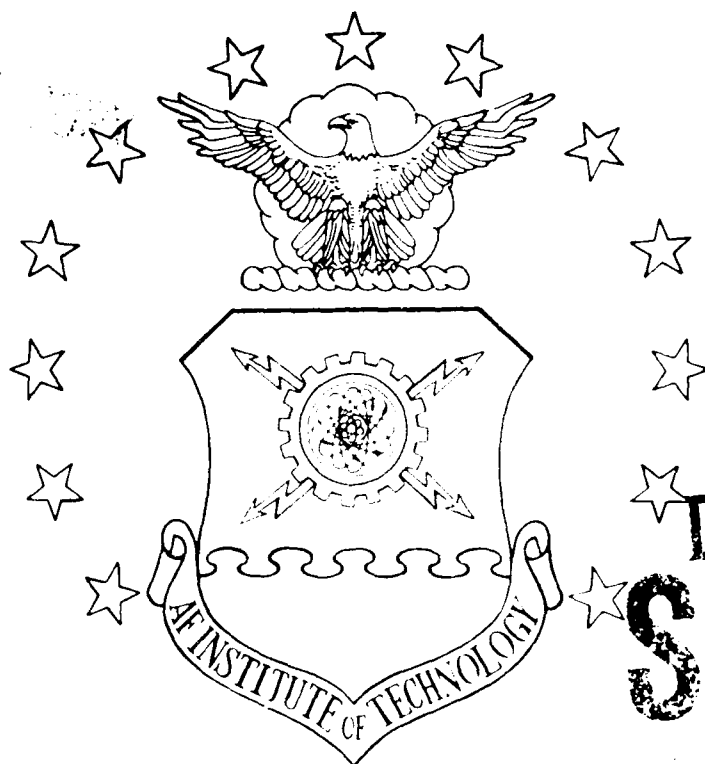


AD-A229 224

2



DTIC  
ELECTE  
DEC 11 1990  
S D D



DISTRIBUTION STATEMENT A  
Approved for public release  
Distribution Unlimited

DEPARTMENT OF THE AIR FORCE  
AIR UNIVERSITY  
**AIR FORCE INSTITUTE OF TECHNOLOGY**

Wright-Patterson Air Force Base, Ohio

1-1-72

2

AFIT/GLM/LSM/90S-5

DTIC  
ELECTE  
DEC 11 1990  
S D D

DIMINISHED MANUFACTURING SOURCE:  
A COMMON SENSE APPROACH  
TO REQUIREMENTS DETERMINATION  
FOR LIFE-OF-TYPE PROCUREMENT

THESIS

James L. Brown

AFIT/GLM/LSM/90S-5

Approved for public release; distribution unlimited

The opinions and conclusions in this paper are those of the author and are not intended to represent the official position of the DOD, USAF, or any other government agency.



|                    |                                     |
|--------------------|-------------------------------------|
| Accession For      |                                     |
| NTIS CRA&I         | <input checked="" type="checkbox"/> |
| DTIC TAB           | <input type="checkbox"/>            |
| Unannounced        | <input type="checkbox"/>            |
| Justification      |                                     |
| By                 |                                     |
| Distribution/      |                                     |
| Availability Codes |                                     |
| Dist               | Avail. or<br>Special                |
| A-1                |                                     |

AFIT/GLM/90S-5

DIMINISHED MANUFACTURING SOURCE: A COMMON SENSE  
APPROACH TO REQUIREMENTS DETERMINATION FOR  
LIFE-OF-TYPE PROCUREMENT

THESIS

Presented to the Faculty of the School of Systems and Logistics  
of the Air Force Institute of Technology  
Air University  
In Partial Fulfillment of the  
Requirements for the Degree of  
Master of Science in Logistics Management

James L. Brown, B.S.

September 1990

Approved for public release; distribution unlimited

## Preface

This study was undertaken in an attempt to develop some common sense rules for Life-of-Type procurement in cases where the last known source of supply withdraws from consideration and alternative suppliers cannot be found. This condition is referred to as Diminished Manufacturing Source (DMS). The current method for requirements determination on DMS buys has resulted in over procurement. The difficulty in accurate long-range forecasting (10 years or more) and the pending Defense Department budget reductions require a change of mindset when long term supply support is being considered. Traditional forecasting techniques based on historical demands and service demand projections have proven unreliable. Based on a thirteen-year record of actual demands and long-term procurement actions, this study will investigate the possibility of reducing levels of DMS procurement without serious detriment to long-term supply support.

In collecting and manipulating the data, I have been fortunate in having the help of the many professionals at the Defense Electronics Supply Center as well as those on the staff and faculty at the Air Force Institute of Technology. Special thanks to my wife Marilyn, who was a constant source of support. And to my children, Tommy and

Kimberly, who could not understand why daddy was away so much, I promise to show more attention to their needs in the upcoming year.

James L. Brown

## Table of Contents

|                                              | Page |
|----------------------------------------------|------|
| Preface . . . . .                            | ii   |
| List of Figures . . . . .                    | vi   |
| List of Tables . . . . .                     | vii  |
| Abstract . . . . .                           | viii |
| I. Introduction . . . . .                    | 1    |
| General Issue . . . . .                      | 1    |
| Problem Statement . . . . .                  | 4    |
| Research Objectives . . . . .                | 13   |
| Risk . . . . .                               | 14   |
| Hypothesis . . . . .                         | 15   |
| Scope of Research . . . . .                  | 16   |
| Background . . . . .                         | 16   |
| Brooks 1981 . . . . .                        | 17   |
| Corbett, Schultz and McCarthy 1978 . . . . . | 24   |
| Fisher and Sheehan 1982 . . . . .            | 25   |
| Capotosti and Curran 1981 . . . . .          | 32   |
| Current Issues . . . . .                     | 34   |
| Forecasting Problems . . . . .               | 38   |
| Background Summary . . . . .                 | 42   |
| II. Methodology . . . . .                    | 45   |
| Criteria Development . . . . .               | 45   |
| Sample Population . . . . .                  | 55   |
| Data Collection . . . . .                    | 57   |
| Assumptions and Limitations . . . . .        | 64   |
| Statistical Tests . . . . .                  | 69   |
| III. Findings and Analysis . . . . .         | 72   |
| Discussion . . . . .                         | 72   |
| The Comparison . . . . .                     | 73   |
| 10% Reduction in LOT Buy . . . . .           | 74   |
| 33% Reduction in LOT Buys . . . . .          | 75   |
| 50% Reduction in LOT Buy . . . . .           | 75   |

|                                                                                           | Page |
|-------------------------------------------------------------------------------------------|------|
| IV. Conclusions and Recommendations . . . . .                                             | 77   |
| Discussion . . . . .                                                                      | 77   |
| Summary . . . . .                                                                         | 79   |
| Recommendations for Further Research . . . . .                                            | 80   |
| Appendix A: Diminished Manufacturing Source<br>Life-of-Type Spreadsheet For 90% Buy . . . | 81   |
| Appendix B: Diminished Manufacturing Source<br>Life-of-Type Spreadsheet For 67% Buy . . . | 99   |
| Appendix C: Diminished Manufacturing Source<br>Life-of-Type Spreadsheet For 50% Buy . . . | 117  |
| Bibliography . . . . .                                                                    | 135  |
| Vita . . . . .                                                                            | 138  |

