defense makes the final decision with respect to program issues and publishes his decisions via the Program Decision Memoranda (PDM). [Ref. 8:p.A-11]

The final phase of PPBS is the budgeting phase. The annual budget identifies the financial requirements necessary to support the programs that have been approved in the previous phases. This can be quantified and translated into an annual funding requirement. Clearly the PDM is crucial when determining the President's Budget.

2. Congressional Enactment

The Congressional enactment phase starts when the President submits his proposed budget to Congress. The deadline for submission is the first Monday after January 3. The Presidential Budget is significant in that it reaffirms the President's power to propose a cohesive budget which defines an economic program and spending priorities. This budget resulted from months of deliberations and compromises

among White House, Office of Management and Budget (OMB), and numerous agencies and departments. [Ref. 9:p.25-26]

The following definitions are provided in order to clarify the congressional focus:

> Authorization: An act of Congress that establishes or continues a federal program or agency either for a specified period of time or indefinitely; specifies general goals and conduct; and usually sets a ceiling on the amount of budget authority that can be provided in an appropriation. An authorization for an agency or program usually is required before an appropriation for that same agency or program can be passed.
>
> Appropriation: An act of Congress that allows federal agencies to incur obligations and make payments from the Treasury for specified purposes. An appropriation is the most common means of providing budget authority and usually follows the passage of an authorization.
>
> Budget authority: The authority granted to a federal agency in an appropriations bill to enter into commitments that result in immediate or future spending. In most cases budget authority is not the amount of money an agency or department will spend during a fiscal year but merely the upper limit on the amount of new spending commitments it can make. The three basic types of budget authority are appropriations, borrowing authority, and contract authority. [Ref 9:p.157]

The Congressional Enactment phase of the fiscal cycle is a complex chain of events, many occurring concurrently, in which the Congress utilizes numerous Congressional Committees to evaluate the Presidents Budget and make recommendations to Budget Committees with respect to programs and funding levels. Input to the Budget Committees is also received from the Congressional Budget Office (CBO). A key ingredient to the effectiveness of achieving budgetary goals is the sound justification of specific programs. At the same time that the Budget Committees are developing the first concurrent

resolution on the budget, the President's staff is updating the President's Budget. This update reflects any new information and amends or revises requested BA and estimated outlays and receipts. [Ref. 8:p.A-18-24]

Action is completed on a first concurrent resolution when it is adopted by Congress. This is mandated for completion no later than 15 April for the fiscal year beginning on 1 October of such year. This is considered a cornerstone of the act since the decisions taken establish the ground rules for the year. The procedure, unlike its executive department counterpart, is open and public. In effect, the first budget resolution is the culmination of the information gathering process and the beginning of action on the budget itself [Ref. 10:p.226-227]. After submission of additional amendments by the President, Appropriations Committees prepare spending bills. The CBO continues to monitor the spending bills and issues periodic reports comparing their figures and subsequent changes with the amounts authorized in the first concurrent resolution [Ref. 8:p.A-23-24]. When action on the appropriations bills and new budget authority are complete, supposedly seven days after Labor Day, the Congressional Budget and Impoundment Control Act of 1974 directs Congress to either ratify or adjust its action through a second concurrent resolution. This second budget resolution reaffirms or revises "the concurrent resolution...most recently agreed to". Over time, the second

concurrent resolution has largely been ignored and the first resolution has become the binding resolution. [Ref. 10:p.236-237]

Once approved, the budget becomes the financial plan for the operations of each governmental agency for the upcoming fiscal year. Under Federal Law, most BA and other budgetary resources are made available to the agencies of the executive branch via the apportionment system [Ref. 8:p.A-38].

3. Budget Execution

After the Congressional Enactment phase has reached fruition, the Appropriation Act is submitted to the President for his signature. When signed, the act is implemented via the issuance of an Appropriation Warrant by the Treasury Department. This warrant is important because it identifies the dollar limitation amount stipulated in the act and appropriate accounting data, as well as any unique restrictions which may apply. Funds are still not technically available to departments and agencies within the Federal Government until the warrant is countersigned by the head of the General Accounting Office (GAO), the Comptroller General. The countersigned warrant makes appropriated funds available for apportionment and allocations under which obligations may be incurred and expenditures made [Ref. 8:p.A-27]:

Apportionment and Reapportionment: A distribution made by OMB of amounts available in an appropriation or fund account into amounts available for specified time periods, activities, projects, objects, or combinations thereof. The amounts so apportioned limit the obligations that may be incurred.

Allocation and Suballocation: An authorization by a designated official of a DOD component making funds available within a prescribed amount to an operating agency for the purpose of making allotments and incurring obligations. [Ref 11:p.15]

4. Audit Function

The final phase of the Federal Budget Process is the Audit Function. Individual agencies are responsible for assuring--through their own internal control and review systems--that the funds that they obligate and spend are properly accounted for and spent according to the provisions of the authorizing legislation and appropriations. They are also accountable for any other laws and regulations which may apply to the obligation and expenditure of funds. OMB reviews program and financial reports to keep a pulse on agency programs and their effectiveness. The GAO exercises an audit function by conducting regular audits and examination of Government programs. As an agent of the Congress, the GAO submits findings to the Congress, to OMB, and to the agencies involved in the examination. The GAO also monitors the executive branch's reporting of special messages on proposed rescissions and deferrals which are required by law. [Ref. 8:p.A-39]

C. NAVY BUDGETING AND AV-DLR ACCOUNTING

This section of the chapter will focus on the Navy budget process and the flow of funds within the Navy. It will address AV-DLR funding prior to 1 April 1985, as well as, funding since conversion to the NSF. It will also review current AV-DLR accounting and reporting requirements.

