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THESIS

PRICING FOR OBSOLESCENCE IN
THE NAVY STOCK FUND:

IS THERE A BETTER WAY?

by

William Patrick Wilund

December 1978

Thesis Advisor: A. Crosby

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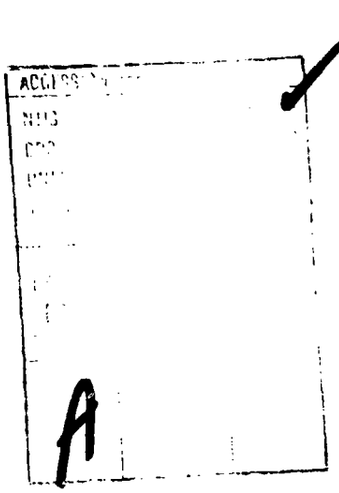

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PRICING FOR OBSOLESCENCE IN THE NAVY STOCK FUND: IS THERE A BETTER WAY?

by

William Patrick Wilund
Lieutenant, United States Navy
B.S., University of Idaho, 1969

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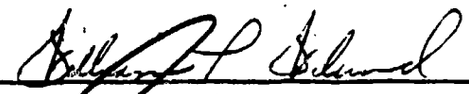
Author 

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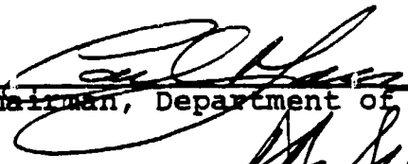
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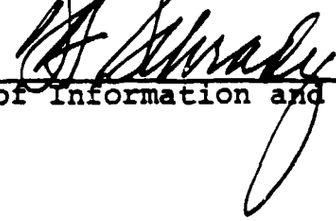
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ABSTRACT

The use of pricing surcharges in recovering costs associated with transportation as well as losses by inventory and obsolescence has long been used by stock fund managers. At the request of the Naval Supply Systems Command, this study was undertaken to assess the methodology of surcharge development for Navy Stock Fund items, and to determine if improvements were possible. Methods used for developing transportation and physical inventory loss portions of the surcharge have been examined and are considered adequate. Methods used for developing the obsolescence portion of the surcharge have been examined and several changes have been recommended. Such changes include the use of indexing to assist in comparing different years' prices, a possible use of replacement cost accounting for inventory valuation, and a method of statistical accounting to better ascertain the adequacy of surcharges established.

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I. INTRODUCTION

Is there a better way to price Navy Stock Fund (NSF) material to recover the costs of normal obsolescence? Are there methods currently in use by commercial firms in inventory accounting and pricing which have applicability to the Navy's obsolescence pricing problem? Is there, in fact, any problem with the way the Navy currently establishes prices for stock fund items? The answers to these questions and more will be the target of the research effort which follows. Initially, though, it seems important to provide the reader with a brief background on the NSF, how it came about and how it is designed to operate.

A. THE STOCK FUND CONCEPT

The stock fund is not entirely unlike the concept of working capital utilized in a commercial business. Basically, the amount of capital tied up in investment and inventory of raw materials and finished goods leaves only so much balance available for replacement of equipment/inventory or other desired uses.

The decision to establish the first "stock fund" was made officially in 1893 when a Congressional Act authorized the sum of $200,000 for the purpose of creating a "permanent naval supply fund." This fund was to be used for the "purchase of ordinary commercial supplies for the naval service," and was "to be reimbursed from the proper naval appropriations" when purchased and issued for use. [1]

Since that time, the size of the Navy Stock Fund has grown to over $2,200,000,000. Additionally, the National Security Act of 1947, as amended in 1949, gave rise to the start of stock funds for the other military services. The Navy's inventory comprises only about 15% of the total inventory financed in the composite Department of Defense stock funds. The Defense Logistics Agency has about 37% of the inventory, the Air Force has 20%, and the Army has about 26%. [2] In theory, the Defense Stock Fund is designed to carry items which are common to all services, while the individual service stock funds carry items which are unique to that service or for which they are the predominant user.

The stock fund is theoretically a revolving fund, as depicted in Figure 1. [1] [2] The stock fund is that portion shown in the center of Figure 1 which is comprised of cash and inventory (material). This total of cash and inventory is commonly referred to as the "corpus." [3] At any point in time, there will be material in store and cash on hand, as well as material in transit to customers and from suppliers. Therefore,

> The stock fund is both a flow-through system in the sense that there is a constant transition between cash and material, and a holding account in the sense that it holds in suspension the material eventually charged to customer's end use funds. [2]

It is important to clarify what is financed by the stock fund and what is not. Basically, the stock fund is utilized for expense type items, while investment items are purchased through the procurement appropriations. The investment type items include principal items such as "aircraft engines, complete radar sets, gun mounts and ammunition" as well as those

THE REVOLVING CONCEPT OF A STOCK FUND

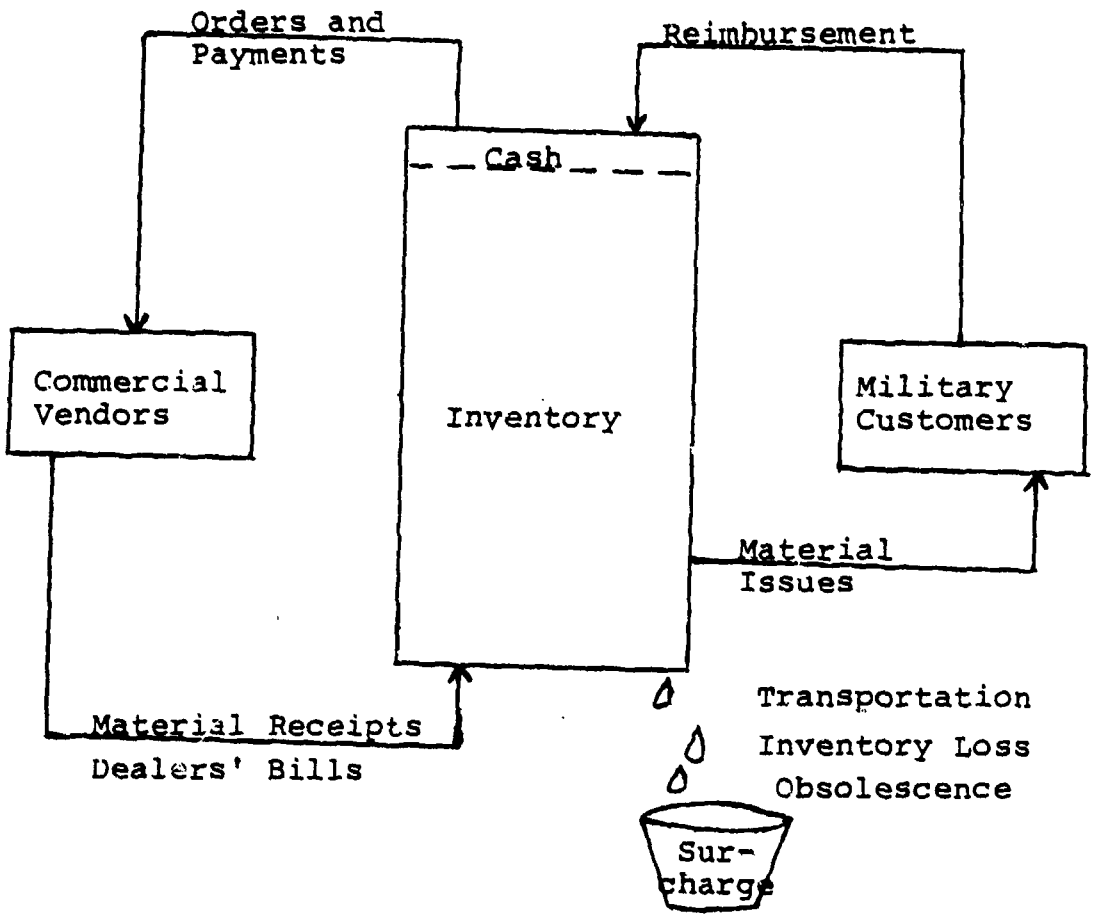

Figure 1

secondary items which are repairable. [2] The remaining secondary items which are generally consumable (used only once) are funded through the stock fund. In 1975, the Navy Stock Fund inventory included only 13% of the total $11.8 Billion inventory held (by dollar value), but accounted for 90% of the line items managed. [2]

In summary, the stock fund has grown from a rather small beginning of $200,000 in Navy stock to a very large "investment" in inventory for all military services. Although only a small portion (in dollar value) of the total inventory of parts and components is stock funded, the portion that does flow through the revolving fund is the largest in terms of number of line items.

B. PROBLEM STATEMENT

In theory, the stock fund concept is sound and workable. As with any large system, however, there are problems which must be identified and solved to ensure a smooth operation. The small "bucket" labeled surcharges in the lower portion of Figure 1 has been intentionally omitted from discussion until now, since this is the area of concentration for this study. As can be seen by the small drops going into the surcharge bucket, there is a drain on the stock fund corpus caused by payment for first destination transportation, normal stock losses and obsolescence. The surcharge itself is a percentage factor which is applied to the cost price of each item and is designed to cover the cost of stock/cash "losses" and thereby retain the revolving nature of the fund. A more detailed description of the pricing methodology will be presented in Chapter III.

The problem, then, as seen by this author is that the NSF may not be revolving as it should be. During a period of relatively stable prices in the economy, a surcharge factor to recover stock losses can be based historically and will generally cover future stock losses. However, where high inflation has been experienced, such as in today's environment, the use of historical cost data in predictions results in gross understatement of future costs due to the effects of inflation. Thus, a factor composed of stock losses on items purchased up to 7 or 8 years ago, at then current prices, divided by sales in a recent one or two year period at today's prices, provides an understated picture of what the future losses will be. It is essentially an "apples to oranges" comparison.

The non-revolving nature of the NSF due to the effects of inflation on prices is the major problem which will be addressed in this paper. Solutions to be explored and developed include the use of indexing (see Chapter IV), and perhaps a follow-on use of replacement cost accounting techniques (see Chapter V).

The net effect of not recovering the full amount of obsolescence stock losses at current prices is that the required quantities of new or replacement items may not be affordable due to a cash shortage. While cash shortages have not been a discernible problem to date, the potential exists due to the continuing effects of inflation.