### List of Figures

| Figure                                    | Page |
|-------------------------------------------|------|
| 1. DMS Trend Analysis Graph . . . . .     | 9    |
| 2. Life Cycle of Technology . . . . .     | 19   |
| 3. Product Life Cycle . . . . .           | 21   |
| 4. Stock-out Time Line Years . . . . .    | 27   |
| 5. Policy Surface Diagram . . . . .       | 29   |
| 6. Forecasting Methodology Tree . . . . . | 41   |

## List of Tables

| Table                                                | Page |
|------------------------------------------------------|------|
| 1. Forty-Quarter Demand History . . . . .            | 11   |
| 2. DMS LOT Year 89 . . . . .                         | 46   |
| 3. Life After DMS in Quarters By INC . . . . .       | 50   |
| 4. Pre & Post DMS Return Rate . . . . .              | 52   |
| 5. Monthly Update Process for DMS Items . . . . .    | 58   |
| 6. National Inventory Record File Printout . . . . . | 63   |

Abstract

This thesis studied the reason for over procurement in the case of long-term support for Diminished Manufacturing Source (DMS) items of supply at the Defense Electronics Supply Center located at Dayton Ohio.

A sample of 351 DMS items was selected for analysis. Fifteen percent of the items were deficient in stock primarily as a result of increased demands after the final LOT buy was made. Trend analysis reveals that 75% of DMS items experience declining demand rates both before and after the declaration of DMS.

To test the effects of reducing LOT quantities, all past sample LOT buys were reduced by 10%, 33% and 50% and checked against past demands. New stock outs were noted as a result of reductions in LOT buys.

Since the forecasting of future demands is inaccurate, this study recommends a common sense approach of 10% reductions to demand based LOT buys for DMS items of supply. Additionally, the increased use of a 40-quarter demand forecast is encouraged to better identify those items with increasing demands. For those items already procured which experience increasing demands after the DMS final buy, a new effort is recommended to find new sources of supply.

DIMINISHED MANUFACTURING SOURCE: A COMMON SENSE  
APPROACH TO REQUIREMENTS DETERMINATION FOR  
LIFE-OF-TYPE PROCUREMENT

I. Introduction

General Issue

According to a study from the Brookings Institution, we can safely cut defense spending by half over the next ten years. Deep cuts seem to be a foregone conclusion. The politicians and pundits are already spending the anticipated "Peace Dividends", and the public is cheering them on (5:1).

In a climate of defense budget reductions, the Department of Defense (DOD) will be tasked to maintain an adequate security against threats with fewer resources. This could result in the cutting of major weapons programs, the closing of military bases both here and abroad (26), and the reduction of defense forces (18:3). Congressmen are reluctant to take actions which would affect defense jobs in their districts. There has been, and will continue to be, talk about closing bases or curtailing defense programs but any cuts made will be done so as not to displace federal workers who, after all, might ultimately vote out of office

any negligent elected official who would permit that sort of thing to happen. What really happens in the case of major defense programs is a stretching-out or delaying deployment. The result of that delay could be the fielding of an obsolete system. The basis of the obsolescence may be as a result of a change in the perceived threat over time. The delayed system, when deployed, no longer meets the threat it was originally designed to counter. Additionally, technological advances occurring during the development of a weapon system could render it obsolete before being deployed.

This argument is especially relevant in the case of electronic technology. Rapid advances in electronic technology can surpass the time span required to deploy a new weapon system. The problem of obsolete electronic technology also affects existing weapons system support when defense manufacturers discontinue production of the older technologies. Electronics manufacturers cannot be faulted for this phenomenon. With the increased economic threat from the Pacific Basin and the desire of American manufacturing to meet that challenge, leading edge producers of electronics components are not at all reluctant to drop from production an obsolete technology in an effort to remain competitive. This creates a problem for the DOD and the many long-lived weapons systems currently fielded. A

life span of 20-30 years for a major weapon system is not uncommon, especially when the system is being phased-out of U. S. military inventories and sold abroad to foreign military customers. As producers of currently demanded electronic components seek to remain competitive, the less frequently demanded items are dropped in favor of newer consumer electronic items which are in higher demand. In the competition for manufacturing capacity, infrequently demanded military-peculiar items supporting aging weapons systems lose out to the more profitable consumer electronics demands (25:47-110).

The problem the DOD has, then, is finding qualified electronics manufacturers to support the weapons systems still in use which utilize these older, and many times, obsolete technologies. One might think that, if supply and demand control what is produced in the market place, Defense Department demand for spare parts would be sufficient to ensure a continuing source of supply. The DOD budget is nearly \$300 billion a year. Surely, that kind of money will attract many suppliers. The fact is, however, that consumer electronics has been on the rise for the past thirty years and the DOD has been edged out from a position of consuming over 90% of electronic technology to a position of less than 10% today (2:3). What's more, many DOD electronics applications have no commercial equivalents. As a minor

player in electronics technology consumption, the ability to control the underlying manufacturing base is greatly reduced. As former Defense Electronics Supply Center (DESC) commander Brigadier General Patterson stated in 1978,

.....the surge of electronics on a functional and economic scale during the past 30 years has outstripped standard linear growth patterns and reached exponential proportions. And the entrepreneurial opportunities for firms, principally in the commercial market, has been extensive (24:30).

His assessment of the situation 12 years ago has not changed; only the magnitude has increased.

The DMS condition, hypothetically, could effect every item of supply during individual item life-cycles. Forecasting the occurrence of the DMS condition or predicting how long already aged systems will continue to be fielded is an exercise in futility. Any guess on system life expectancy beyond two years is just that- a guess. Forecasting when a DMS condition is likely to occur based on life-cycle analysis is useless when considering supply and demand as the real basis for what is offered for sale in the market place. The real problem remains: doing without the item of supply and the resulting negative effect upon weapon system support.

#### Problem Statement

The Defense Electronics Supply Center is the primary proponent and user of the Diminished Manufacturing Source

and Materials Shortage (DMSMS) program which addresses the problem of providing continued electronics parts support when the sole source of supply withdraws from bidding and declines to be considered as source of supply in future awards (19:8). The manufacturer informs DESC that production will be discontinued and that one final production run will be completed to supply whatever needs will exist through perpetuity. Usually, a 60-day time frame is allowed by the manufacturer for notification of the final production run. This gives DESC time to contact the users to find out what their needs will be and also to undertake several actions to facilitate continuing support. These actions involve finding alternate sources, finding a substitute part, reverse engineering/emulation, system redesign, system phase-out, level loading and Life-of-Type buying (7).

It will sometimes be possible to find alternate sources. Many times, however, the sole source manufacturer will own patents and trademarks or have proprietary rights which he will be unwilling to relinquish.

A substitute part can sometimes be found. Many times the application is so specialized that substitute parts are not available. Users are often times reluctant to accept substitute parts, especially when the part is going on a

submarine or an aircraft and loss of life could be the result of substitute part failure.

Reverse engineering involves reducing a part to its basic components to obtain drawings for invitations-for-bid (IFB). The new drawings can then be used to emulate the form, fit and function of the old part. Interested manufacturers can then attempt to qualify as a producer and supplier to the DOD.