1. The Navy Budget

Each year the Commanding Officer (Responsibility Center), via his or her Comptroller, issues a budget call to all Cost Centers within his command. Each Cost Center prepares input to the Commanding Officer (CO) that outlines specific requirements (AV-DLR's) and the anticipated costs of those requirements. Submission is not carte blanche since each Cost Center must justify and defend the requirements which they submit to the Commanding Officer. The Comptroller, as the CO's representative, reviews input and establishes a dialogue with Cost Centers to clarify any specific questions which may require attention. When the input is finalized, a rough draft is prepared by the Comptroller and presented to the CO for final chop based upon specific command priorities. After the final blessing by the CO, the smooth budget is submitted to the major claimant for consideration and, hopefully, incorporation into the POM.

2. The Flow of Funds

When Congress finalizes the Appropriation Act, it is sent to the President for his signature. The Appropriation Act becomes law when the President signs it. The Treasury Department then issues an Appropriation Warrant which must be countersigned by the Comptroller General. After the countersigned warrant has been issued by the Comptroller General, the Office of Management and Budget Apportions obligational authority to the respective cabinet levels within the DOD establishment, in this case the Secretary of Defense. SECDEF in turn apportions to the Secretary of the Navy who allocates obligational authority to the Chief of Naval Operations. The CNO sub-allocates funds to the major claimant (COMNAVRESFOR). These funds are then sub-allocated to the Responsibility Center (Naval Air Station) in the form of an Operating Budget. [Ref. 8:p.A-28]

The flow of funds from Congress to the Naval Air Station is shown in Figure 3.1.

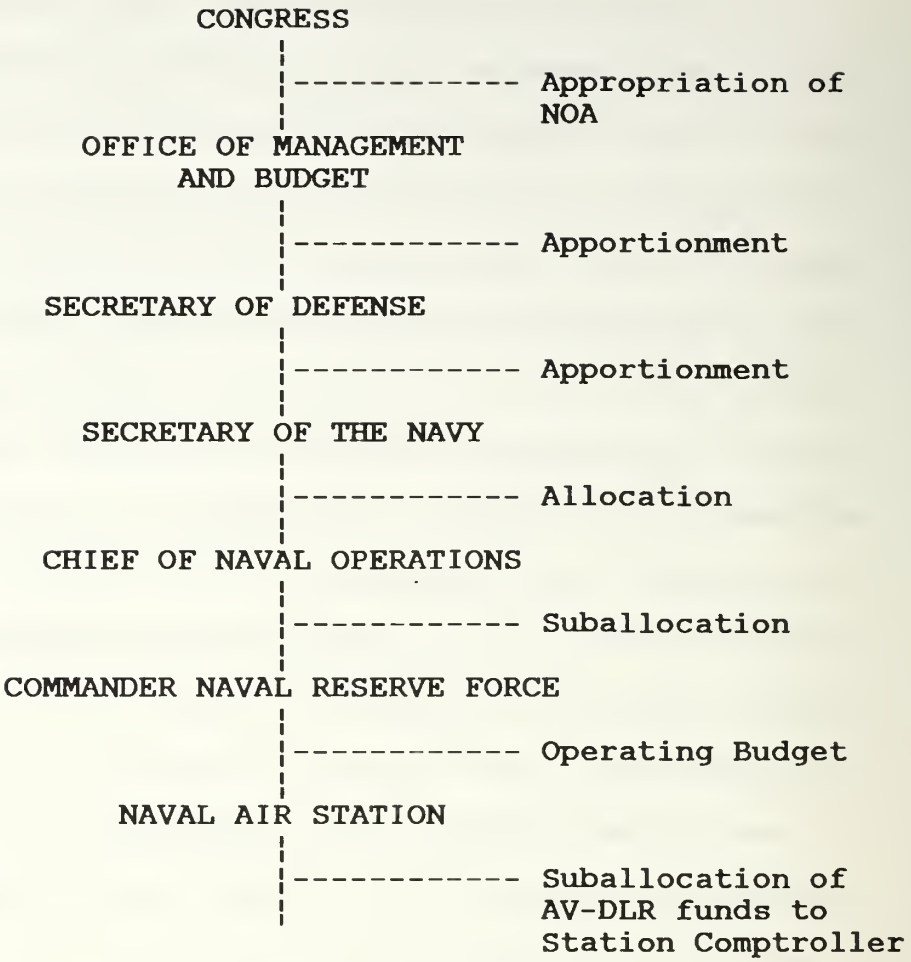


Figure 3.1 Flow of Navy Funds

As a Responsibility Center, the Base CO retains Title 31 Authority (USCA). Section 1517 specifically states:

> "An officer or employee of the United States Government or of the District of Columbia government may not make or authorize an expenditure or obligation exceeding--
>
> (1) an apportionment: or
>
> (2) the amount permitted by regulations prescribed under section 1514 (a) of this title. [Ref. 11:p.10]

Section 1514 (a) specifically states that the system shall be designed to:

> (1) restrict obligations or expenditures from each appropriation to the amount of apportionments or reapportionments of the appropriation; and
>
> (2) enable the official or the head of the executive agency to fix responsibility for an obligation or expenditure exceeding an apportionment or reapportionment. [Ref. 8:p.A-47]

3. AV-DLR Financing Program

Prior to 1 April 1985, AV-DLR's were funded for procurement from the APA account and issued "free" to the end user. On 1 April 1985, all AV-DLR's migrated from the APA account to the NSF. The Navy Stock Fund is a revolving fund used as a source of financing work and services that will be paid by the customer after completion of the job. It is also utilized to purchase and hold inventories of supply items (AV-DLR). Items purchased by the stock fund are generally held at various stock points until they are needed by the customer. In effect, the final costing for a supply item is in suspense until the end user requisitions an item and reimburses the stock fund for the value of the item or items

drawn from the fund. This payment is utilized to replenish the fund for a potential future requirement. [Ref. 8:p.G-4]

Since AV-DLR´S have migrated to the NSF, customer appropriations have been utilized to reimburse the NSF when requisitioning AVDLR´s. Initial financing was achieved via a combination of New Obligational Authority (NOA) and NSF withdrawal credits which together were allocated to fully fund the "new" requirement. Withdrawal credits result from cash accumulation in the NSF from sales of capitalized assets which were originally procured with APN funds. This cash accumulation is allocated to all customers instead of additional NOA.