C. ASSUMPTIONS AND LIMITATIONS

In performing this study, the assumption has been made that the quantities of material in the obsolescence category are appropriate and cannot be avoided in the course of managing

such a large Navy inventory. In fact, there may be a number of improvements which can and should be made to reduce the amount of material ultimately reaching disposal. Such steps might include better screening of material prior to disposal action, better techniques in the initial provisioning process to avoid over-buying stock, or more thorough screening of stock which is capitalized to avoid the capitalization of potentially excess stock. However, to stay within the scope of this paper, such ideas have been excluded.

In addition, analysis has been limited to only Budget Projects (BP) 14 and 34, which encompass Navy Cognizance Material 1A, 1H, 1N, 1R, and 5R material. BP 14 includes ships, ordnance and electronics repair parts and BP 34 includes aviation consumables. Other material categories which are stock funded, but which have been excluded, are publications and forms, clothing and subsistence, ships store and commissary store stock, other retail supplies, fuel and related items, and other special NSF clearances and transactions. The primary reason for exclusion of a number of categories is the availability of data as well as to simplify the problem of comparing disparate categories of stock fund material. Moreover, the majority of the NSF inventory, approximately 75%, is in BP14 or BP34. In addition, because of the technical nature of ship's and aircraft repair parts, the ultimate problem of obsolescence is much greater for these material categories than the others listed.

Another assumption has been made concerning the basic composition of the stock fund. This paper deals with stock losses and, in particular, disposal of obsolescent stock, with

recovery of this loss through a surcharge applied to current sales. The underlying assumption of this surcharge methodology is that items being disposed will be replaced by new items required by the supply system, thus perpetuating a relatively stable number of line items. While some fluctuations will be present, the one-for-one replacement of disposed items by new requirements is essential to using the surcharge method.

II. BACKGROUND

A. NAVY STOCK FUND STRUCTURE

The Navy Stock Fund, as a whole, is managed by the Commander of the Naval Supply Systems Command (NAVSUP), through the Chief of Naval Material, under the Chief of Naval Operations (CNO). Directly under NAVSUP are the managers of the various Budget Projects (BP), discussed in Chapter I. As mentioned previously, only BP 14 and BP 34, managed by the Ship's Parts Control Center (SPCC) and the Aviation Supply Office (ASO), respectively, will be treated explicitly in this study. SPCC and ASO, then, are the inventory managers from the standpoint of determining what material to stock, when to buy it, how much to buy and when the material is no longer required and should be sent to disposal.

How is this determined? Primarily due to the large number of line items managed, this process has been automated. Using a standard computer program called "Stratification" or "STRAT," item managers receive semiannual printouts which specify, based on current operating constraints and guidelines, what the stock status is and where action is required to ensure availability of stock when needed. The STRAT program shows, given the demand history as experienced, the application of inventory assets to various categories of inventory requirements, and shows how much excess or deficiency exists relative to these requirements.

In addition to the STRAT program, which provides a static picture at a point in time, various UICP (Uniform Inventory Control Point) programs are available. These programs, often run daily, generate the actual "buy" information based on demand forecasting, an economic order quantity formula, safety levels and lead time required. Understandably there is a great deal of manual intervention and judgmental decision making which must also be a part of the requirements determination process. For example, a "buy" generated by the program for an item which is no longer required due to retirement of the major weapon system or end item might be rejected by the item manager. In addition, an "abnormal" number of demands in a recent time period may result in an extremely large "buy" being generated, whereas the additional knowledge of the decision maker, the item manager, can be used to assess the reasonableness of the order.

B. COMPOSITION OF THE NAVY STOCK FUND

While the discussion to this point might indicate that the stock in the NSF is constantly "turning" or being sold and replenished, this is not entirely true. In fact, the stock fund is comprised of several categories of material, several of which very rarely turn-over from an inventory standpoint. Table I reflects the composition of the NSF for the cognizance symbols 1H (BP14) and 1R (BP34) as of the end of Fiscal Year (FY) 1977.

For several reasons, the material identified by the STRAT as potential excess does not, however, equate exactly to the material which is ultimately disposed of. Items listed as potential excess are usually manually screened to ensure that

TABLE I

STOCK FUND COMPOSITION
BUDGET PROJECTS 14, 34

as of 30 September 1977
($000's)

CATEGORY	BP 14 (1H)	PERCENT OF TOTAL	BP 34 (1R)	PERCENT OF TOTAL
AFAO (note 1)	$ 336,588	54.2	$ 488,304	53.5
AFRS (note 2)	1,856	.3	211	.0
ERS (note 3)	70,485	11.4	99,993	10.9
CRS (note 4)	83,764	13.5	162,885	17.8
PE (note 5)	107,115	17.3	109,395	12.0
UNSTRAT (note 6)	20,792	3.3	52,515	5.8
TOTAL	$ 620,600		$ 913,303	

Note 1 The approved force acquisition objective (AFAO) is the level of stock determined by the demand for the item.

Note 2 The approved force retention level stock (AFRS) consists of all categories of stock for mobilization purposes.

Note 3 The economic retention stock (ERS) is that quantity of stock which is more economical to retain than to dispose of.

Note 4 The contingency retention stock (CRS) is insurance stock which cannot be justified by a specific requirement or which does not have a predictable demand pattern. Material held for future Foreign Military Sales programs falls in this category.

Note 5 The potential excess (PE) is the quantity of assets which remains after consideration of the preceding categories of retention and acquisition levels.

Note 6 Unstratified stock consists of stock which is currently in-transit from a supplier or to a user and which is not otherwise accounted for.

mis-classification has not occurred. In addition, because of changing parameters an item classified as potential excess in one semi-annual stratification may be reclassified as CRS or ERS, for example, in the next run, and prior to disposal action. In general, however, over a period of time the potential excess will roughly approximate the disposal actions.

C. OBSOLESCENCE

What is obsolescence? In a very rough sense, obsolescence can be thought of as any material which is no longer required for stock at any retention level and, therefore, should be excessed. A more precise description of what constitutes obsolescence is offered by Krupp, as follows:

> There are three types of obsolescence. These are:
> 1. Shelf life obsolescence, an abrupt loss of product value resulting from expiration of usable shelf life of on-hand material.
> 2. Technical obsolescence, an abrupt loss of product value through technological phase-out or changes in model or style superseding the previous design; and
> 3. Financial obsolescence, the gradual depletion of product value resulting from accrued costs incurred due to carrying a product in inventory for a prolonged period of time. [4]

Of the above categories, the first two seem to be the most appropriate descriptors of what is called obsolescence in the NSF. Of course in many, if not most, cases, the determination to excess an item is based more on a decline in or non-existence of demand, rather than an explicit determination of technical or shelf-life obsolescence. The third category of obsolescence, financial, is not especially germane to the NSF situation, since holding costs (carrying costs) are financed external to the stock fund by direct appropriation.

However, were the criteria of holding costs to be applied in reducing asset value, a large quantity of material in retention categories would undoubtedly be far past the point of being financially obsolete. Financial obsolescence is not a pertinent factor in the stock fund, and is mentioned only for purposes of discussion.

D. CURRENT PRICING GUIDANCE

The Department of Defense (DOD) Directive 7420.1 entitled "Regulations Governing Stock Fund Operations" is the primary guidance provided to the services for all phases of stock fund operations including pricing. The following excerpts and comments are considered germane in explaining the policy:

> Each item financed under a stock fund shall have a single standard price which shall be used for both inventory accounting (including the determination of losses, gains or adjustments) and for effecting reimbursements for sale ... .
>
> Standard prices of items currently being procured shall be reviewed on a continuing basis, and revised price lists shall be published normally not oftener than once a year. Interim revision and corrections of the prices of individual items shall be minimized and will be limited to significant changes essential to the protection of stock fund capital and the assurance of reasonable equitable charges to the users of the items. [5]

Commenting briefly on the above quotations, it is important to note that only the prices of items "currently being procured" are updated regularly. Items which have not had recent procurement actions retain the last market price, regardless of the time lapse involved. Additionally, the last sentence in the above quotation offers an indication of the purpose of the pricing system. That is, to protect the stock fund capital and

assure reasonably equitable prices. As will be discussed later, the practice of updating only items currently being procured may be in conflict with the goal of protecting stock fund capital. Continuing with pertinent excerpts from DOD Directive 7420.1:

> The standard price of each item shall include the following elements:
>
> a. The current market or procurement cost of the item at the time a price is established or reestablished.
>
> b. Transportation costs authorized to be incurred by stock funds ... .
>
> c. A surcharge to compensate the stock fund for all normal operating losses on current procurement and for authorized expenses.
>
> The surcharges included in the standard prices for losses/ authorized expenses are for the purpose of recovering estimated net stock losses on current procurement such as pilferage, damage, deterioration, physical inventory shortages, and excess arising from obsolescence and other causes ... . The surcharge will not be expected to recover losses causes by major disaster or enemy action.
>
> The establishment and use of standard prices as prescribed above shall not preclude the use of estimated standard prices for procurement and sales in budget program data submitted for annual budget estimates for stock funds and corresponding estimates of customer budgets, when the current market situation is such that forecasted price changes of current standard prices could impact significantly over the estimate period. [5]

Thus it is apparent that the pricing guidance as delineated above is designed to protect the stock fund capital by allowing for the recovery of operating expenses and inventory losses through application of a surcharge. The final quotation above is of interest since it implies that budgeting for inflation or price escalation is <u>not</u> specifically excluded.

E. CURRENT SURCHARGES

Based on the above guidance, the Navy has developed a method for computing its surcharge which is described in detail in Chapter III. The present Navy surcharge for BP14 and 34 material is 15%. Table II presents an historical summary of what the Navy surcharge has been since FY 1971.

In addition to the Navy surcharge, the DOD has been imposing an inflation surcharge since FY 1976. In FY 1976 this DOD surcharge was 15%, in FY 1977 it was 7%, in FY 1978 it was 4%, and in FY 1979 it is 3%. This surcharge is added to the Navy surcharge. Its primary purpose is to protect stock fund capital during the fiscal year in process from the effects of inflation. This method allows prices to remain relatively stable throughout the year, eliminating the necessity for frequent changes. The concept is a breakeven one, assuming that inflation is gradually increasing throughout the year. Therefore, while the stock fund is making excess cash during the first half of the year, this is offset by losses during the second half of the year. Thus the FY 1979 DOD surcharge of 3% is designed to recover an inflation rate of 6% for the year.