The system could be redesigned to accommodate the emulated part or a substitute part. Users are very reluctant to accept redesign or phase-out caused by a supply deficiency in a support part.

Occasionally, a manufacturer can be persuaded to continue production, especially if a level load method is used to ensure future sales. A level load buy is an arrangement with the producer over a long period of time for the purchase of set quantities. A manufacturer is more likely to remain in business if the DOD can promise to buy a certain amount year in and year out for an extended period of time. The problem with this technique is that funding for stock fund procurement is done annually and the level load is a long-term commitment with funds not yet authorized. Additionally, demands may not materialize in the long term but the DOD is still obligated to purchase the

agreed upon amounts for the duration of the level load agreement.

The Life-of-Type (LOT) buy is the final solution for long-term support when all else fails. A LOT buy is the final procurement to provide support for systems until phase-out. The time frame for the LOT buy is usually arbitrarily set at 10 years. If the using service needs support for longer, a 15 or 20 year buy can be made. The inventory manager follows a set of procedures to forecast future demands for requirements determination in the final buy (8).

The process is begun by soliciting all users past and present for their future demands. Next, a review of past demands is conducted. In the absence of service projections, the inventory manager usually takes an average of the past eight quarters of demand as a basis for future demands.

A computer program used at DESC for desk-top computers has been recently developed to examine forty-quarters of past demand data. The program is an ENABLE spreadsheet that uses regression analysis to discover demand trends. Electronic consumables undergoing phase-out are not influenced by seasonality but may be identifiable by long-term declining demand trends as in the case of DMS. The

program examines the trend and projects a LOT buy quantity to support the item for ten years.

Figure 1 is an example of the ENABLE trend analysis output on a potential DMS item for which a LOT buy is contemplated. The rectangular area on the graph from 1988 through 1997 represents the LOT period under consideration for NSN 5960-00-105-6625. Based on past demands, an expected demand curve is fitted to the actual demand line and then projected through the LOT period. The darkened area below the expected demand curve represents expected demand levels through the LOT period. The entire rectangle, including the scored area above the darkened area, represents a straight-line buy quantity that might be determined by the inventory manager using the 1988 expected demand level (21). When the item experiences declining long-term demands, as this example illustrates, the LOT buy quantity may be larger than needed. Enable uses a forty-quarter demand history to calculate the trend. Once hardware problems are resolved at DESC and the program gains widespread use, inventory managers will be better able to correctly forecast LOT buys.

Table (1) is an example of a demand history from which the graph shown in Figure (1) could have been generated. The demand column in Table 1 indicates units demanded by quarter and fiscal year. For example, in the first quarter

in FY 1980, there were demands for eighteen each. The returns column is a units-of-stock listing by quarter for all assets returned from customers. For example, in the fourth quarter of FY 1982, 12 each were returned for credit from using activities having excess stock.

### LIFE OF DMS ITEM NSN 5960-00-105-6625

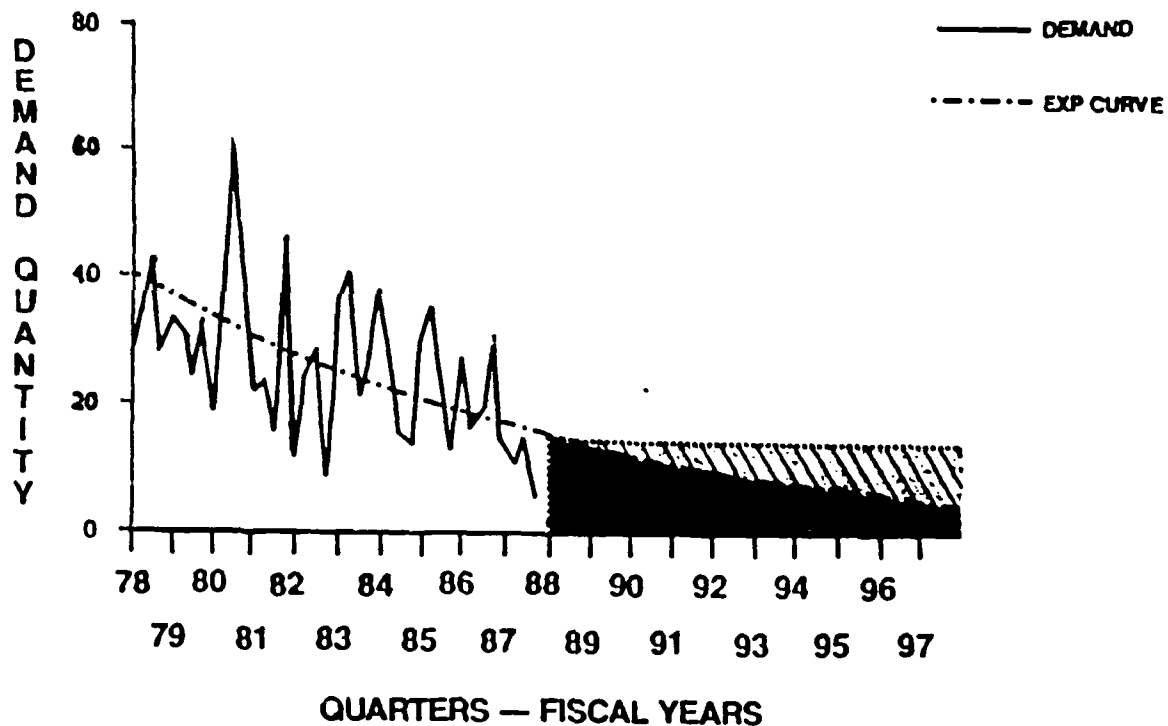


Fig. 1 DMS Trend Analysis Graph (28:5)

The forecast block of Table 1 provides the results of the analysis. The LOT Req Quantity line of the forecast block indicates the recommended LOT quantity to buy based on the trend analysis. When a declining demand trend is apparent, as in the case of Table 1, and there is no need for a LOT buy the ENABLE program will default to the smallest positive quarterly forecast of demand. In this example, a QFD of one is assigned.

The trend line quarter portion of the forecast block refers to the first quarter where demands are recorded or, the first quarter from which the trend analysis will begin. The individual running the program may choose the starting point from which to begin the trend analysis. If the user fails to select a starting point, ENABLE defaults to the first quarter with demands and begins the analysis from that point. In the Table 1 example, the default would have been to the first quarter in FY 1980 where eighteen demands were experienced. The analyst conducting the Table 1 interrogation of the demand history chose the first quarter in FY 1982 to begin the analysis.