During the testing phase of AV-DLR funding, customer funding requirements were financed with a combination of NOA and NSF Withdrawal Credits. Of the two options considered, it was felt that the program could be managed more effectively using withdrawal credits vice direct cash transfers from the NSF to customer appropriations. It was also the preferred method since Congress had explicitly included the use of withdrawal credits as a start-up financing mechanism. Finally, it was felt that withdrawal credits offered management flexibility in that if demand had been overstated withdrawal credits could be withheld during execution. This would in fact prevent unnecessary allocation of resources. On the other hand, if demand had been understated, additional

withdrawal credits could be requested without reprogramming actions. [Ref. 12]

4. Accounting and Reporting Requirements

Initially, it was the intent of the Comptroller of the Navy to establish a new function/subfunction (F/SF) category code and establish several new fund codes for use under financial management procedures in accordance with Financial Management of Resources (Operating Forces)(NAVSO P-3013). However, after further review, it was decided that the F/SF category code would be replaced by a unique expense element code which was established specifically for AV-DLR Navy Stock Account material. [Ref. 12]

The definition of the new expense element numeric "2" is as follows:

> Revises the definition of expense element code T "supplies" and adds expense element code 2 for Aviation Depot Level Repairables (AV-DLR), both to be effective beginning 1 April 1985. [Ref. 13:p.1]

In general, an expense element is utilized to allocate costs to a specific account. These costs are accumulated under various expense elements to identify total costs within various categories. In this case, the new expense element code 2 is utilized to track AV-DLR obligations and expenses on the NAVCOMPT Form 2171. The advantage of a new expense element is that it allows other elements of costs such as civilian labor and purchased services to be accumulated under meaningful F/SF categories which are already in use.

A statistical general ledger account was also established to facilitate automatic reporting of AV-DLR obligation status over the life of an appropriation, as well as to minimize or eliminate the need for ad hoc, off-line, manual reports [Ref. 12].

5. Local Allocation of Funds

Current practices of fund allocation from the Major Claimant (COMNAVRESFOR) to their Reserve Comptrollers is achieved via the use of a NAVCOMPT 7132/1. Allocation of funds is done on a quarterly basis. Reserve Comptrollers are Budget Optar Holders. They in turn sub-allocate funds via the use of a NAVCOMPT 2275 to the base comptroller of the host command who administers the AV-DLR funds based upon customer demand. Periodic amendments to replenish AV-DLR funds are accomplished on an as-required basis.

D. SUMMARY

The focus of this chapter has been to familiarize the reader with the Federal Budget process that is utilized in order to achieve funding for Aviation Depot Level Repairables. This process consists of four phases: (1) executive formulation (2) Congressional enactment (3) budget execution and (4) auditing. It also addresses the Navy Budgetary Process and unique requirements within that system. Finally, the chapter addresses the flow of funds at the claimancy level and below which described the reallocation from Reserve Comptroller to the Base Comptroller at the host

command level. This information is intended to clarify the funding process overall and help the reader to understand the complexity of the system. Various problems which arise with respect to AV-DLR management which will be addressed in later chapters.

IV. ADJUNCT SYSTEMS FOR AV-DLR CARCASS TRACKING

A. GENERAL

This chapter will focus on adjunct systems which are utilized to improve AV-DLR carcass tracking. It will also address the staffing resources which are available at various sites which are included in this study. These adjunct systems are complex in nature and may or may not be in place at all locations. This chapter will identify each location and adjunct systems in use.

B. XR86 PROGRAM

The XR86 program is a Uniform Automated Data Processing System Stock Point (UADPS-SP) Level II program which allows the user to utilize a structured approach in posting carcass exchange transactions to the "W" (warehouse) purpose Master Record File (MRF). An abbreviated explanation of the XR86 program will give the reader an overview of the program and its application in AV-DLR tracking.

Input for the program processing is achieved by the means of three frames: the #081 frame which corresponds to the DOCID BTF, for exchange issues; the #082 frame which corresponds to the DOCID BTA for maintenance returns; and the #083 frame which corresponds to the DOCID BTR for customer or warehouse refusals. A frame is represented in menu format on

the computer screen. The specific frame selection is made by the user and depends upon which transaction the user wishes to utilize. [Ref. 14:p.1]

The BTF frame is the first stage of the input process. The processing outcome of BTF demands are a function of the advice codes from the BTF frame and stock availability shown on the MRF. The XR86 program will make an exchange issue if the requested MRF quantity is not issue restricted and if there is a sufficient balance on hand to fill the requirement. Data entered into the system is gleaned from the 1348-1 which is generated by the ordering activity. The advice code is of considerable importance since it directs the program to search or not search for an issue substitute if a particular National Item Identification Number (NIIN) is not in stock. The advice code also identifies an item as a Remain In Place (RIP) which means that there will be no carcass turn-in until the replacement part has been received and installed. This is usually done at the squadron level. If the advice code option has been selected to use an alternative NIIN, the program will attempt to make an issue with an interchangeable NIIN.

If an issue is made, the MFR on hand quantity is adjusted and a Due In For Maintenance (DIFM) adjustment is created for the carcass. The DIFM is an extremely useful tool to track and account for all transactions both on and off station. Generally a DIFM printout is generated at least every two

weeks. This is a listing of all transactions which are presently due in for maintenance. The true value of the report lies in the ability of carcass trackers to have a file which can be validated every two weeks. This validation process serves as an excellent vehicle to identify any errors which may have been made.