From a comparative standpoint it is interesting to note what surcharges are being used by other services and the Defense Logistics Agency (DLA) stock funds. Table III shows the FY 1978/1979 total surcharges for the various other stock funds, in most cases by material category. The highest surcharge from

TABLE II

HISTORY OF NAVY SURCHARGES

FISCAL YEAR	ASO (Note 1)	ESO (Note 2)	SPCC (Note 3)
1971	22%	25%	25%
1972	17	20	20
1973	10	10	10
1974	10	10	10
1975	10	--	10
1976	10	--	10
1977	15	--	15
1978	15	--	15
1979	15	--	15

Note 1 Aviation Supply Office BP 34

Note 2 Electronics Supply Office was disestablished in FY 1974

Note 3 Ship's Parts Control Center BP 14

Table III is the Defense Electronics Supply Center (DESC) at 16%. Next is the Navy's ASO and SPCC at 15%. There is a certain amount of concern among NAVSUP personnel that the high surcharge rate may somehow be indicative of poor management in the supply system. A high surcharge rate does, in fact, reflect a large obsolescence rate on the surface and does indicate that perhaps too much "excess" stock is being procured and/or capitalized. On the other hand, the nature of the material due to the rapid technological changes being made seems destined to produce some quantity of obsolescent stock. Despite the sophistication of present inventory control and forecasting techniques, the fact remains that the future cannot be predicted with 100% accuracy.

There is another factor, however, which seems germane to this percentage issue. That is, the Navy 15% surcharge is based only on those items which are currently being sold to customers. From Table I it can be seen that this is only slightly higher than 50% of the total inventory assets carried. The balance of the inventory is largely retention stock for various contingencies. Thus the current sales carrying a 15% surcharge are designed to cover all obsolescence in the inventory, which includes a large quantity of stock which may or may not have ultimate utility for the Navy. In addition, to the extent that currently procured inventory does not turn in one year, a lesser amount is recovered by the surcharge, thus driving the percentage higher to cover annual obsolescence.

TABLE III

CURRENT SURCHARGES FOR FISCAL YEARS 1978 AND 1979 BY SERVICE AND DLA

COMPONENT	COMMODITY	TOTAL SURCHARGE
Army	Weapons & Fire Control	9 %
	Aviation	11
	Electronics	8.5
	Missile Material	10
	Automotive	11.5
	Troop Support	10
Air Force	SSD	13
DLA	Construction	11
	Electronics	16
	General	10
	Industrial	13
Navy	ASO (aviation)	15
	SPCC (ship's parts)	15

III. CURRENT NAVY STOCK FUND SURCHARGE METHODOLOGY

NAVSUP has interpreted the guidance discussed in the previous chapter as requiring a surcharge development for three categories of expenses/losses:

1. transportation
2. physical inventory losses, and
3. obsolescence.

Appendix A shows the results of the most recent surcharge review conducted by NAVSUP for the 6 years ending 31 December 1976 for BP14 and 34. As indicated in the final "total" column for each category the computed surcharge for BP14 was 14.1% and BP34 was 13.6%. Based on this review it was concluded that the surcharge in effect of 15% would be continued.

Referring to Appendix A, each component of the surcharge will now be described to provide a better understanding of the process.

A. TRANSPORTATION SURCHARGE

The transportation portion of the surcharge is relatively straightforward. The actual costs incurred for transporting items purchased from manufacturers to the point of stockage are divided by the actual (market) cost of the material. This is the only factor which is developed based upon cost of material, since from this point on all inventory accounting, both sales and losses is done on a standard price basis which includes the surcharge. Comparing losses at standard price with sales

at standard price is considered the proper way of developing the ratio, since with or without the surcharge, the ratio would theoretically be the same.

From Appendix A, then, it can be seen that the transportation portion of the surcharge is 2.6% for BP14 and .7% for BP34. This ratio remains relatively constant, although transportation costs for BP34 are somewhat less on a percentage basis than for BP14.

B. INVENTORY LOSS SURCHARGE

Again the computation for physical inventory losses such as pilferage, theft, loss by inventory, etc., is fairly straightforward. The total inventory loss experienced at standard price as a result of physical inventories is divided by the total sales at standard price to develop the ratio. From Appendix A it can be seen that inventory losses have averaged 3% for BP14 and 1.8% for BP34. These losses are not quite as stable as the transportation costs developed earlier, but are still within a relatively narrow range.

C. OBSOLESCENCE SURCHARGE

The obsolescence portion of the surcharge is computed from actual disposal "costs" adjusted for changes in potential excesses to arrive at a total obsolescence figure. The term "disposal costs," as used in this paper, refers to the standard price of the material turned into disposal. It does not include or refer to the actual transportation or handling costs associated with the disposal function. The total obsolescence figure is

then reduced by a figure representing the Material Turned Into Store (MTIS) without credit adjusted on a time phased basis. The older MTIS without credit is fully deducted, while "newer" MTIS without credit is only partially deducted. The final figure is then divided by total sales, again at standard price, to represent the net obsolescence factor for the period being considered. The following several paragraphs will analyze this procedure in more detail.

From an inventory accounting standpoint, using the standard price of items turned into disposal as a starting point seems logical enough. This does,in fact, represent the amount by which the inventory account must be reduced to reflect the status after disposal. The use of standard price versus purchase price (exclusive of surcharge) does, however, seem to overstate the actual obsolescent stock value. For example, an item purchased for $100 and priced at $115 (including a 15% surcharge) would be disposed of at $115 versus $100. The additional $15 represents only surcharge added versus out-of-pocket cost, thus overstating the "true" dollar value of obsolescent stock. An inventory accounting system carrying inventory at cost, with a surcharge added only at time of sale is an alternative which would eliminate this overstatement. This would, however, necessitate some method of variable catalogue pricing for customers, which seems an unnecessary burden. In addition, an even more precise inventory accounting system might reduce the item's value to a recoverable salvage value, which would then be the disposal cost. However, the revolving fund cannot absorb write-offs of

this nature without some form of compensation, either from sales to customers through surcharge collection or by direct appropriation from Congress. Therefore, use of the disposal costs at standard price is deemed to be the most reasonable starting point for developing the obsolescence surcharge.

Continuing with the evaluation of the methodology for obsolescent surcharge development, the practice of adjusting the actual disposal costs for changes in potential excess may seem somewhat puzzling. Potential excess is stock which, due to insufficient demand over the time period specified, appears excess to the needs of the stock fund and is a figure generated by the STRAT program. Those items which have not experienced "sufficient demand" and/or are in excess of planned stockage requirements, including all retention levels, are placed in this potential excess category. If a reduction in potential excess occurs, the disposal "base" is adjusted downwards. Likewise, an increase in potential excess results in an increase in total obsolescence costs. This adjusting process provides a type of smoothing to allow for consideration of changes in the excess stock position which might impact on disposal costs. Thus, if potential excesses are on a downward trend, the actual disposal will be adjusted downward to avoid overstating future obsolescence, thereby collecting excess cash through the surcharge.

The MTIS without credit phasing factor may also seem somewhat confusing, and is, in fact, the least substantiated portion of the Navy formula. Although theoretically sound, the time phasing factor utilized cannot be proven right or wrong from

data currently available. MTIS without credit is material which once was sold by the stock fund, at standard, and has now been declared excess by the holding activity, a user command. Since there is no foreseeable need for the item in the supply system, within the acquisition objective, no credit can be extended to the customer. Not all stock which is considered excess to the needs of the stock fund is included in this category. In fact, a substantial portion of stock turned in to a supply point which is considered excess is screened, and if not required in the supply system, is sent directly to disposal. The material which becomes part of the stock fund called MTIS without credit are items which do not immediately qualify for disposal action, by virtue of being within the item manager's retention levels. This material is taken up in the stock fund at the latest purchase price available, which is considered representative of market conditions, plus current surcharge; i.e., the standard price. This material is then held in stock until sold or, more likely, stratified to a potential excess category and sent to disposal. It has been estimated by NAVSUP personnel that this process takes approximately 5 to 6 years, thus the factors used in Appendix A of 100% in the sixth year down to 10% in the first year. Without additional data on exactly how long MTIS without credit is held prior to excessing and how much, if any, is actually resold, the estimating procedure in use is considered sufficient. The theory behind this reduction is essentially that MTIS without credit was received "free" to the stock fund, therefore, utilizing the related disposal costs in the obsolescence formula would result in a "double-counting" or overstatement.

From Appendix A it can be seen that the obsolescence ratio developed is 8.5% for BP14 and 11.1% for BP34. There is, however, no method available within the present accounting structure to determine if these factors are adequate or not. A method of improving the quality of the estimating technique, as well as a possible way of assessing its adequacy will be discussed in the following chapters.

In the case of the transportation and inventory loss portions of the surcharge it was noted that the yearly ratios varied within a fairly narrow range. As can be seen from the numbers in the obsolescence portion of Appendix A, such is not the case with the obsolescence factor. In fact, on a yearly basis an extremely wide range of percentage factors could be developed using only the disposal, change in potential excess and a portion of the MTIS without credit. Therefore, it is imperative in using this approach that a number of years' data be utilized in developing the factor. Whether or not six years' data is adequate is indeterminable at this time. However, it is interesting to note how sensitive the obsolescence surcharge factor is to a change in the number of years' data and slight modification in the phasing of the MTIS without credit reduction. For example, reducing the number of years' data to five versus six for BP14 and slightly compressing the MTIS without credit reduction results in a factor of 13% for obsolescence in lieu of the 8.5% in Appendix A. A further reduction to four years' data results in a factor of 9.6%. Similar reduction in number of years' data for BP 34 resulted in a factor of 6.9%

for five years' data and 14.2% for four years' data versus a factor of 11.5% from Appendix A.