TABLE 1

## Forty-Quarter Demand History (28:7)

NSN 5935-00-065-9803

REQUEST DATE : 5/4/90

| QTR NO | FYR | QTR | DEMAND | RETURNS |
|--------|-----|-----|--------|---------|
| 1      | 80  | - 1 | 18     | 0       |
| 2      | 80  | - 2 | 24     | 0       |
| 3      | 80  | - 3 | 0      | 0       |
| 4      | 80  | - 4 | 8      | 0       |
| 5      | 81  | - 1 | 8      | 0       |
| 6      | 81  | - 2 | 7      | 0       |
| 7      | 81  | - 3 | 1      | 0       |
| 8      | 81  | - 4 | 2      | 0       |
| 9      | 82  | - 1 | 60     | 0       |
| 10     | 82  | - 2 | 2      | 0       |
| 11     | 82  | - 3 | 9      | 0       |
| 12     | 82  | - 4 | 6      | 12      |
| 13     | 83  | - 1 | 18     | 0       |
| 14     | 83  | - 2 | 13     | 0       |
| 15     | 83  | - 3 | 4      | 4       |
| 16     | 83  | - 4 | 11     | 0       |
| 17     | 84  | - 1 | 3      | 0       |
| 18     | 84  | - 2 | 10     | 0       |
| 19     | 84  | - 3 | 3      | 0       |
| 20     | 84  | - 4 | 4      | 3       |
| 21     | 85  | - 1 | 15     | 0       |
| 22     | 85  | - 2 | 9      | 0       |
| 23     | 85  | - 3 | 0      | 0       |
| 24     | 85  | - 4 | 6      | 0       |
| 25     | 86  | - 1 | 4      | 0       |
| 26     | 86  | - 2 | 0      | 0       |
| 27     | 86  | - 3 | 0      | 0       |
| 28     | 86  | - 4 | 3      | 1       |
| 29     | 87  | - 1 | 6      | 5       |
| 30     | 87  | - 2 | 0      | 3       |
| 31     | 87  | - 3 | 0      | 4       |
| 32     | 87  | - 4 | 0      | 0       |
| 33     | 88  | - 1 | 0      | 0       |
| 34     | 88  | - 2 | 0      | 0       |
| 35     | 88  | - 3 | 0      | 0       |
| 36     | 88  | - 4 | 0      | 3       |
| 37     | 89  | - 1 | 0      | 0       |
| 38     | 89  | - 2 | 0      | 1       |
| 39     | 89  | - 3 | 0      | 0       |
| 40     | 89  | - 4 | 0      | 0       |
| 41     | 90  | - 1 | NA     | NA      |
| 42     | 90  | - 2 | NA     | NA      |
| 43     | 90  | - 3 | NA     | NA      |
| 44     | 90  | - 4 | NA     | NA      |

## FORECAST

LOT REQ QUANTITY: 1

FORECAST QFD: 1

TREND LINE QTR #: 10

## WARNING:

IF YOUR TREND LINE IS BASED ON LESS THAN 12 QUARTERS OF DATA, THE RESULTING FORECAST OF LIFE AND LOT REQUIREMENTS MAY NOT BE STATISTICALLY VALID.

As mentioned earlier, the manufacturer will usually give a 6-month notice before discontinuing production. Sometimes this notification is in the form of a trade journal advertisement or notice and fails to become known to the inventory manager in sufficient time to permit the necessary inquiries to the services to be made. The result is a decision to buy which is often inflated to protect against the possibility of non-support occurring before the end of the LOT period.

The problem of over procurement was discussed in a Philadelphia Inquirer article about excess consumable supplies in the DOD (27:3). The Defense Logistic Agency (DLA) was singled out for apparent excess supply problems at the Defense Electronics Supply Center in Dayton, Ohio. This article revealed that DESC managed 2,100 consumable supply items which had a 5-year supply on hand (based on current system Quarterly Forecast of Demands) valued at \$14,000,000 (27:9).

Logically, past demands, user service forecast and knowledge of the Federal Stock Class (FSC) technology should be the basis in procurement for long-term support. In reality, however, past demands have not been a good indicator of future demands in DMS cases; service projections for future use have proven to be unreliable or non-existent; and inventory managers are not knowledgeable

enough about the current state of technology in the Federal Stock Classes they manage. A common sense method of LOT buy requirements determination would enable DESC to reduce stock fund investment in LOT buys without sacrificing long-term support.

### Research Objectives

This research will examine the DESC master DMS listing (internal ESR11113 Report) and several other internal documents to DESC for Federal Stock Classes 5925, 5935 and 5950. The ESR11113 report will be the primary data source for the research. This report, which is updated monthly, is an historical record of all DMS items dating from 1976 to the present. A comparison of the historical procurement record will be made with results of several different LOT buy reduction scenarios. The procurement histories will be electronically extracted from the master procurement history file at DESC. A "what if" analysis will be conducted to discover what the impacts on supply effectiveness would have been on selected LOT year procurement reductions of 10%, 33% and 50%. For example, what would be the effect of having reduced all LOT buys by 10% for LOT year 88? By 33%? By 50%? Related research questions include: What percent of items would be out of stock under those three different scenarios? What would be the savings in unadjusted dollars? How many weapon systems would have been adversely affected?

What level of risk is acceptable? In the face of budgetary constraints and a perceived reduced threat to our national security, is the risk of reduced long-term weapons supportability worth taking?

### Risk

When considering the idea of reducing LOT buy quantities for long-term support items, the question of risk should be addressed. It is difficult to assign a price or cost of non-support when a weapons system becomes inoperative due to lack of spare or replacement parts. If the deficiency resulted in a loss of battle or war, the cost would be very high. If, on the other hand, the deficiency resulted in the premature abandonment of a system which was already being phased out, the cost would be less prohibitive. One could easily defend the latter position by numerous examples of phase-outs while the former case might be supported by some rare examples where non-support had an adverse affect on national security. With the perceived reduced threat to our national security and the corresponding reduction in Defense Department spending, the risk of non-support might well be worth taking in consideration of the nature of DMS items of supply. That is, DMS items are in many cases, in the declining phase of the product life cycle and are already, or soon will be, obsolete. A complete discussion of the life cycle

phenomenon will be covered later in this paper. The important fact to note is that risks to supply support may not have been acceptable as recently as 1989. Today, in a climate of lowered political tension worldwide and Defense Department budget cuts, some level of increased risk may be acceptable or even welcomed in an effort to achieve desired goals. An acceptable level of risk to assume when considering reduced procurement for DMS LOT buys is a supply detriment level not to exceed 10%. That is to say, if a LOT buy reduction of any size resulted in a 10% or greater supply deficiency, the risk would be too great.

#### Hypothesis

The current method for requirements determination on Diminished Manufacturing Source items at the occurrence of Life-of-Type buy outs has resulted in over procurement. Based on the hypothetical scenarios of reducing past LOT year buys by 10%, 33% and 50%, long-term support for DMS items will not be adversely affected at the 10% reduction level; slightly affected at the 33% reduction level and adversely affected at the 50% reduction level. Inventory savings at the 10% reduction level are sufficient to warrant the risk of depleting stock before the end of the LOT period. Inventory savings at the 33% and 50% reduction level result in substantial savings to inventory investment but do not warrant the risk of depleting stock before the end of the LOT period.

### Scope of Research

This study will not analyze all of the more than 3,000 LOT buys completed since 1976. Time will permit only an examination of a small sample. The danger of the small sample lies in the differing levels of technology and hence the differing likelihoods of comparable DMS conditions both between FSCs and also within a FSC. To counteract the problem of sample bias, three Federal Stock Classes were selected: FSC 5925, 5935 and 5950.