The BTA frame is utilized to input maintenance return transactions. All BTA transactions must be input as Beyond Capability of Maintenance (BCM) or Ready For Issue (RFI). The RFI returns must be either in the process of being moved to the warehouse (RFI field = "I") or already stowed (RFI field = "S"). At this point the MRIL should be utilized to identify the most economical location which should receive shipment of retrograde. This is usually the DOP or the ATAC [Ref. 14:p. 2]. In situations where the shipper has mechanical MRIL capability and is not a Hub site, it is possible to go into the XR86 programs' constant area table and change the activity sequence coding. Position P0331, elements 23-42 may be utilized to add an additional addressee and change the computer logic. This allows the user to override the system and generate a stow document (meaning not ship to the ATAC) and designate a closer, more economical repair site. These "geographic limiters" should be utilized when practical in order to realize savings in transportation costs, as well as to expedite repairs. [Ref. 15]

The BTA frame is also important from the standpoint of replenishment of a carcass which cannot be repaired. If this is the case, an item must be ordered from ASO to replenish material to the fixed allowance level. This can be achieved in one of two ways. If the capability exists, it is best to utilize the "auto BCM" method direct to ASO. If this capability is not available, the BTA will generate information to the local Item Manager (IM) to make a buy. This information is usually in the form of a suspended buy list or a recommended buy list. The reorder decision is made by the IM. It is important to note that the weakness at this point is that there is no "automatic" reorder. Timeliness of reorder is extremely important to avoid possible stock outs. Delay, generally the exception, could have costly consequences.

The BTR frame is utilized to process customer and warehouse refusals. Customer refusals result in adjustments which when input, will automatically adjust the MRF on hand quantity, as well as the DIFM quantities. It will also reverse actions produced as a result of the exchange issue which had been made. Warehouse refusals will reduce the MRF on hand quantity to zero, decrease the DIFM quantity and generate a loss transaction. Like the customer refusal, it will reverse actions which had been previously made as a result of the exchange issue which had been made. It will also initiate BTF processing for the input document number in

an attempt to locate and issue a suitable substitute NIIN. [Ref. 14:p.3]

C. NALCOMIS

The Naval Aviation Logistics Command Management System (NALCOMIS) was developed to improve aircraft availability through the incorporation of a computer network that would aid in the management of logistic support for the aviation community. Although NALCOMIS was not created specifically for improvement of the AV-DLR process, the system does bring computer automation to one aspect of the AV-DLR tracking system. The part of the AV-DLR tracking system that NALCOMIS affects is the link between the squadron in need of an RFI part and the ASD.

Two of the primary objectives of NALCOMIS are to:

> Improve Aircraft Maintenance and Supply Support. Through more accurate and timely information, maintenance and supply personnel will be able to improve their overall productivity and available manhours.The component turnaround time will be reduced as a result of faster supply response time and less time spent on automated data processing oriented activities.
>
> Modernized Management Support. The system will provide comprehensive support of aviation maintenance and supply functions at the organizational and intermediate levels, both ashore and afloat. The on-line, interactive features of NALCOMIS will provide the needed response time to support daily activities and provide timely information to local managers and [other information] systems. Common inputs and outputs also have been designed throughout the system to facilitate training activities and ease of use. A common data base will ensure data control and overall accuracy and validity of information. [Ref. 16:p.4]

1. ASD-Squadron NALCOMIS Link

Under NALCOMIS, ASD and the squadron's maintenance department are linked together via a minicomputer and terminals. The terminals are located at ASD and within the squadron's maintenance supply division. At the terminal location, typically, a printer or printers will also be present. [Ref. 16:p.21]

This computer link between ASD and the squadron's maintenance personnel allows for real-time processing of information concerning what inventory is available to be utilized. Real-time processing of the current stock held by ASD enables the squadron maintenance personnel to make timely decisions as to the amount of time required to repair a particular aircraft. [Ref. 16:p.4]

The AV-DLR carcass tracking process is effected by the NALCOMIS process when a AV-DLR is first ordered by squadron maintenance personnel. When an NRFI AV-DLR part is identified by maintenance personnel a NALCOMIS qualified squadron supply clerk enters the requisition into the NALCOMIS terminal located within the squadron's supply division. Immediately the clerk will know whether there is a replacement part maintained within ASD's on station inventory. [Ref. 17]

When a squadron orders a part through NALCOMIS the associated ASD is informed that a requisition has been made and whether or not a RFI part is available from their own on

hand supplies. The document number that identifies the command that ordered the part, the date and time that the part was ordered and the status of the part are all automatically assigned to the requisition by the NALCOMIS process. The supply department will also be informed whether or not a carcass is to be turned in to the supply system. [Ref. 17]

The automated NALCOMIS process eliminates some of the possible human error problems within the AV-DLR requisition process. This is accomplished when the system automatically assigns document numbers that inform supply who is submitting the requisition. The use of built-in error protection programing will not allow invalid information which is not in the proper format to be entered into the system. [Ref. 17]

2. **Requisition Without NALCOMIS**

At installations where NALCOMIS has not been installed, AV-DLR requisitions are typically made utilizing a teletype system. The squadron making the requisition has a supply clerk or someone assigned to maintenance control, prepare a requisition for a needed AV-DLR part at the teletype terminal. The ASD receives the requisition and then must determine if they have the required RFI part in their inventory. [Ref. 18]

The teletype has no provisions built into the system to inform the requisitioner whether or not a part is available for immediate issue. Also, since the teletype is

not a computer interfaced system there is no method of stopping errors from being made in the requisition process. Whatever is typed into the teletype is simply transferred to the ASD.

3. Installations Utilizing NALCOMIS

Currently, out of the four west coast NAS's included in this study, only NAS Miramar is using NALCOMIS. NAS Miramar implemented the NALCOMIS system in June of 1987 and they feel that it has been a significant addition to their capability of supply management and AV-DLR tracking. The key consideration is that human error has been minimized at the point of data input which is vital if AV-DLR carcasses are to be properly tracked in the existing system.

NAS Alameda, NAS Moffett and NAS Whidbey Island are all scheduled to have NALCOMIS incorporated into their supply system, but due to funding constraints the actual date for installation has not been firmly established.