Obviously, the greater the time span, the less will be the effects of one or two years' data and thus, a more accurate factor will be the product. This does not, however, allow for trends which might be developing within the system which could be resolved through some method of giving more weight to more recent years' data. In addition, using more years' data compounds the effects which inflation is having on the price comparison. For example, comparing costs of disposal (price established seven years ago) with current sales (price established within last year) provides an unequivalent comparison. However, use of six years' data aggravates the problem since the inflation rate may have been more or less over the respective six-year time spans covered. Sales from 1971 through 1976 inclusive, a six-year period, would conceivably correspond to disposal of items, which on the average were purchased from 1964 through 1969. One inflationary effect is, of course, the difference in pricing bases from 1964 to 1971, 1965 to 1972, etc., for comparison purposes. A second effect is the difference in aggregate inflation over the time period covered. For example, inflation might have averaged 4-5% from 1964 through 1969, on an annual basis, but was closer to 8-10%, on the average, from 1971 through 1976. Methods of more closely monitoring actual obsolescence with surcharge recovery, which will be presented later in this paper, might provide a solution to this particular problem area.

IV. IMPROVING SURCHARGE DEVELOPMENT

The methodology currently employed by NAVSUP and as described in Chapter III for determining what the surcharge should be is considered basically sound; in fact, during an economically stable period of time the method should work very well. However, during the past several years inflation has been very pronounced in the economy and the prospects seem slim that the inflationary trend will subside appreciably. During a period of price escalation as has been experienced, items which are sold by the stock fund and are being replenished have replacement prices updated on a routine basis. However, items which are not being currently procured do not have updated replacement prices. Therefore, the replacement price for items being disposed of is understated considerably due to the relative age of the items. In addition, any comparison of disposal data with sales data results in inaccurate percentages due to these inflationary effects.

In order to determine what the average age was of those items being considered for disposal, NAVSUP directed that random samples of items be taken from the current potential excess stratification. ASO and SPCC each conducted such samples and provided the listings in Appendices B and C. These 200-item samples are fairly revealing in what they disclose of the nature of the disposable stock. For example, Appendix B which is the sample for BP14 from SPCC shows an average age of 7.5 years by

line item. This "age" is not necessarily the actual chronological age of the item, but instead reflects the length of time since the item was last procured and a market price established. The range in ages for BP14 items is from about six months to 27 years. For BP34, shown in Appendix C, the average age was 7.7 years and the range was from about two years to fifteen years.

On the average, then, disposal costs (the price of material disposed of) are 7 to 8 years older than the sales data with which they are compared for purposes of surcharge computation. In order to provide a compatible base for comparison purposes, an attempt has been made using an indexing technique to bring disposal costs up to the same "current" level of prices as the corresponding sales figures.

The data employed by NAVSUP in their latest surcharge review has been utilized to portray the difference in outcome. This basic data is available in Appendix A. Figure 2 represents the Consumer Price Index (CPI) published by the U. S. Department of Health, Education and Welfare for the years 1940 - 1978 and is established using 1967 as the base year. [6] For purposes of this analysis, the relative difference from one year to the next was considered germane. In each case, this difference has been used in relation to the index number for the year under discussion to provide the factor reflecting the relative inflationary increase. The CPI has been used as a representative index, although a more appropriate index could conceivably be found or developed by the Navy or DOD.

Figures 3 and 4, for BP14 and BP34, respectively, portray the results of applying an index to the figures previously utilized in Appendix A for developing the obsolescence portion of the surcharge. The paragraphs which follow provide an explanation of how the CPI was utilized in arriving at the numbers in Figures 3 and 4.

In calendar year 1971, the total disposal costs were $82.8 million. The CPI factor for 1971 was 121.3 and the factor for 1964 (current year minus seven, representing the average age of disposal items) was 92.9. The difference of 28.4 was then divided by 92.9 (the 1964 index number) and a factor of .305 was derived. This factor of .305 was then added to 1 and the sum, 1.305, was multiplied times the $82.8 million in 1964 dollars to arrive at an approximate 1971 value for disposal of 108.1 million. This figure can then be compared to sales for 1971 on the same dollar basis. The same rationale was utilized for each succeeding year through 1976, in each case assuming the age of obsolete stock to be seven years. For the potential excess factor, the only adjustment made was for the net change, since this is the only applicable number. This net change number was adjusted based on the 1976 factor of 1.553 assuming that the net change in potential excess age was seven years.

MTIS without credit was adjusted in basically the same manner, although a different assumption was made concerning age. Assuming, as NAVSUP does, that it takes about 5 to 6 years for an item turned in without credit to reach disposal, it was assumed that these items were only 2 years old (7 minus 5) on

the average, when turned in. Thus, the 1970 MTIS figure uses the CPI for 1970 of 116.3 less the CPI for 1968 of 104.2 for a difference of 12.1. This difference is then divided by 104.2 (the 1968 index number) to provide a factor of .116, which is then added to 1 and multiplied times the base MTIS of $45 million. The "new" MTIS without credit figure then becomes $50.2 million. This figure is phased as before, from 6 years (100%) to 1 year (10%).

As expected, the percentage figures applicable to obsolescence grew substantially using the indexing approach. In fact, the BP14 factor for obsolescence would now be 14.7% in lieu of the previously computed 8.5% and the BP34 factor would be 18.4% in lieu of 11.1%, significant changes. By this method, the surcharge total for BP14 stock would be 20.3% and for BP34 stock would be 20.9% versus the 15% currently utilized.

It should be apparent that, in theory at least, a significant amount of cash is currently being "lost" through assignment of an "inadequate" surcharge to BP14 and 34 items, assuming that the disposal costs are being correctly computed by the formula described in Chapter III. This assumption leads into the topic for discussion in the next chapter; that is, the use of replacement cost accounting and with it, a method for statistically measuring the adequacy of present and future surcharges.

Figure 2

CONSUMER PRICE INDEX
(1940 - 1978)
Base Year = 1967

YEAR	INDEX
1940	42
1945	53.9
1950	72.1
1955	80.2
1960	88.7
1961	89.6
1962	90.6
1963	91.7
1964	92.9
1965	94.5
1966	97.2
1967	100
1968	104.2
1969	109.8
1970	116.3
1971	121.3
1972	125.3
1973	133.1
1974	147.7
1975	161.2
1976	170.5
1977	181.5
1978	189.8 (as of March 1978)

BUDGET PROJECT 14
RESULTS OF INDEXATION APPLIED TO
OBSOLESCENCE SURCHARGE DATA

(1) Current Year	(2) Disposal	(3) Current Year (CY) Factor	(4) CY minus 7 years Factor	(5) 1 + (diff. col. 3-4 div. by Col. 4)	(6) "New" Disposal Col. 2 x 5
1971	$ 82.8M	121.3	92.9	1.305	$108.1M
1972	36.2	125.3	94.5	1.326	48.0
1973	25.7	133.1	97.2	1.369	35.2
1974	9.7	147.7	100.0	1.477	14.3
1975	19.4	161.2	104.2	1.547	30.0
1976	27.0	170.5	109.8	1.553	41.9
Total	$200.8M				$277.5M

Net change in Potential Excess X current year (1976) factor: (32.3) x 1.553 =(50.2)

(7) Current Year	(8) MTIS Without Credit	(9) CY Factor	(10) CY minus 2 years Factor	(11) 1 + (diff. Col. 9-10 div. by Col 10)	(12) "New" MTIS w/o cr.	(13) Phasing Factor	(14) Applic. to Obsoles.
1970	$ 45.0M	116.3	104.2	1.116	$ 50.2M	1.0	$ 50.2M
1971	36.4	121.3	109.8	1.105	40.2	.8	32.2
1972	24.5	125.3	116.3	1.077	26.4	.6	15.8
1973	23.3	133.1	121.3	1.097	25.6	.4	10.2
1974	19.8	147.7	125.3	1.179	23.3	.2	4.7
1975	27.4	161.2	133.1	1.286	35.2	.1	3.5
1976	65.4	170.5	147.7	1.154	75.5	0.0	0.0
Total	$241.8M				$276.4M		$116.6M

Net Obsolescence = $277.5M - $50.2M - $116.6M = $110.7M divided by sales at standard of $752.4M = ratio for obsolescence surcharge = 14.7%.

Figure 3

BUDGET PROJECT 34
RESULTS OF INDEXATION APPLIED TO
OBSOLESCENCE SURCHARGE DATA

(1) Current Year	(2) Disposal	(3) Current Year (CY) Factor	(4) CY minus 7 years Factor	(5) 1 + (diff.col. 3 - 4 div. by Col. 4)Factor/100	(6) "New Disposal Col. 2 x 5
1971	$111.3M	121.3	92.9	1.305	$145.2M
1972	182.0	125.3	94.5	1.326	241.3
1973	49.7	133.1	97.2	1.369	68.0
1974	25.9	147.7	100.0	1.477	38.3
1975	23.6	161.2	104.2	1.547	36.5
1976	132.3	170.5	109.8	1.553	205.5
Total	$524.8M				$734.8M

Net change in Potential Excess x current year (1976) factor: (130.0 x 1.553 = (201.9)

(7) Current Year	(8) MTIS Without Credit	(9) CY Factor	(10) CY minus 2 years Factor	(11) 1 + (diff. Col. 9 - 10 div. by Col 10)	(12) "New" MTIS w/o cr.	(13) Phasing Factor	(14) Applic. to Obsoles.
1970	$ 89.2M	116.3	104.2	1.116	$ 99.5M	1.0	$ 99.5
1971	86.5	121.3	109.8	1.105	95.6	.8	76.5
1972	52.8	125.3	116.3	1.077	56.9	.6	34.1
1973	42.5	133.1	121.3	1.097	46.6	.4	18.6
1974	45.5	147.7	125.3	1.179	53.6	.2	10.7
1975	85.6	161.2	133.1	1.286	110.1	.1	11.0
1976	77.1	170.5	147.7	1.154	89.0	0.0	0.0
Total	$479.2M				$551.3M		$250.4M

Net Obsolescence = $734.8M - $201.9M - $250.4M = $282.5M divided by sales at standard of $1,537.6M = ratio for obsolescence surcharge = 18.4%.

Figure 4

V. REPLACEMENT COST ACCOUNTING

In March of 1976 the Securities and Exchange Commission (SEC) issued Accounting Series Release (ASR) Number 190. ASR 190 is a requirement for companies with $100 million or more in property and inventories to report the replacement cost of these items in financial statements. [7] The intention is not to actually revise balance sheet and income statement figures, which are based in accordance with generally accepted accounting principles on historical cost data. Rather, the intent is to provide current and potential investors with an indication of the impact of inflation on the value of reported assets.