Because the basis of this research lies in stock quantities consumed or not consumed relative to the ten-year LOT period, adjustments for inflation will not be taken into account. Current unit prices will be used to evaluate overages and shortages to expected 31 December 1989 balances since DLA annually adjusts unit prices for inflation.

December 31, 1989 is the cut-off point for data. All conclusions are based on the database of record as of the cut-off date for the research. Subsequent events, item balances and policy changes are not considered.

### Background

This literature review will begin by examining four past theses on Diminished Manufacturing Sources completed at the Air Force Institute of Technology. These theses were completed during the time when the problem of inaccurate

demand forecasting for Life-of-Type buys was first recognized (1978-1982). Next, several important journal articles relating to current issues in DMS will be discussed. Among these issues which relate to DMS are private-sector occurrences of DMS, Total Quality Management (TQM), the Qualified Manufacturers List (QML), Computer Aided Logistics (CALs), and the Army's use of emulation. Lastly, a review of forecasting techniques will discuss possible forecasting methods and their implications for DMS LOT buy quantity determinations.

Integrated circuits (IC) represent the largest single stock class with DMS items. Therefore, important and recent developments in ICs and the impact on DMS will be discussed. Integrated circuits were not chosen to be part of the sample selected for analysis because of the volatility of demands and the unique behavior demonstrated by many IC DMS items. Leap-frogging silicon chip technology is advancing faster than the DOD can absorb into existing programs and systems (13:54). It is not uncommon for an IC to experience a DMS condition while also having increasing demands. For the purposes of this study, several other more stable stock classes were selected for analysis.

Brooks 1981. In a thesis by Captain Michael E. Brooks in 1981, "An Investigation of Time Series Growth Curves as an Predictor of Diminishing Manufacturing Sources of

Electronic Components", a relationship was indicated between the growth and decline of demand levels over time in terms of sales, and the occurrence of DMS (2). He began the discussion with his assessment of the evolution in technology for electronic components (2:18). He traced the evolution of technology from vacuum tubes and transistors through an explanation of semi-conductors and integrated circuits. His point is well taken that, in a very short period of time, technology has advanced at an alarming rate. That rate of advancement is indirectly the cause for DMS. As manufacturers produce the "new" technology and drop the "old" technology, sources of supply disappear. Those aged defense systems, which rely on older technologies are then without support for the balance of time they remain fielded or deployed. In an article written by General Patterson about the life-cycle of technology and reported on by Brooks in his thesis, a demonstration of where and when the DOD impacts the life-cycle curve was shown (2:12). Figure 2 graphically depicts the life cycle of technology as it relates to government demands (2:12). It should be noted that government demands peak in the declining phase of the life-cycle.

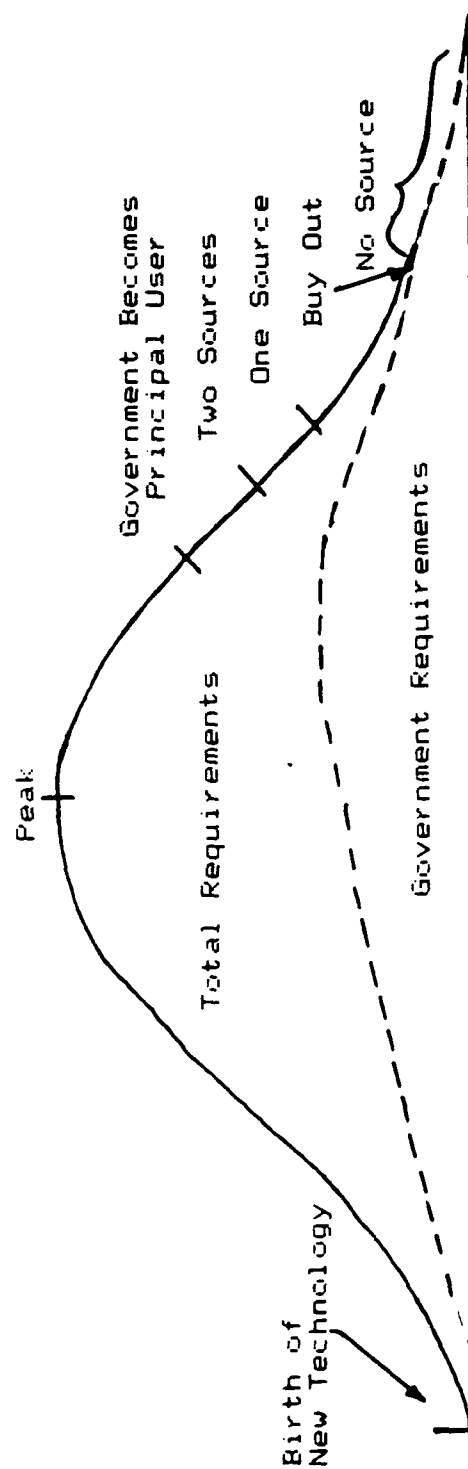


Fig. 1 Lif Cycle of Technology (2:12)

Brooks hypothesized that annual sales were indicative of the product life cycle curve which could be re-expressed as an S-curve. A standard growth curve model could be fitted to observed data using the least squares regression method with a 5% or less coefficient of variation (2:34). He found, not surprisingly, that as demands fall for an item of supply during the maturation and decline phase of the product life cycle curve, the DMS condition occurs more frequently. Figure 3 illustrates the product life cycle curve which was developed from an internal study by DESC and reported on by Brooks in his thesis (2:28).