D. SUMMARY

This chapter addressed the adjunct systems which are utilized to make AV-DLR carcass tracking more effective. The key consideration with both systems is the fact that correct data is being input into the system. By assuring correct data input, human error is reduced to an absolute minimum. Clearly the XR86 Program offers a mechanized capability of inventory management coupled with features which make AV-DLR tracking more precise.

NALCOMIS, like the XR86 Program, offers mechanized checks which offset the human error factor and insure that data input is correct. It has a built in mechanism which will refuse requisitions that are erroneously charged to the wrong squadron. This is especially important with respect to financial accounting for AV-DLRs.

V. RESEARCH METHODOLOGY AND RESULTS

A. GENERAL

This chapter will identify sources of the data collected for this thesis. It will discuss any weaknesses which may apply and the research methodology and results from this data.

B. DATA SOURCES

The primary source of data was the Actual Bills by Unit Identification Code (UIC), a report that is generated monthly by ASO and sent to COMNAVAIRPAC with further distribution to various ASD's on the west coast. This report is a cumulative listing by UIC which lists actual and proposed bills for lost AV-DLR carcasses during a given fiscal year. It is listed in document number sequence and specifically lists financial liability for each document on the computerized printout. Individual squadrons may be identified by the last four digits of the document number with the exception of Squadron Augmentation Units (SAU). This will be addressed later in this chapter. In this way actual and proposed charges by squadron by fiscal year may be identified, isolated and totaled for comparative purposes. It also presents a comparison of total carcass charges for the current fiscal

year compared to the carcass charges during the same period of time in the previous fiscal year.

Another source of data for this thesis is the Memo Record Flight Hour Cost Report (RPTSYM 7310-7) which is generated on a monthly basis by each Reserve Comptroller as a reporting mechanism to COMNAVRESFOR in New Orleans. This data which is submitted in Naval Message format is not in its final form when it is reported to the Financial Information Processing Center (FIPC) in New Orleans since additional costs must be allocated at the FIPC. An example of additional costs would be transit costs which are allocated to all squadrons at a particular location if transit costs are incurred during any given reporting period.

Transient costs are those costs applied to the support of transient aircraft which is solely supported by a host ship or station for one week or less. These costs will be absorbed by the host command and are reported in the host station's Flying Hour Cost Report (FHCR). This enables activities to build the cost of supporting transients into the Aircraft Operations Maintenance (AOM) budget base. [Ref. 19]

C. DATA ANALYSIS

The initial focus of data analysis is to utilize analysis of variance procedures to statistically compare the means of AV-DLR costs per air station for fiscal years 1987 and 1988. The purpose of this statistical approach is to determine if there has been a significant change in AV-DLR costs which

would result in an unusual increase or decrease in utilization of AV-DLR funds from one year to the next. For example a significant change in total AV-DLR costs could result in a significant change in AV-DLR lost carcasses costs. Conversely, no statistical change implies that any changes in the cost of lost carcasses must be due to some reason other than an increase or decrease in total AV-DLR operating costs.

The one-way analysis of variance was utilized to compare the means of the two populations to determine if a significant change in the mean costs per flight hour of AV-DLRs occurred from fiscal year 1987 to 1988. The following conditions must be met in order to perform the one-way analysis of variance:

- The samples taken from the various populations are independent of one another.
- The populations being sampled are presumed to be, at least approximately, normally distributed.
- The standard deviations of the populations being sampled are assumed to be equal. [Ref. 20:p.179]

The initial analysis will evaluate any changes which may have occurred at individual Naval Air Stations. The null hypothesis (H_o) is $u_1 = u_2$, meaning that the means for fiscal year 1987 and 1988 are statistically equal where u_1 is the mean AV-DLR costs per flight hour for 1987 and u_2 is the mean AV-DLR cost per flight hour for 1988. The alternative hypothesis (H_a) is u_1 does not equal u_2, meaning that there is statistical reason to infer that the mean AV-DLR cost per

flight hour for fiscal year 1987 and 1988 are statistically different. For the purpose of this statistical analysis a 0.05 level of significance is utilized. For ease of understanding, the statistical results will be presented in table format by Naval Air Station.

The data presented in Table I through Table IV represents the average annual cost per flight hour for squadron operations in FY 1987 and FY 1988. Table I addresses squadrons at NAS Miramar, Table II NAS Whidbey Island, Table III NAS Alameda, and Table IV represents a combination of all squadrons.

TABLE I

AVERAGE COST PER FLIGHT HOUR

NAVAL AIR STATION MIRAMAR

1987	1988	
763.18	732.90	VF-301
753.25	847.13	VF-302
1170.03	1087.90	VAW-88
331.05	355.58	VC-13

ANALYSIS OF VARIANCE

SOURCE	DF	SS	MS	F	p
FACTOR	1	5	5	0.00	0.995
ERROR	6	631384	105231		
TOTAL	7	631389			

TABLE II

AVERAGE COST PER FLIGHT HOUR

NAS WHIDBEY ISLAND

1987	1988	
1170.63	1058.15	VAQ-309
503.87	546.01	VP-69

ANALYSIS OF VARIANCE

SOURCE	DF	SS	MS	F	p
FACTOR	1	1237	1237	0.01	0.941
ERROR	2	353428	176714		
TOTAL	3	354665			

TABLE III

AVERAGE COST PER FLIGHT HOUR

NAS ALAMEDA

1987	1988	
398.22	551.68	VA-304
637.58	473.98	HS-85
205.48	226.67	VP-91

ANALYSIS OF VARIANCE

SOURCE	DF	SS	MS	F	p
FACTOR	1	20	20	0.00	0.983
ERROR	4	151328	37832		
TOTAL	5	151348			

TABLE IV

AVERAGE COST PER FLIGHT HOUR

COMBINED NAVAL AIR STATIONS

1987	1988	
398.22	551.68	VA-304
637.58	473.98	HS-85
205.48	226.67	VP-91
1170.63	1058.15	VAQ-309
503.87	546.01	VP-69
763.18	732.90	VF-301
753.25	847.13	VF-302
1170.03	1087.90	VAW-88
331.05	355.58	VC-13

ANALYSIS OF VARIANCE

SOURCE	DF	SS	MS	F	p
FACTOR	1	158	158	0.00	0.969
ERROR	16	1669745	104359		
TOTAL	17	1669903			

The P-value in each case is not less than the designated significance level of alpha = 0.05, therefore we do not reject H_o. That is, the data do not provide sufficient evidence to conclude that there is a difference in mean cost per flight hour for fiscal year 1987 and 1988. The statistical inference is that the means are the same.