As stated by Adkerson, "the effects of inflation require that consideration be given to the distortion caused by associating historical costs of assets with revenues expressed in terms of current dollars." [8] He goes on to say that,

> Whether a company can successfully operate in an inflationary environment depends in large part on its ability to increase the prices of its products to compensate for the increased costs of replacing its inventories and productive assets. Using the replacement cost concept is an attempt to permit an evaluation of individual companies' success in this respect. [8]

There has been much written in the accounting literature concerning the pros and cons of the replacement cost accounting approach in addition to methods of presenting the data to comply with the SEC requirements. While the debate is interesting, the specifics are not particularly germane to the problem of pricing for obsolescence in the NSF. The interested reader

will find a rather complete treatment of the subject in a series of articles contained in the December 1977 issue of Management Accounting.

From a conceptual standpoint, the use of replacement cost accounting may be an answer to the protection of the capital in the NSF. In fact, replacement cost accounting is currently being practiced to some extent in the NSF. For example, when a new procurement or "buy" is made for stock items, and assuming that the buy is of significant quantity and considered representative of the prevailing market price, all items in stock with the same identification number are valued at the new price. Addition of the prevailing surcharge provides the "new" standard price. Therefore, for those items currently being procured, replacement cost accounting is being utilized. For those items not being procured, however, there is no method of updating prices to reflect what the current replacement cost will be. Thus, an item purchased five years ago and sold today has experienced a probable 40-50% growth in cost at today's prices. However, the item will be sold at the 1973 price plus 15% surcharge. The stock fund "loses" capital in this transaction since this item will conceivably be replaced at today's market prices. Therefore, the inventory losses and costs of disposal are not the only factors draining stock fund operating capital. The effects of inflation and, specifically, the replacement of items procured several years prior at today's market prices results in a non-recoverable cash outflow.

A solution to this part of the problem would be a combination of approaches taken by some commercial firms in developing

their estimates of replacement costs. The methods are (1) direct pricing and (2) indexing. The direct pricing method is essentially the same as that being practiced for current procurements in today's NSF. That is, an appropriate market price will be applied to all new stock as well as to existing stock of the same type purchased at an earlier date. The indexing approach, similar to that utilized in Chapter IV for reflecting disposal costs at current prices, would be used for all other stock items which are not currently being procured. In this manner, all inventory held would be priced at an estimated replacement cost.

This method would serve at least a two-fold purpose. First and perhaps foremost, it would allow the stock fund to recover from sales a closer approximation of the cost to replace the items sold. Secondly, and in line with the topic of this paper, it would eliminate the necessity for the indexing approach used in Chapter IV and applied only to obsolescent stock, to recover the replacement cost through a surcharge. The surcharge would undoubtedly still be required, but the computation distortion of comparing historical disposal costs to current sales costs would be eliminated. All items would be valued, carried and sold at an approximate replacement cost.

There are pitfalls in this approach, not the least of which is the fact that on a line item basis an indexing approach will rarely, if ever, be a precise indicator of the actual market price. However, over the broad range of items in stock and assuming the indexing factor used is realistic with respect to

inflation experienced, the net result should be fairly accurate.

Another potential problem with this approach is the impact on customer funds. The two major customers of the NSF are the Operation and Maintenance, Navy (O&M,N) appropriation, held by most user commands, and the Navy Industrial Fund (NIF). In actuality, since the O&M,N account is the largest customer of the NIF activities, the NSF's single largest customer is the O&M,N appropriation. Any increase in prices by the NSF will accordingly require additional resources in the O&M,N account, or sales will drop off due to lack of customer funds. Unfortunately, the trend in recent years has not been for higher appropriations in constant dollar terms, but lower in terms of buying power. On the other hand, the stock fund occasionally requires additional capital through direct appropriation to compensate for the effects of inflation on the stock fund corpus. Establishment of a higher surcharge to cover the costs of obsolescence experienced would reduce the need for these additional cash infusions. This reduction or elimination should provide an offset against any additional O&M,N funds required by customer activities.

In any event, any shift to a higher surcharge and/or a full replacement cost accounting approach must be done on a gradual basis over a period of years. One such approach might entail the use of a slightly higher surcharge, in line with the indexing approach of Chapter IV, and in conjunction with an indexing method for items currently being procured and continued for those items only. This indexing of current procurement prices would

have the net effect of eventually placing all inventory accounting on a basis approximating the replacement costs. It is believed that to attempt a massive revaluation of all stock on hand to a replacement cost basis would not be salable to DOD or the Congress, much less to the customers of the stock fund.

VI. MEASURING SURCHARGE ADEQUACY

One final problem remains in this analysis of the obsolescence surcharge in the NSF. This is, how can the stock fund managers determine if the surcharge being assessed is recovering the costs necessary, is excessive, or is not enough? The surcharges established for inventory losses and first destination transportation as discussed in Chapter III seem to be straightforward and appear to provide an adequate method of recovering these costs. The obsolescence portion of the surcharge, however, is much more complex and there appears to be no way of measuring its adequacy. Therefore, development of methods to deal with this part of the problem seems to be an essential requirement. The following paragraphs will address two separate, but related methods of arriving at a better representation of the actual costs of obsolescence. The first method involves the use of statistical accounts to collect surcharge data and the second involves sampling MTIS without credit to avoid erroneous inclusion of items received "free."

Concerning the use of statistical accounts, it is envisioned that separate "holding accounts" could be established for each category of surcharge; i.e., obsolescence, transportation and inventory loss. Data for one side of the account would be relatively simple to obtain since the surcharge component percentages comprising the total surcharge could merely be applied to sales figures currently available. While this provides the

"revenue" side of the holding account, an offsetting entry would be required to record the "expense" associated with sending items to disposal (obsolescence), transporting items and writing off inventory losses. The "expense" associated with obsolescence is again the disposal cost or standard price of the items, and not the handling costs associated therewith. Each category could then be maintained separately, thus providing a constant check on surcharge adequacy. A significant growth in the revenue portion of the obsolescence "holding account" might indicate a surcharge which was too high. Alternatively, other reasons might become apparent upon investigation, such as a moratorium on disposal of items for some contingency purpose. Whatever the reason, the accounting system would at least provide an indication as to the adequacy of surcharges and provide management with information upon which further investigation could be initiated.

The above method is considered theoretically sound as far as it goes. One problem exists, however, which has been mentioned earlier in this paper. That is, disposal costs must be adjusted to reflect those "free" items, the MTIS without credit which is disposed of but was not purchased. Additionally, any other items which were received without charge and for which no replacement is indicated should be an offset to actual disposal costs. Such a system could be developed by coding those items which are MTIS without credit at the time of turn-in and thereby perpetuating an historical track of these same items. This method would not only provide a means of determining the offset against disposal costs, but would also provide a system for determining how long items of this nature are held prior to disposal.

Additionally, a determination could be made concerning how many of these items are ever resold to customers. This information would seem to be helpful for preparing the MTIS without credit factor in the surcharge development equation. In addition, access to such information might change the current procedure of accepting such stock in the system if chances for resale prove to be extremely minimal. Unfortunately, the high cost which would probably be associated with the coding system described might far exceed the potential benefits to be gained. Therefore, a smaller scale approach through the use of statistical sampling is recommended. This sampling approach would entail manual "tagging" of a representative sample of items turned into store to allow tracking them in the supply system. This would allow segregation of these items from those items with the same identification number which are already in stock. As these items are disposed of or sold a record could be maintained to allow use of the data in determining the ultimate usage of time to disposal of MTIS without credit.

In summary, it would seem that a method, perhaps through a combination of statistical accounting and sampling MTIS without credit, would close the loop with regard to measuring the adequacy of surcharges on NSF material. In fact, such a method would perhaps provide, over time, a better indicator of what the actual disposal costs have been and thus, what the appropriate surcharge should be. It is not envisioned that such a system would provide meaningful data in the near term, but only after several years' data could be recovered and analyzed. In addition,

the process should be a continuous one with periodic adjustments in the surcharge rate to compensate for gains and losses in the "holding accounts."

VII. CONCLUSIONS AND RECOMMENDATIONS

In summary, this thesis has attempted to explain the current methodology in use for establishing surcharges on items financed through the Navy Stock Fund, and it has offered new ideas. The present method of determining surcharges appears to be theoretically sound, assuming a rather static or stable economy. Given a high inflation rate, however, the method employed tends to understate in particular the drain on stock fund cash as a result of obsolescence. The possibility that obsolescence may be too high was essentially ignored, although this may be an area for further research efforts. Given the present level of obsolescence and the requirement to perpetuate the stock fund's capital, especially its buying power, there appears to be room for improvement in the surcharge and pricing policies.

One such method is the use of an indexation method which updates old prices on disposal candidates to reflect what the equivalent replacement cost would be in dollars relative to the sales year pricing used. This method provides an approximation of the current replacement cost, thus providing the means for an "apples to apples" comparison.

Another method was also developed, since the commercial accounting world is currently grappling with similar problems of inflation. That method is the use of replacement cost accounting for all items, not just those being currently procured.

It was suggested that use of such a method would have a two-fold effect. First, the current dollar loss on items due to a several year lapse between procurement actions would be eliminated. Stock items would be priced at either their actual current market value, or alternatively, at an indexed value which would, in the aggregate, closely approximate the current market value. Secondly, such a method would resolve the current disparity in the data for obsolescence costs and the sales prices for purposes of surcharge computation.

Finally, the issue of determining whether any method currently in use or proposed was adequate from the standpoint of recovering obsolescence losses. It has been concluded that there is presently no way to determine the surcharge adequacy for obsolescence, primarily because the accounting system has not been designed with this goal in mind, and therefore does not capture the necessary data. Several relatively simple statistical accounting and sampling techniques have been suggested to provide the measuring capability and thus, close the loop. It is apparent that until such a system is available, any reasonably logical approach to surcharge establishment can be utilized without any means of evaluating its effectiveness.

In view of the foregoing, the following are offered as specific recommendations which may improve the overall operation of the Navy Stock Fund:

Recommendation I: That NAVSUP consider the use of an indexing approach, as presented in Chapter IV, to provide a closer comparison of historical disposal costs with current sales costs.