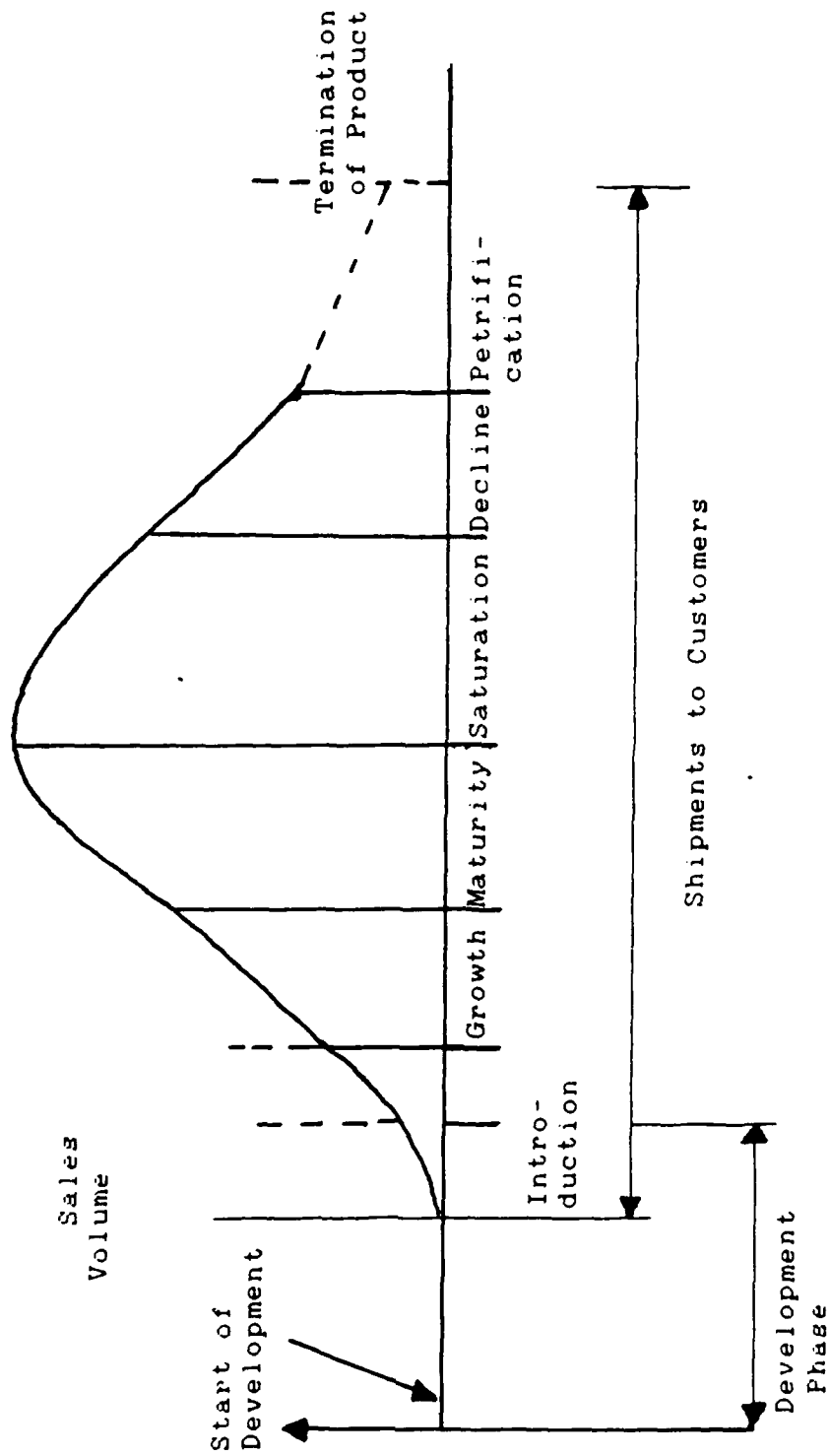


Fig. 3 Product Life Cycle (2:28)

As technological advances in electronic circuitry replace obsolete items and users change over, whenever possible, demands on the older technology decrease. At the point in the product life cycle where continuing manufacture cannot be economically justified, a DMS condition begins. Indicated in Figure 3 is the progression of the product life cycle as it follows a general pattern of introduction, product growth, maturity, saturation and decline (2:28). Eventually, sales drop to a level at which manufacture is no longer profitable and the item is dropped from production.

In general, the Brooks model is valid for stating when DMS is likely to occur on the product life cycle curve and is useful with some qualifications. Brooks uses the product life-cycle to discuss the idea of technological forecasting. He refers to a book by Joseph Martino for a definition of technological forecasts (20). A technological forecast is a prediction of the future characteristics of useful machines, procedures or techniques (2:27). For example, if one knows where on the product life-cycle curve the technology of a particular stock class is located, a forecast of future sales might be possible. Government policy decisions to extend the lives of some older weapon systems beyond their originally forecasted life span, have caused a distortion of the original LOT period projection. The result of this may be an error in the prediction of when a DMS situation might

occur. When the decision is made to extend the life of a weapon system, demands might increase as activities decide to, for example, bring maintenance up-to-date. Some commands might delay non-routine maintenance on systems scheduled for phase-out. When the decision is made to extend the life of the system, postponed maintenance is begun. The result is increased demands for spare and repair parts. The tendency would be for declining demands to level off and delay the occurrence of DMS. Sales of military items to foreign governments often involve extended periods of logistic support. A major item may no longer be used by U. S. forces, but follow-on logistic support is a guarantee to the foreign government as an inducement to purchase, for example, a major weapon system. These and other factors tend to skew the product life cycle curve to the right and extend the saturation and decline phases. The result is more difficulty in predicting exactly when DMS will happen.

From a pragmatic point of view, does it really matter that we know when a DMS situation will arise? If we know that in general, demands on an item are in a tailspin, are we really likely to go out and seek new sources? From the master DMS list we see that more than three-fourths of all DMS items are permitted to die a quiet death (no LOT buy initiated, no new sources solicited). The DESC management philosophy of management by exception does not justify

action where no action is needed. If demands are going along normally, as in the case of the other twenty-five percent of DMS items (which ultimately receive LOT buys), why or how could the inventory manager be alerted to a potential DMS situation? The question which logically follows from Brooks' work is that if we are made aware of the DMS situation in advance, could we take steps to delay or prevent it? In the case of declining demands and no projection of future demands, who cares? In the case of DMS on an active item of supply, who could have known? While the life cycle of technology explains what happens in a DMS situation, it is not useful as a preventative measure.

Corbett, Schultz and McCarthy 1978. In a thesis by Major James Corbett, Captain Delray Schultz and Captain Donald McCarthy, "The Relationship Between Dollar Volume of Sales and Diminishing Manufacturing Sources for Selected Electronic Components: A Comparative Analysis," an attempt was made to use product life cycle as a predictor of DMS (4).

They hypothesized that the function defining dollar volume of sales for receiving tubes and its corresponding relationship to receiving tube DMS condition would approximate the same function for semiconductors and integrated circuits (4:11). They found that the prediction of DMS across FSC lines was not possible due to differing

levels of technology and product life cycles (4:30). While the receiving tube was a dying technology, the semiconductor technology and applications was still experiencing growth (4:30).

Fisher and Sheehan 1982. In a thesis by Christine Fisher and Walter Sheehan in 1982, "The Life-of-Type Inventory Decision for Diminishing Manufacturing Sources Items: A Sensitivity Study", demand levels and costs were examined for their impact on the Economic LOT Quantity (ELQ) (11). Their model summed procurement costs, holding costs and shortage costs to arrive at a total cost of the Life-of-Type buy or ELQ (11:70). In the formula below, the first term on the right-hand side identifies procurement costs. The second term refers to holding costs. The final term on the right-hand side deals with shortage costs.

$$TC(Q) = CQ + H \sum_{d=0}^Q (Q-d) P(d) + B \sum_{d=Q}^{\infty} (d-Q) P(d) \quad (1)$$

Where: TC = Total Costs

Q = Quantity

C = Unit Cost

d = random variable for demand

P = Probability

H = Cost to Hold

B = Shortage or penalty cost (11:70)

The penalty cost is calculated as the unit price times two to the fourth power or sixteen times the value of the unit price. For example, a DMS item with a unit price of \$5 would have a shortage cost of \$80. In other words, according to Fisher and Sheehan, the item manager has been willing to buy on average, \$80 extra in safety stocks to buffer against the possibility of issuing all the stock before the end of the ten-year LOT period (11:73).

Fisher and Sheehan demonstrated the penalty cost or shortage cost by evaluating DMS items in terms of historical demand distributions. Items with annual demands of 1-25 units were considered to have a Poisson distribution for future demands. Items with 26-75 annual demands were expected to have a normal distribution with respect to future demands. Using their penalty cost formula  $B = C(2^m)$ , it was determined that in both distributions, a penalty cost where  $m=4$  was predominant. It was, therefore, generalized that based on the DESC policy of ten-year LOT Buys, a penalty cost of 16 times unit price was the norm (11:73).