D. DATA ANALYSIS AND ACTUAL BILLS

The statistical analysis of mean AV-DLR cost per flight hour indicated that statistically there was no difference in mean cost per flight hour between FY 1987 and FY 1988. Clearly any changes in costs associated with carcass tracking cannot be traced to any change in total AV-DLR operating costs. This is especially important to discern since, as will be shown next, there are significant changes in the costs of carcass bills between FY 1987 and FY 1988.

Actual Bills by UIC indicate that there has been significant decrease in AV-DLR carcass charges from FY 1987 to FY 1988 at all locations which were addressed by this thesis. The financial comparison can best be presented in table format. The information for Table V was extracted from an ASO carcass tracking file update as of julian date 88251. This data represents total dollars for carcass costs and is not limited to carcass losses which were turned in for repair. The dollar figures listed for FY 1987 and FY 1988 include initial AV-DLR procurement which are always issued at standard price, as well as, any material which is surveyed and does not have a carcass suitable for turn-in. These figures represent composite totals of both the regular and reserve components of the United States Navy. It will be presented by location, fiscal year and percent change if any.

TABLE V

CARCASS BILLS BY NAVAL AIR STATION

	1987	1988	% Change
NAS Alameda	598,607	110,417	82 %
NAS Miramar	2,389,927	34,255	99 %
NAS Moffett Field	254,701	182,756	28 %
NAS Whidbey Island	66,373	59,615	10 %

It was felt that these data were particularly significant due to the magnitude of the changes which have occurred from FY 1987 to FY 1988. The % change while not as dramatic at NAS Moffett Field and NAS Whidbey Island still reflects improvement in reducing actual charges. The lower percentage appears to be a function of the lower base which they worked from in FY 1987. Particular attention should be directed to the changes at NAS Miramar, which posted a reduction of 99+ %. They are the only NAS which currently has NALCOMIS on line and operational.

E. EVALUATION OF ACTUAL BILLINGS WITHIN NARS

ASO Actual Bills by Unit Identifier Code lists were analyzed for NARS which were initially included in the study. The purpose of this analysis was to evaluate and compare the AV-DLR tracking process for FY 87 and 88. The basis for initially selecting twelve squadrons was made prior to obtaining the actual bills from ASO. The Squadrons were selected in an effort to ensure that all the NAS's on the west coast that host NARS would be represented. Squadrons

were also initially selected with the intention of comparing squadrons that were made up of similar aircraft types; however,it was later determined that an analysis across aircraft types would not be feasible due to the paucity of similar aircraft types as well as, the realization that Squadron Augment Units (SAU's) could not be evaluated since independent data for those units do not exist.

Three of the squadrons initially selected could not be used for comparative purposes because they were SAUs that utilized reporting procedures which are integrated with the active force that they support. This made it impossible to distinguish them from the command that was being augmented because there was no breakout for individual SAUs on ASO's Actual Bills. The SAU's operate solely as an integrated part of a regular active duty squadron, and thus use the regular squadron's document numbers when ordering AV-DLR material.

The following table identifies the carcass charges that were levied against NARS for fiscal years 1987 and 1988. The table is arranged to demonstrate total cost and quantity of lost carcasses. Squadrons are grouped together by location, i.e., NAS. Dollar amounts are for the difference between net and standard cost being assessed against a particular activity.

TABLE VI

ACTUAL CARCASS BILLS

NAS	FY1987	QUANTITY	FY1988	QUANTITY
ALAMEDA				
HS-85	$11,409	2	0	0
VA-304	$145,786	5	$210	1
MIRAMAR				
VAW-88	0	0	0	0
VF-301	0	0	0	0
VF-302	$37,555	11	0	0
VFC-13	$38,630	3	0	0
MOFFETT				
VP-91	$14,849	5	$4,870	1
WHIDBEY ISLAND				
VP-69	$2,427	2	0	0
VAQ-309	0	0	0	0
TOTAL	$250,656	28	$5,080	2

Table VI indicates that all NASs within this study had a reduction in actual carcass bills from FY 1987 to FY 1988. The total dollars saved amounted to $245,576 or a 98 % reduction in AV-DLR carcass costs to NARS on the west coast. There was also a reduction in the actual physical quantity of AV-DLR carcasses from 28 in FY 1987 to 2 in FY 1988. Two out of four NAS's included in the study reported zero carcass losses in FY 1988.

Statistical evaluation of this data is also of importance since we must discern whether any changes in the raw numbers are in fact statistically significant. The TWOSAMPLE T test is utilized to test this data for statistical significance. This hypothesis test will be utilized because of the small

samples which are being tested. It is also assumed that the population approximates a normal distribution. The samples are independent and the populations' standard deviations are assumed to be equal but unknown. The null hypothesis (H_o) is $u_1 = u_2$, meaning that the means for fiscal years 1987 and 1988 are statistically equal where u_1 is the mean AV-DLR actual cost for lost carcasses for 1987 and u_2 is the mean AV-DLR actual cost for lost carcasses for 1988. The alternate hypothesis (H_a) is u_1 is greater than u_2, meaning that there is statistical reason to infer that the mean AV-DLR actual cost for lost carcasses in fiscal year 1987 is statistically different from fiscal year 1988. For the purpose of this statistical analysis a 0.05 level of significance is utilized. For ease of understanding, the statistical results will be presented in table format by total squadrons sampled and applicable fiscal year. [Ref. 20:p.122]

Table VII shows the raw data and the statistical results in MINITAB format.