Recommendation II: That NAVSUP consider the use of replacement cost accounting for all inventory items, using a combination of indexing and direct pricing, as discussed in Chapter V.

Recommendation III: That NAVSUP establish a method of statistical accounting to determine how effective current surcharges are in the recovery of costs to the stock fund.

Recommendation IV: That NAVSUP establish a method of tagging MTIS without credit, on a sample basis, to determine (1) how long it takes before items reach disposal, for purposes of developing the time phasing factor in surcharge development, and (2) how much of this material is actually resold.

APPENDIX A

SURCHARGE REVIEW

6 Years Ending 31 December 1976

($ Millions)

DOD DIRECTIVE 7420.1 (Regulations Governing Stock Fund Operations) requires a standard price for each item. The standard price should include the current market or procurement cost of the item plus a surcharge to compensate for transportation costs, normal operating losses and authorized expenses. Specifically, normal operating losses and authorized expenses include net losses resulting from pilferage, damage, deterioration, physical inventory shortages and excesses arising from obsolescence and other causes. For purposes of calculating the Navy ICP surcharge, three elements are used separately, transportation costs from the accounting records, inventory losses from the financial inventory reports (FIR) and applicable obsolescence which is developed by use of stratification and applicable obsolescence which is developed by use of stratification and FIR data. ICP credit interrogation procedures prescribe that MTIS without credit be applied to anticipated requirements subsequent to the end of the budget year but within the authorized retention limit. The above calculation contains a phasing of the impact of MTIS as a reduction to the obsolescence rate depending on the time lapse from take up in supply to the potential excess/classification/disposal action. Calendar year rather than fiscal year values were utilized in the above calculations to facilitate budget development on a timely basis.

A portion of 1R Cog Contingency Retention Stocks in the December 1976 stratification are considered as potential excess stock in the surcharge analysis because requirements can only be identified for Foreign Military Sales (FMS) customers. These stocks would normally stratify into potential excess stratums except for DOD guidance to shift these stocks to Contingency Retention to preclude disposal of items which have FMS applications.

Based on this review, it is concluded that the current 15% surcharge is adequate to cover transportation costs, normal operating losses and obsolescence.

BP14 SURCHARGE REVIEW
($ Millions)

CY	(1) Sales at Cost	(2) Trans. Cost	(3) Trans. Ratio	(4) Sales at Standard	(5) Inv. Loss	(6) Inv. Loss Ratio
71	$101.3	$ 2.4	2.4%	$124.1	$ 4.6	3.7%
72	109.3	2.9	2.7	128.3	5.9	4.6
73	91.3	2.2	2.4	100.4	1.5	1.5
74	97.8	2.6	2.7	107.5	3.6	3.3
75	92.2	3.1	3.4	132.3	5.0	3.7
76	119.9	2.7	2.3	159.8	2.0	1.3
Total	$611.8	$15.9	2.6	$752.4	$22.6	3.0

CY	(7) Disposal Cost	(8) P.E. Change	(9) Total 1/ Obsol.	(10) MTIS w/o Credit	(11) Phasing Factor	(12) Applic. to Obs.	(13) Net 2/ Obsol.	(14) Obsol. Ratio
70				$45.0	1.0	$ 45.0		
71	$ 82.8	($79.2)	$ 3.6	36.4	.8	29.1		
72	36.2	14.9	51.1	24.5	.6	14.7		
73	25.7	27.3	53.0	23.3	.4	9.3		
74	9.7	57.4	67.1	19.8	.2	4.0		
75	19.4	(35.0)	(15.6)	27.4	.1	2.7		
76	27.0	(17.7)	9.3	65.4	0.0	0.0		
Total	$200.8	($32.3)	$168.5			$104.8	$63.7	8.5%

Surcharge Factor = columns 3 + 6 + 14 = 14.1%

1/ Column 7 + 8
2/ Column 9 - 12

BP34 SURCHARGE REVIEW
($ Millions)

CY	(1) Sales at Cost	(2) Trans. Cost	(3) Trans. Ratio	(4) Sales at Standard	(5) Inv. Loss	(6) Inv. Loss Ratio
71	$ 234.9	$1.3	.6	$ 281.1	$ 6.6	2.3
72	223.2	1.7	.8	258.9	5.7	2.2
73	202.0	1.3	.6	222.1	3.8	1.7
74	193.7	1.4	.7	213.1	.5	.2
75	234.0	1.5	.6	273.1	1.9	.7
76	217.0	1.8	.8	289.3	8.8	3.0
Total	$1304.8	$9.0	.7	$1537.6	$27.3	1.8

CY	(7) Disposal Cost	(8) P.E. Change	(9) Total 1/ Obsol.	(10) MTIS w/o Credit	(11) Phasing Factor	(12) Applic. to Obs.	(13) Net 2/ Obsol.	(14) Obsol. Ratio
70				$89.2	1.0	$ 89.2		
71	$111.3	$ 6.8	$118.1	86.5	.8	69.2		
72	182.0	(191.4)	(9.4)	52.8	.6	31.7		
73	49.7	(4.8)	44.9	42.5	.4	17.0		
74	25.9	(7.2)	18.7	45.5	.2	9.1		
75	23.6	58.4	82.0	85.6	.1	8.6		
76	132.3	8.2	140.5	77.1	.0	0.0		
Total	$524.8	($130.0)	$394.8			$224.8	$170.0	11.1%

Surcharge Factor = Columns 3 + 6 + 14 = 13.6%

1/ Column 7 + 8
2/ Column 9 - 12

APPENDIX B

DEPARTMENT OF THE NAVY
NAVY SHIPS PARTS CONTROL CENTER
MECHANICSBURG, PA. 17055

Area Code 717
790-
AUTOVON 430 & Ext. 4321
FTS 594 & EXT.

In Reply Refer To:
799/RCC/190
4443

SEP 18 1978

From: Commanding Officer, Navy Ships Parts Control Center
To: Commander, Naval Supply Systems Command

Subj: Navy Stock Fund Obsolescence Rates

Ref: (a) NAVSUP Ltr SUP 013/HB of 9 Aug 1978
(b) Phonecon beteween Cypcar, SPCC and Bagshaw, NAVSUP on 31 August 1978

Encl: (1) Disposal Data for NSF Items (200)

1. Reference (a) requested SPCC to provide disposal information to SUP 013 by 31 August 1978 to be used in a study of Navy Stock Fund Obsolescence Rates. The due date was extended during reference (b).

2. Enclosure (1) provides the requested information.

/s/
J. H. IRONS
By direction

SAMPLE DISPOSAL DATA FOR NSF ITEMS

NIIN	LAST PROC. DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
001066045	76091	2	15	400.00	6000.00
001155282	*68279	10	17	75.00	1275.00
001160979	*68285	10	17	125.00	2125.00
001163766	*68285	10	17	53.00	901.00
001237821	77146	1	7	326.00	2282.00
001306108	*54001	24	1	16.00	16.00
001396414	77180	1	11	203.22	2235.42
001475855	75111	3	2	157.70	315.40
001571154	*53181	25	7	7.50	52.50
001631560	70225	8	113	20.50	2316.50
001808244	*62183	16	7	26.50	185.50
002154568	74323	4	2	9.31	18.62
002419831	*71110	7	6	8.00	48.00
002449578	69304	9	13	106.24	1381.12
002467062	*68166	10	68	5.00	340.00
002490745	*68166	10	49	5.00	245.00
002508787	71133	7	20	8.00	160.00
002512946	*68166	10	46	2.20	101.20
002513007	*68166	10	27	2.20	59.40
002516968	*68166	10	63	5.00	315.00
002516903	*68166	10	65	8.00	520.00
002555389	*68166	10	47	5.00	235.00
002705553	76026	2	186	1.98	368.28
002879325	76216	2	19	84.00	1596.00
003011061	*62183	16	3325	.01	33.25

Enclosure (1)

NIIN	LAST PROC. DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
003163393	76352	2	4	157.75	631.00
003226665	*63330	15	17	1.95	33.15
003348233	*55181	23	138	1.37	189.06
003477579	71256	7	4	30.00	120.00
003701597	70133	8	696	.05	34.80
003811130	*52271	26	5	4.50	22.50
003824202	*54091	24	39	1.20	46.80
003933904	70341	8	15	18.62	279.30
004008134	*69362	9	15	440.00	6600.00
004067466	77175	1	17	.65	11.05
004137179	*51181	27	1	310.00	310.00
004228669	73068	5	116	2.34	271.44
004380759	75281	3	2	594.69	1189.38
004458817	61272	17	47	7.48	351.56
004570700	*69129	9	33	60.00	1980.00
004698106	76141	2	7	5.08	35.56
004777581	74231	4	172	11.00	1892.00
004815922	76114	2	7	561.00	3927.00
004826385	76062	2	4	85.10	340.40
004947874	72339	6	19	8.57	162.83
005243255	*56091	22	3	25.00	75.00
005406495	62243	16	27	6.20	167.40
005623879	71145	7	13	100.25	1303.25
005724264	70296	8	71	3.47	246.37
006117270	*63091	15	44	140.00	6160.00
006271768	74248	4	3	450.00	1350.00

Enclosure (1)

NIIN	LAST PROC DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
006613851	71307	7	2	4.90	9.80
006776497	67328	11	5	81.00	405.00
006913551	*64169	14	4	37.50	150.00
007141808	76286	2	24	200.66	4815.84
007332936	68064	10	5	539.00	2695.00
007590044	*71279	7	2	1150.00	2300.00
007722804	*60204	18	35	60.00	2100.00
007817830	74032	4	14	159.99	2239.86
007895322	71067	7	74	2.33	172.42
008175820	*60091	18	23	6.90	158.70
008229772	76288	2	50	131.50	6575.00
008362834	70142	8	3	349.32	1047.96
008527544	68058	10	2	94.00	188.00
008600920	70320	8	57	7.20	410.40
008644341	76168	2	5	7.16	35.80
008693867	70090	8	165	5.32	877.80
008726324	70297	8	20	3.80	76.00
008754582	75015	3	61	19.15	1168.15
008848263	68269	10	3	35.00	105.00
008902998	*68127	10	15	68.63	1029.45
008929464	76101	2	1	163.06	163.06
009010061	77301	1	1	332.00	332.00
009035251	70329	8	1	394.58	394.58
009100966	72217	6	1	67.00	67.00
009177297	71062	7	115	1.45	166.75
009188741	67208	11	18	550.00	9900.00