Their statistical analysis revealed that only 10% of DMS items will reach a zero stock level in the year for which support was projected to end. Those items which fell short or ran out before the end of the LOT period totaled 25%. The balance, 65% of all DMS LOT buys, were over

bought. They found that 47% of all DMS buys provided support in a range of -7 to +8 years to the end of the LOT period intended. This might best be visualized on a time line with zero representing the desired end of LOT period. Figure 4 is a time line with the support levels indicated.

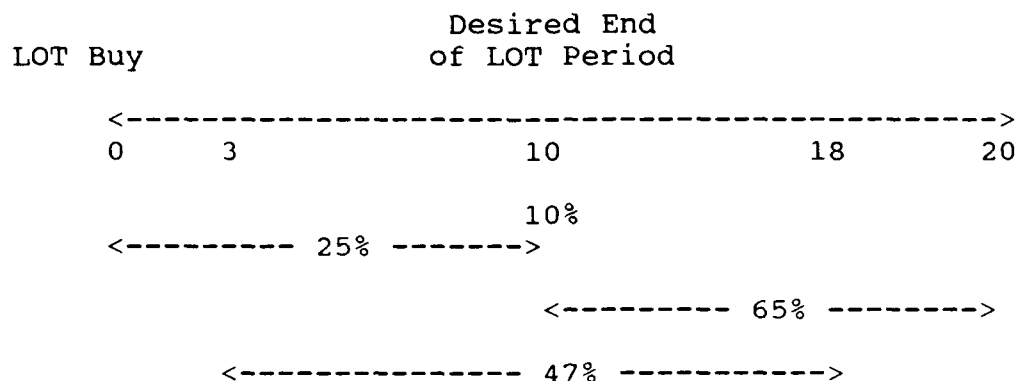


Fig. 4 Stock-out Time Line Years

This means that the supply either fell short by one to seven years of the required support period or that supply was in excess from one to eight years beyond the required support period. The conclusion is that 53% of DMS items fell outside of the range resulting in one of two possible situations: 1) All stock was depleted in the first three years of the LOT period, or 2) Some assets remain after the end of the LOT period. Fisher and Sheehan found that larger numbers of items were over bought than were under-bought (11:88-89).

Fisher and Sheehan's study also examined the idea of three dimensional graphs to depict regions for trade-offs in holding costs and penalty costs. This type of analysis demonstrated in Figure 5, was earlier demonstrated by Gardner and Dannenbring in their optimal policy surface diagram for stochastic demand (15:709). In this diagram, the (X) axis of investment dollars is plotted against the workload on the (Y) axis and the percent of requisitions short on the (Z) axis (15:709). Fisher and Sheehan used the Garner/Dannenbring idea in Figure 5 when they proposed using "optimal policy surfaces" to show the possibilities for inventory decisions to be conceived as policy trade-offs (on a three-dimensional response surface) (11:94). This point was important to Fisher and Sheehan to the extent that they assumed that costs (holding and/or penalty costs) some how affected the ultimate LOT buy quantity. While the trade-off between the two costs is valid and reasonable, it simply does not affect final LOT buy quantities under current policy and procedures in DMS procurement for long-term support (8).

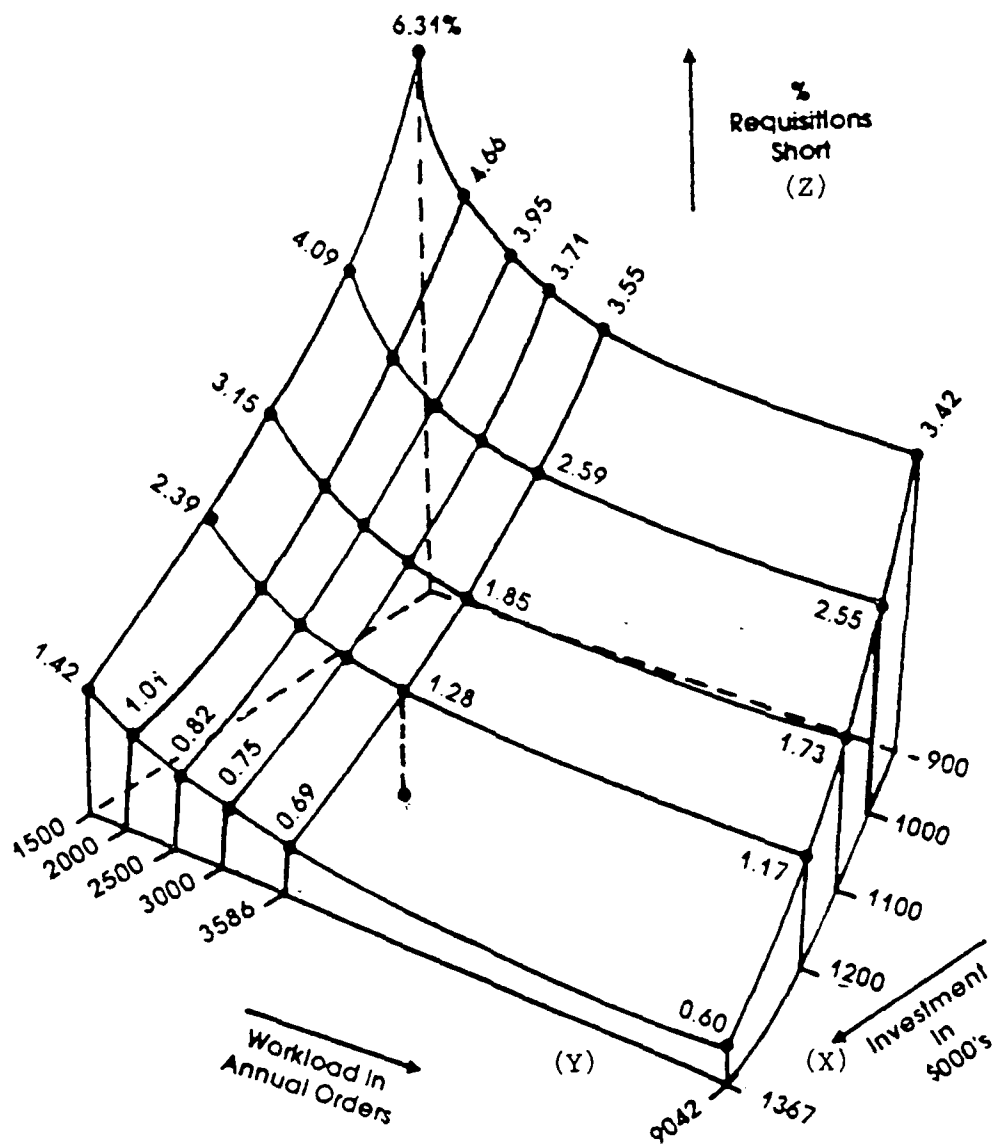


Fig. 5 Policy Surface Diagram (15:709)

In the final analysis, DESC is charged in providing long-term consumable electronic supply support. While "penalty cost", holding cost, cost of capital and historical demand analysis are weighed considerations in that process, predicting future demands accurately for LOT buys has been less than successful. Fisher and Sheehan's model considers costs as the primary factor affecting the final Estimated Lot Quantity (ELQ). Once the decision is made to provide long-term support, at whatever level, past demands are the underlying factor used to determine the LOT quantity.