TABLE VII

STATISTICAL ANALYSIS OF ACTUAL CARCASS BILLS

AT SELECTED NARS

1987	1988	SQUADRON
$11,409	$0	HS-85
$145,786	$210	VA-304
$0	$0	VAW-88
$0	$0	VF-301
$37,555	$0	VF-302
$38,630	$0	VFC-13
$14,849	$4,870	VP-91
$2,427	$0	VP-69
$0	$0	VAQ-309

```
twosample t 1987 VS 1988;
pooled;
alt = 1.

TWOSAMPLE T FOR 1987 VS 1988
    N      MEAN     STDEV   SE MEAN
C3  9     27851     46813     15604
C4  9       564      1616       539

95 PCT CI FOR MU C3 - MU C4: (-5822, 60394)

TTEST MU C3 = MU C4 (VS GT): T= 1.75  P=0.050  DF=  16

POOLED STDEV =      33122
```

The P-value in this case is equal to the designated significance level of alpha = 0.05. In this particular case we chose to reject the null hypothesis (H_o) in favor of the

alternate hypothesis (H_a). That is the data does demonstrate that a statistically significant difference exists between fiscal year 1987 and 1988. The statistical inference is that the means are not the same and that fiscal year 1988 did statistically show a decrease in AV-DLR actual costs for carcass losses.

F. SUMMARY

The purpose of this chapter was to analyze the data collected during the investigative phase of this thesis. A statistical analysis of variance was performed to insure that the total AV-DLR operational costs of the sites studied had not changed significantly from FY 1987 to FY 1988.

This chapter also analyzed ASO's Actual Billing list to determine changes in the total costs for AV-DLRs and the number of physical units which were unaccounted for. The difference may represent, at least in part, savings which were realized due to improved carcass tracking between FY 1987 and FY 1988.

VI. RECOMMENDATIONS AND CONCLUSIONS

A. GENERAL

This chapter will address recommendations on the existing management of AV-DLRs and conclusions which can be drawn from the investigation made during the preparation of this thesis. The chapter will summarize the findings of previous chapters and specifically address any statistical inferences which may be drawn from data analysis.

B. XR86 PROGRAM

The XR86 appears to be an excellent tool in the management of AV-DLRs. All locations that presently utilize the program are of the opinion that since its application, the XR86 program has been a positive factor in improving the quality of input into the AV-DLR management process. It is felt that any routine function which can be automated will reduce the possibility of human error and improves the quality of input data. This is a primary consideration since erroneous input can result in an impossible match which equates to higher costs within the AV-DLR management system. Another extremely useful function is the automatic adjustment of the MRF, DIFM and where applicable automatic reorder of the AV-DLR. All activities which were included in this thesis presently have the XR86 Program installed although all do not

have automatic reorder capability. It is highly recommended that the automatic reorder capability be implemented at those sites as soon as it is economically feasible.

C. NALCOMIS

NALCOMIS appears to be a very effective management tool. The use of this system has proven to be of particular importance in reducing the human error factor when inputing data into the system. This has a significant impact upon AV-DLR carcass tracking and fiduciary accountability of government funds.

NAS Miramar is the only site which was investigated that presently has NALCOMIS installed and operational. Clearly their successful reduction of AV-DLR costs can be attributed, at least in part, to this system. It is recommended that NALCOMIS be implemented at other sites when funding is available to do so. It would be very interesting to compare total AV-DLR costs prior to the installation of NALCOMIS and after at designated locations throughout the United States to investigate the correlation of NALCOMIS and effectiveness of AV-DLR carcass tracking.

D. HOST TENANT AGREEMENTS

Host Tenant Agreements (HTAs), with respect to AV-DLR management, were reviewed at all sites for scope and reporting practices . The review revealed that HTA´s were not current in all cases. In those cases where they had been

properly documented, HTA's were generally nonspecific in nature and failed to address interface between the carcass tracking function and the financial accounting function. There is virtually no feedback from the host ASD to the tenant Comptroller. It is felt that a clear, well-defined HTA is essential in order to monitor and evaluate the consistency of the AV-DLR program. The timely feedback of information is essential if real time accounting procedures are to be realized.

E. ASD/COMPTROLLER INTERFACE

At the end user level, it was noted that a lack of effective communication was evident between ASD and the Reserve Comptroller. Difficulty existed specifically in the ability of respective personnel being able to communicate in the appropriate language (i.e.,"Supplyese" and "Financese") to achieve desired results. An effort to remedy this situation had been undertaken at NAS Miramar through the addition of a staff position which interfaced directly between the ASD and Reserve Comptroller. Although this was a new position, it was clear that it was having a positive impact on the flow of information and the spirit of cooperation between the parties concerned.

F. STANDARDIZATION OF OPTAR LOGS

During the investigative phase of this thesis an attempt was made to review the individual squadron OPTAR logs and extract information. This effort proved to be quite difficult and more than a little confusing since AV-DLR requisitions are commingled with requisitions which are not for AV-DLR material. It would be advantageous to maintain a separate log for AV-DLR requisitions in order to provide an easier audit trail should a carcass be lost. It would also facilitate a breakout of what AV-DLR costs are from one year to the next and what the major impact on costs might have been. That is, was it an across the board increase in AV-DLR requisitions coupled with an increase in training or operational flight hours or was it a one time requirement for an extremely costly AV-DLR item which accelerated the cost of AV-DLR´s?

G. DISTRIBUTION OF INFORMATION

Clearly the sharing of information is extremely important. During the research it was discovered that the ASO Actual Billing Report which is generated on a monthly basis was sent to COMNAVAIRPAC and then distributed to respective ASD´s but was not shared with the Reserve Comptrollers. This timely information would be most helpful in reconciling any discrepancies which might exist in an expeditious manner and coordinating any financial corrections which might be required with the host comptroller.

Another concern which was addressed was that there was little feedback from the Accounting Authorization Activity (AAA) in San Diego. Specifically the NavCompt-2193 (Status of Billing and Obligations) was not received in a timely manner and individual efforts to resolve the problem have provided less than satisfactory results.