Enclosure (1)

NIIN	LAST PROC DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
009237443	70110	8	4	11.50	46.00
009312563	76194	2	18	449.85	8097.30
009353514	71274	7	11	15.00	165.00
009386261	68082	10	19	9.70	184.30
009414943	75281	3	7	242.50	1697.50
009460315	75174	3	7	195.00	1365.00
009491542	75268	3	50	227.66	11383.00
009577873	75197	3	50	156.34	7817.00
009674938	77252	1	2	50.46	100.92
009693194	74181	4	2	17.00	34.00
009712029	*62239	16	4	479.00	1916.00
009801532	75315	3	9	420.00	3790.00
009815402	75333	3	4	25.00	100.00
009817233	70204	8	4	332.93	1331.72
009860504	75198	3	1	87.00	87.00
009918839	65063	13	3	10.00	30.00
009945115	68173	10	7	81.40	569.80
009976410	68243	10	18	313.63	5645.34
010181094	76155	2	2	2094.00	4188.00
010237892	78076	0	2	751.39	1502.78
007108168	76194	2	1	3157.00	3157.00
009082306	*65001	13	597	30.00	17910.00
001743678	74052	4	4	77.00	308.00
002049084	77072	1	119	8.47	1007.93
002309352	74319	4	13	55.60	722.80
002420079	76123	2	7	11.92	83.44

Enclosure (1)

NIIN	LAST PROC DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
002467044	*68166	10	13	106.24	1381.12
002473675	76280	2	2	218.00	436.00
002508357	*68166	10	46	5.00	230.00
002512416	*68166	10	17	6.00	102.00
002512988	*68166	10	71	5.00	355.00
002516803	*68166	10	34	5.00	170.00
002516890	*68166	10	85	5.00	425.00
002526548	71124	7	7	50.10	350.70
002555366	*68166	10	18	5.00	90.00
002597156	69352	9	1	12.27	12.27
002785840	69360	9	3	149.70	449.10
003112616	67144	11	4	236.00	944.00
003198472	*57091	21	592	2.40	1420.80
003304392	69352	9	138	1.37	189.06
003413775	*62183	16	5	34.00	170.00
003518421	76343	2	10	1.92	19.20
003776006	69212	9	2	184.50	708.48
003813763	*58181	20	18	14.50	261.00
003838238	71197	7	2	375.00	750.00
003911110	76357	2	4	3.25	13.00
003991606	*52091	26	68	.45	30.60
004037130	76201	2	3	451.20	1353.60
004106203	74322	4	10	139.19	1391.90
004199880	76041	2	23	135.32	3112.36
004318693	76036	2	8	4.35	34.80
004431493	76184	2	57	51.00	2907.00

Enclosure (1)

NIIN	LAST PROC. DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
004515043	72217	6	5	31.60	158.00
004659227	77056	1	17	170.00	2890.00
004724859	75350	3	13	18.37	238.81
004805895	74291	4	7	375.00	2625.00
004815985	75010	3	8	540.00	4320.00
004883628	69174	9	5	12.00	60.00
005137735	*52181	26	1	200.00	200.00
005338350	74270	4	19	115.00	2185.00
005531811	*59302	19	42	6.00	252.00
005647147	73272	5	4	1518.00	6072.00
005806291	75022	3	2	3.35	6.70
006180027	*71072	7	43	316.00	13588.00
006398999	75178	3	29	350.00	10150.00
006728881	69133	9	27	103.67	2799.09
006904230	68010	10	1	1520.22	1520.22
007021213	*68188	10	21	2.00	42.00
007192743	71348	7	5	1775.00	8875.00
007356842	65113	13	16	104.78	1676.48
007625745	*70059	8	8	618.24	4945.92
007799365	*60134	18	17	2.13	36.21
007883015	77073	1	4	1081.12	4324.48
007997619	67193	11	9	83.20	748.80
004977154	76009	2	7	283.20	1982.40
000071383	76040	2	29	483.28	12478.12
000190490	75332	3	3	188.85	566.55
000579912	*67162	11	1	240.00	240.00
000732226	77319	1	4	76.83	307.32

NIIN	LAST PROC. DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
000985805	77267	1	1	129.94	129.94
001269544	71060	7	2	114.87	229.74
001520761	76362	2	18	54.00	972.00
002409778	72141	6	471	3.82	1799.22
002582579	*64127	14	61	250.00	15250.00
002878829	77111	1	59	1.88	110.92
003195385	69191	9	592	2.40	1420.80
003342899	*58181	20	1579	32.50	51317.50
003822700	75205	3	20	10.37	207.40
003894011	73178	5	1	43.00	43.00
004116151	77131	1	6	1214.00	7284.00
004205332	77316	1	1	15.69	15.69
004707843	76275	2	75	7.50	562.50
005046362	76110	2	59	5.61	330.99
005392882	76168	2	7	5.60	39.20
005720602	76009	2	1	766.69	766.69
006033264	*57181	21	2	98.00	196.00
006209511	75019	3	22	182.00	4004.00
006431783	*71090	7	8	60.00	480.00
006596629	76191	2	13	239.22	3109.86
006915758	76060	2	7	253.00	1771.00
007690951	78124	0	19	23.85	453.15
000036225	*71267	7	127	19.00	2413.00
000057967	77126	1	17	8.10	137.70
000140806	77041	1	172	15.79	2715.88
000163058	75296	3	13	111.00	1443.00
000240305	75045	3	5	1351.00	6755.00

NIIN	LAST PROC. DATE	YRS OLD	DISPOSAL QTY	UNIT PRICE	EXTENDED COST
000337334	*68061	10	147	4.80	705.60
000458037	76197	2	10	1525.00	15250.00
000534186	69067	9	2	107.00	214.00
000572380	*67232	11	127	1.60	203.20
000617015	74314	4	88	1.60	140.80
000645375	*67271	11	3	1000.00	3000.00
000686947	75027	3	1	21.10	21.10
000706947	72017	6	1	292.50	292.50
000736204	70069	8	2	81.06	162.12
000790091	76203	2	7	85.00	595.00
000869660	68332	10	236	3.75	885.00
000985818	77267	1	1	129.94	129.94
001050915	*68216	10	1	2810.00	2810.00
001117154	77138	1	5	812.54	4062.70
001155294	*68279	10	17	87.00	1479.00
001163711	*68285	10	17	40.00	680.00
001173575	77335	1	1	387.25	387.25
001267295	68041	10	5	75.00	375.00
001350087	*70185	8	113	247.00	27911.00
001462146	77153	1	70	.61	42.70
001552466	67149	11	14	14.85	207.90
001585632	70180	8	311	.29	90.19
008204058	67214	11	8	34.20	273.60
008271144	74326	4	7	32.00	224.00
008451957	76196	2	67	10.00	670.00

*Items without a procurement history on file at SPCC.
System entry date is provided.

APPENDIX C

DEPARTMENT OF THE NAVY
AVIATION SUPPLY OFFICE
700 Robbins Avenue
Philadelphia, PA 19131

In Reply Refer To:
5CC1-A:DJE:gho
#4500

From: Commanding Officer, Aviation Supply Office
To: Commander, Naval Supply Systems Command

Subj: Navy Stock Fund Obsolescence Rates

Ref: (a) NAVSUP ltr 013/HB 4443 (166-587) of 9 Aug 1978

Encl: (1) Listing of Disposal Recommendations

1. Enclosure (1), as requested by reference (a), is being provided as an aid for the subject study.

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
1.	00-497-0410	1	598.00	598.00	75336	3
2.	00-422-3107	14	15.87	222.18	71231	7
3.	00-151-0535	40	36.69	1467.60	71144	7
4.	00-413-4676	38	90.32	3432.16	72020	6
5.	01-005-9969	57	16.00	912.00	76063	2
6.	00-482-4171	10	5.59	55.90	75183	3
7.	00-407-7959	88	26.74	2353.12	70051	8
8.	00-658-2860	3	547.50	1642.50	73333	5
9.	00-133-1840	9	92.93	836.37	69087	9
10.	00-137-9990	41	6.16	252.56	74211	4
11.	00-138-9681	68	8.31	565.08	74206	4
12.	00-140-4722	20	2.52	50.40	71119	7
13.	00-567-4455	12	41.05	492.60	75017	3
14.	00-959-5740	12	239.17	2870.04	74232	4
15.	00-067-5759	10	668.00	6680.00	73079	5
16.	00-909-5463	7	691.14	4837.98	66330	12
17.	00-491-9507	16	31.97	511.52	72067	6
18.	00-407-3265	47	18.94	890.18	70356	8
19.	00-102-4496	4	64.97	259.88	71294	7
20.	00-928-9270	6	16.24	97.44	71046	7
21.	00-083-4475	7	230.13	1610.91	64363	14
22.	00-134-0562	2	1919.50	3839.00	74206	4
23.	00-475-8825	2	200.00	400.00	65261	13
24.	00-549-3230	12	.99	11.88	69181	9
25.	00-724-3032	5	162.20	811.00	70216	9
26.	00-738-5014	5	1110.50	5552.50	74096	4

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
27.	00-738-7150	3	614.42	1843.26	73311	5
28.	00-738-7336	3	683.10	2049.30	73270	5
29.	00-738-7365	4	173.71	694.84	68012	10
30.	00-783-3270	11	190.00	2090.00	66280	12
31.	00-783-3992	5	250.00	1250.00	70057	8
32.	00-795-1021	11	500.90	5509.90	66042	12
33.	00-855-7217	4	832.00	3328.00	74084	4
34.	00-906-9919	7	734.81	5143.67	73270	5
35.	00-012-5783	10	338.82	3388.20	67026	11
36.	00-949-1854	17	700.00	11900.00	66288	12
37.	00-756-4064	17	451.50	7675.50	66131	12
38.	00-017-3875	2	267.00	534.00	68100	10
39.	00-475-7527	2	293.89	587.78	72192	6
40.	00-731-9673	9	595.80	5362.20	65062	13
41.	00-788-7340	78	5.75	448.50	68056	10
42.	00-875-4881	16	3.89	62.24	72097	6
43.	00-098-5294	1	159.67	159.67	71103	7
44.	00-862-0966	5	39.90	199.50	76114	2
45.	00-980-7704	7	4.50	31.50	63074	15
46.	00-305-5351	5	681.54	3407.70	74323	4
47.	00-755-7286	7	299.81	2098.67	76172	2
48.	00-605-4538	19	4.60	87.40	73120	5
49.	00-828-9530	4	635.84	2543.38	73254	5
50.	00-790-6621	30	145.90	4377.00	72172	6
51.	00-929-6049	3	93.50	280.50	66364	12
52.	00-019-7959	3	39.70	119.10	70170	8

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
53.	00-173-7815	3	474.39	1423.17	73017	5
54.	00-932-8035	105	3.12	327.60	75291	3
55.	00-966-6327	5	49.31	256.55	67048	11
56.	00-993-0400	5	526.00	2630.00	71237	7
57.	00-724-2421	3	169.00	507.00	67362	11
58.	00-076-3997	3	272.63	617.89	69029	9
59.	00-602-0932	10	343.24	3432.40	65049	13
60.	00-893-0772	15	29.50	862.50	68173	10
61.	00-732-2134	8	208.93	1635.44	67351	11
62.	00-986-9232	35	457.00	15905.00	67017	11
63.	00-893-1274	33	16.61	548.23	76093	2
64.	00-700-7384	5	308.00	1540.00	74276	4
65.	00-791-2510	16	723.45	11575.20	74289	4
66.	00-475-9906	10	700.00	7000.00	63032	15
67.	00-945-0453	114	27.59	3145.26	74268	4
68.	00-885-9238	831	17.00	14127.00	66287	12
69.	00-150-6145	3	49.76	149.28	73051	5
70.	00-633-7645	4	531.00	2124.00	73109	5
71.	00-794-7438	18	764.13	13754.34	71270	7
72.	00-878-1102	2	170.00	340.00	68115	10
73.	00-803-7443	8	108.97	871.76	64221	14
74.	00-670-5135	2	144.39	288.78	66222	12
75.	00-698-2816	13	267.75	3480.75	74088	4
76.	00-015-1501	2	855.00	1710.00	71022	7
77.	00-018-2981	9	784.00	7056.00	66182	12
78.	00-022-7633	18	383.00	6894.00	66127	12

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
79.	00-056-0936	18	249.85	4497.30	65063	13
80.	00-074-2114	4	598.93	2395.72	67347	11
81.	00-981-9042	6	50.97	305.82	70141	8
82.	00-831-1664	3	840.00	2520.00	66140	12
83.	00-861-8077	109	2.15	234.35	75241	3
84.	00-017-3070	5	47.58	237.90	64273	14
85.	00-017-3543	3	70.00	210.00	66055	12
86.	00-018-1876	3	159.00	477.00	69215	9
87.	00-019-3555	5	52.00	260.00	64251	14
88.	00-023-2295	25	19.20	480.00	71285	7
89.	00-085-7683	2	40.00	80.00	65168	13
90.	00-169-1596	15	33.64	504.60	72054	6
91.	00-518-4718	5	150.00	750.00	71144	7
92.	00-017-3509	2	70.00	140.00	65168	13
93.	00-017-4249	3	80.00	240.00	65168	13
94.	00-783-0473	5	25.00	125.00	64223	14
95.	00-858-4750	4	80.00	320.00	66055	12
96.	00-908-7069	12	33.00	396.00	65111	13
97.	00-783-2919	18	192.75	3469.50	67252	11
98.	00-097-6183	2	150.00	300.00	68207	10
99.	00-018-4375	2	113.29	226.58	68266	10
100.	00-252-7989	2	136.47	272.94	73285	5
101.	00-971-2771	13	252.48	3282.24	65182	13
102.	00-766-5679	3	144.02	432.06	73222	5
103.	00-916-9106	3	2.50	7.50	67213	11
104.	00-972-0015	2	284.59	569.18	70005	8

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
105.	00-941-9250	6	147.00	882.00	67229	11
106.	00-516-2642	6	657.00	3942.00	75382	3
107.	00-939-8385	2	53.29	106.58	70068	8
108.	00-963-1164	172	1.00	172.00	69260	9
109.	00-966-2847	9	67.04	603.36	75241	3
110.	00-505-1390	6	20 00	120.00	74212	4
111.	00-487-4466	4	303.82	1215.28	71351	7
112.	00-682-4883	4	540.70	2162.80	65240	13
113.	00-756-4297	380	74.30	28234.00	66238	12
114.	00-756-4375	28	154.00	4312.00	67207	11
115.	00-921-8531	26	143.00	3718.00	67120	11
116.	00-161-9010	8	49.82	398.56	76172	2
117.	00-854-5479	2	78.50	157.00	71141	7
118.	00-877-4700	11	432.64	4759.04	74344	4
119.	00-789-5547	2	90.00	180.00	76030	2
120.	00-969-1369	2	105.00	210.00	68058	10
121.	00-747-9987	18	33.60	604.80	73354	5
122.	00-133-4437	8	500.00	4000.00	70273	8
123.	00-994-6379	2	193.05	386.10	70175	8
124.	00-314-0179	1	82.21	82.21	68327	10
125.	00-614-0837	4	285.00	1140.00	76154	2
126.	00-079-0873	53	24.86	1317.58	75226	3
127.	00-998-3027	7	153.40	1073.80	75184	3
128.	00-946-8056	1	155.00	155.00	66243	12
129.	00-084-2474	2	2632.00	5264.00	76044	2
130.	00-629-8207	2	497.00	994.00	67037	11

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
131.	00-906-1190	3	200.00	600.00	65068	13
132.	00-893-1262	3	14.32	42.96	69101	9
133.	00-734-0678	22	112.00	2464.00	67123	11
134.	00-065-8964	2	140.00	280.00	67186	11
135.	00-630-4005	14	4.50	63.00	68257	10
136.	00-978-4796	32	.77	24.64	66250	12
137.	00-673-6493	16	20.95	335.20	68228	10
138.	00-989-0539	7	1.95	13.65	69305	9
139.	00-998-6294	10	444.00	4440.00	72062	6
140.	00-675-5316	31	19.12	592.72	68212	10
141.	00-854-0333	8	34.43	275.44	76210	2
142.	00-675-0528	10	268.00	2680.00	67052	11
143.	00-871-0798	3	95.82	287.46	72280	6
144.	00-978-1338	2	467.15	934.30	66325	12
145.	00-764-9510	33	6.63	218.79	73059	5
146.	00-982-2418	21	2.75	57.75	75364	3
147.	00-252-6540	12	49.56	594.72	76069	2
148.	00-937-5920	12	7.79	93.48	76203	2
149.	00-852-0183	7	438.94	3072.58	67181	11
150.	00-866-7095	6	568.16	3408.96	74243	4
151.	00-994-3505	5	240.00	1200.00	74032	4
152.	00-866-7101	16	63.00	1008.00	68263	10
153.	00-674-6098	4	70.15	280.60	76097	2
154.	00-511-3173	5	58.65	293.25	66320	12
155.	00-854-1038	18	3.50	63.00	76052	2
156.	00-944-5600	7	45.00	315.00	67032	11

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
157.	00-972-6084	7	7.45	52.15	74283	4
158.	00-804-7629	17	[illegible].67	385.39	72304	6
159.	00-999-5369	9	5.50	49.50	67053	11
160.	00-541-9702	13	41.82	543.66	67262	11
161.	00-403-7555	5	296.29	1481.45	72042	6
162.	00-927-1724	212	256.97	54477.64	71223	7
163.	00-138-9636	35	3.50	122.50	73112	5
164.	00-139-6689	9	10.39	93.51	71119	7
165.	00-146-2382	22	7.07	155.54	75056	3
166.	00-869-7104	2	141.26	282.52	65253	13
167.	00-054-4667	3	49.51	148.53	67314	[illegible]
168.	00-169-0500	383	1618.46	619870.18	76114	2
169.	00-455-3932	5	442.79	2213.95	72046	6
170.	00-788-2052	27	250.97	6776.19	75241	3
171.	00-991-4456	17	133.59	2271.03	68102	10
172.	00-868-3236	178	65.24	11612.72	65035	13
173.	00-717-2646	4	116.43	465.72	63000	15
174.	00-323-6283	315	89.32	28135.80	72039	6
175.	00-871-0602	21	511.07	10732.47	64176	14
176.	00-436-6326	16	272.22	4355.52	74071	4
177.	00-738-7306	7	308.29	2158.03	68012	10
178.	00-794-5641	7	11.41	79.87	64041	14
179.	00-899-0956	15	11.25	168.75	67133	11
180.	00-824-6090	4	40.00	160.00	74071	4
181.	00-886-4580	5	13.16	65.80	74073	4
182.	00-763-1247	23	94.01	2162.23	76182	2

Enclosure (1)

	NIIN	QTY DISPOSED	UNIT PRICE	EXTENDED PRICE	JULIAN DATE	YRS OLD
183.	00-032-2696	4	398.00	1592.00	76188	2
184.	00-998-3720	8	8.79	70.32	73089	5
185.	00-657-6934	4	156.00	624.00	64221	14
186.	00-234-7175	38	433.72	16481.36	74254	4
187.	00-908-4940	2	894.91	1789.82	76212	2
188.	00-795-2980	10	319.41	3194.10	66014	12
189.	00-939-8860	5	1504.00	7520.00	73291	5
190.	00-942-1484	4	9722.00	38888.00	74116	4
191.	00-461-5265	243	1.95	473.85	70181	8
192.	00-242-3591	24	233.09	5594.16	73207	5
193.	00-878-9716	13	141.60	1840.80	71315	7
194.	00-242-0545	38	120.21	4567.98	72192	6
195.	00-230-4592	7	768.49	5379.43	76149	2
196.	00-138-2686	3	434.00	1302.00	76029	2
197.	00-236-3382	10	1761.27	17612.70	75062	3
198.	00-422-2334	7	60.14	420.98	72313	6
199.	00-006-9993	9	370.00	3330.00	76061	2
200.	00-498-0376	3	392.29	1176.87	69231	9

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