It is recommended that COMNAVAIRPAC develop specific reporting requirements with time parameters designed to support the timely feedback of required information to host and tenant comptrollers. This will positively impact upon the validity of reporting and will allow managers to make decisions based on more reliable information.

H. CONCLUSIONS

After evaluating current data, it is clear that the present AV-DLR carcass tracking system is functioning at an acceptable level. Clearly, significant improvement has been realized since its inception in 1985. The improvement in the AV-DLR tracking system has been realized for a number of reasons. Improvements in mechanized inventory management, mechanized tracking techniques and experienced staffing are key reasons for the improvement. Command attention has also been a key ingredient in achieving the current level of effectiveness. It is essential to continue the current emphasis on AV-DLR tracking if continued effectiveness is expected to be maintained at current levels or surpassed in the future.

1. Standard versus Net Price

After reviewing the current data, FY 1988 figures isolate only two carcasses which migrated from the standard price to net price. The value of these two carcasses is $5,080. This compares to twenty eight carcasses which migrated from standard price to net price in FY 1987 for a total cost of $250,656. It is obvious that the carcass tracking system is consistently tracking the majority of carcasses through the induction process and back to the end user level. It is not unrealistic to expect some losses to occur in a system of this magnitude.

2. Tracking Procedures

Tracking procedures appear to be adequate and in some locations outstanding. Clearly, the one area that needs attention is a standardized publication, in plain language, that gives specific guidance for the end user to utilize as a "how to" manual. Investigation revealed that most commands have their own version of "how to" instructions to deal with the myriad of options which might be taken with respect to carcass tracking. This is especially important for manual operators at the squadron and ASD level.

There was also some discussion with various squadron and supply personnel with respect to shifting accountability to the squadron level. After reviewing the existing carcass tracking system, it is the opinion of the authors that a shift of accountability to the squadron level would not be a

prudent decision. The major reason is that squadron personnel are and should continue to be operationally oriented and the excess burden of additional paperwork would not serve the interest of operational capability. Additionally, squadron supply petty officers lack the corporate knowledge with respect to the AV-DLR carcass tracking/financial accountability and reporting which is required to properly manage such a complex system. An additional problem exists for squadron supply petty officers in that they lack the political clout necessary to successfully defend their position and affect changes in the AV-DLR management system. Such a change would also require extensive training of squadron personnel which would not be the best utilization of resources since competent personnel are already in place at ASD's and Comptroller shops.

3. AV-DLR Accountability of Funds and Fund Allocation

The accountability of AV-DLR Funds is stronger now than at the inception of the program primarily because the level of carcass tracking has improved significantly. The result has been less erroneous charges to squadrons. Although timely reporting of data has been less than satisfactory, the margin for error has been reduced due to better accountability of the physical carcass.

After reviewing fund allocation procedures, it has been determined that these procedures are standardized and accomplished effectively at all NARS examined in this study.

APPENDIX A: ACRONYMS

AAA - Accounting Authorization Activity

AIMD - Aviation Intermediate Maintenance Department

AMSU - Aeronautical Material Screening Unit

AOM - Aircraft Operations Maintenance

APA - Appropriations Purchase Account

APN - Aircraft Procurement Navy

ASD - Aviation Supply Department

ASO - Aviation Supply Office

ATAC - Advanced Traceability and Control

AV-DLR - Aviation Depot Level Repairable

BA - Budget Authority

BCM - Beyond the Capabilities of Maintenance

CBO - Congressional Budget Office

CNO - Chief of Naval Operations

CO - Commanding Officer

COMNAVAIRPAC - Commander Naval Air Force United States Pacific Fleet

COMNAVRESFOR - Commander Naval Reserve Force

CTR - Carcass Tracking Record

CTRF - Carcass Tracking Record Files

DG - Defense Guidance

DIFM - Due In For Maintenance

FHCR - Flight Hour Cost Report

FIPC - Financial Information Processing Center

DLR - Depot Level Repairable

DOCID - Document Identifier

DOD - Department of Defense

DOP - Designated Overhaul Point

DSP - Designated Shipping Point

FMS - Foreign Military Sales

F/SF - Function/Subfunction

FY - Fiscal Year

FYDF - Five Year Defense Plan

FYTD - Fiscal Year to Date

GAO - General Accounting Office

HTA - Host Tenant Agreement

ICP - Inventory Control Point

ICRL - Invididual Component Repair List

IM - Item Manager

JCS - Joint Chiefs of Staff

JPAM - Joint Program Assessment Memorandum

JSPD - Joint Strategic Planning Document

MRIL - Master Repairable Item List

NADEP - Naval Aviation Depot

NALCOMIS - Naval Aviation Logistics Command Management System

NARS - Naval Air Reserve Squadrons

NIIN - National Item Identification Number

NOA - New Obligational Authority

NSF - Navy Stock Fund

NRFI - Not Ready for Issue

OMB - Office of Management and Budget

O&MN - Operations and Maintenance Navy

OPN - Other Procurement Navy

OPTAR - Operating Target

PDM - Program Decision Memorandum

POM - Program Objective Memorandum

POS - Proof of Shipment

PPBS - Planning, Programming, and Budgeting System

RFI - Ready for Issue

RIP - Remain In Place

SAU - Squadron Augmentation Units

SECDEF - Secretary of Defense

SECNAV - Secretary of the Navy

TIR - Transaction Item Report

UADPS-SP - Uniform Automated Data Processing System Stock Point

UIC - Unit Identification Code

USCA - United States Code Ammended

VIDS/MAF - Visual Information Display System/ Maintenance Action Form

WPN - Weapons Procurement Navy

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Thesis
H162173 Halverson
c.1 Aviation Depot Level Repairable management and accounting procedures among Naval Reserve Air Squadrons at NAS Alameda, NAS Miramar, NAS Moffett Field, and NAS Whidbey Island.