In the absence of a reliable forecasting method for DMS LOT buys, and now, with a large historical record of past procurement as a benchmark, the Fisher and Sheehan argument for economic considerations in long-term support decisions, regardless of how it was conceived or derived, is justifiable more than ever before. Since their "costs" directly relied on demand forecasts, which were unreliable for both the Poisson and normal distribution models, the argument against a penalty cost is not warranted. Of the two models, the normal distribution model was the most unreliable. This is important when considering that most LOT buys would be based on demand patterns which Fisher and Sheehan identify to the normal distribution.

In summary, Fisher and Sheehan did an excellent job of investigating the problem of DMS but their conclusion that

demands and costs are functions of what they define as Economic LOT Quantity is only partially correct. Apart from the fact that accurate cost estimates cannot be reliably obtained for holding and penalty costs, Fisher and Sheehan over emphasized the importance of costs. The argument that costs have a very small role in the final LOT buy quantity is supported by the nature of past demands and the ability of using activities to submit funded requisitions for their requirements. For example, if a using activity submits requisitions for 10 each in one year at a total cost of \$10,000,000 with a storage cost (holding cost) of \$1,000 per week, the source of supply is not likely to challenge the user over cost or attempt to change the LOT buy quantity based on costs alone. The user will temper his requirement based on costs but the source of supply will not necessarily consider costs when determining requirements. For this reason costs have an insignificant role in determining LOT buy quantities at the point of supply. The LOT buy is a function of demands to the extent that past demands are (incorrectly in my estimation) used as a basis for predicting future demands. Their conclusion that the LOT quantity has not been determined accurately in the past is correct. Given the forecasting tools currently available, it is not clear if a better method can be derived.

The importance of their contribution to the understanding of the DMS problem lies in their very early appreciation of the LOT buy procedures which, all too often, result in over procurement. Even at this relatively early stage of the DMS program (1981), they realized the importance of procurement excesses. While their attempts to arrive at a better forecasting method for LOT buys fell short, by their own admission, the forecasting inadequacy is considered to be of secondary importance to their overall contribution.

Many other efforts to improve DMS forecasting have failed since Fisher and Sheehan. The problem lies in trying to predict weapon system life spans in a world climate of foreign military sales, budgeting constraints, political maneuvering with respect to the defense budget and leap-frogging technology, all of which impact the reliability of forecast for long-term supply support.

Capotosti and Curran 1981. In a thesis by Capotosti and Curran in 1981, "A Study on the Effects of Diminished Manufacturing Sources on the Supportability of the AN/ASQ-38 Radar System", an in-depth investigation was conducted of a particular DMS occurrence (3). Their methodology included interviews with contractors and subcontractors involved with supporting the AN/ASQ-38 radar system. This system had unexpectedly experienced a DMS situation. Their candid

interviews with manufacturers provided some interesting insights. Suppliers to DOD do not think we are doing enough to embrace standardization. In far too many cases, standard items would have sufficed where newly designed parts were used. Manufacturers were also concerned that DOD was too slow to adopt new technology. They believe that proven replacing-technologies should be used in DOD items whenever possible. This, they believe, would eliminate the problem of no sources for DOD items of supply (3:26). On the other side of the coin, DOD was accused of adopting some technologies before being completely tested and proven. When this happens and a failure is the result, the manufacturer is often accused of providing inferior parts (3:25). Another reason for manufacturer withdrawal as a source is strict procurement rules and all the accompanying red tape (3:26). In cases of marginal profitability, this factor alone may be enough to discourage the manufacturer from further production.

A somewhat lesser factor contributing to the DMS problem is strict design specifications. The DOD has been reluctant to authorize design changes (as have been the using services) especially for aircraft and submarines. This reluctance is partially attributed to safety concerns. It takes only one occurrence of downed aircraft and loss of life to place all substituted parts under suspicion. The

Capotosti and Curran thesis was completed in 1981. Since that time, efforts have been made to lessen design restrictions, especially on non-critical parts and supplies (22).

The Defense Electronics Supply Center has recently been studying the possibility of emulation as a means of duplicating the form, fit and function of some DMS items. Integrated circuits have been selected for the emulation program since it represents the single largest federal stock class having the DMS problem (23).

Current Issues. The previous discussion was concerned primarily in two areas: 1) how to predict when DMS would be likely to occur and, 2) an identification of the causes of DMS. Much of this research was done nearly a decade ago. A review of the body of DMS literature would not be complete without a review of current issues, especially since so much of what has been previously written is dated. Recent interest in DMS has been in two areas: 1) prevention and, 2) alternative sources of supply. Implied in the recent literature is the recognition that present management practices probably will not prevent DMS and that viable alternatives are possible due to advances in communication and data management technologies. While the basic premise of this research is to immediately have some positive effect by reducing LOT buy quantities and thereby reducing wasteful

inventory investment, other subtle and long-term management practices should be recognized. With that in mind, the following discussion includes some new ideas that, while individually may have very little impact on DMS, collectively could represent the long-term solution to the DMS problem.

Diminished Manufacturing Source was a military-peculiar condition during the time when the teams of Fisher-Skeehan and others were doing their research. Since then, DMS has spilled over into the private sector as many large corporations find themselves as owners of obsolete aircraft or other types of capital equipment (6:2F). Many air cargo fleets using older propeller driven aircraft have begun to experience difficulties in finding spare parts (6:2F). The problem is one of magnitudes. An individual may be unable to find a part for his old airplane. He could just buy a newer airplane for which parts were readily available (one airplane). A military service cannot just discard a fleet of military aircraft and go buy another fleet of newer military aircraft whenever a spare part becomes unavailable. While the problem of Diminished Manufacturing Source may have been experienced in the private sector in isolated cases, the real impact involving large numbers of like aircraft fell upon the military services. Producers of original aircraft are reluctant to retool for production

when future demands are unknown (6:2F). If, on a rare occasion, the decision to resume manufacture is made, added costs (tooling, set-up, etc.) and extended lead times are the result (6:2F). Some air cargo companies are considering in-house manufacture to assure spare parts availability (6:2F).

The Army has embarked on an emulation program to extend the life of their OH-6A helicopter (21:24). Emulation is the process of re-manufacturing of spare and replacement parts which emulate the form, fit and function of the original equipment (22). The emulated part may be made from different materials or have a different physical appearance from the original item (22). The important idea is that the emulated part performs as well as or better than the original equipment (22).

The Defense Electronics Supply Center is also developing an emulation program for integrated circuits (FSC 5962) (22). From Table 5, the master DMS list, sizable representation of ICs is observed. Many of these ICs require special long-term storage in a controlled atmosphere (19). A recent upgrade of Read-Only-Memory (ROM) and Programmable-Read-Only-Memory (PROM) computer chips has greatly reduced manufacturing and testing costs (13:54). The Field-Programmable-Gate-Array (FPGA) will greatly reduce re-programming time and expense (13:54). Since the usage of

the FPGAs is expected to increase, fewer new DMS cases in integrated circuits should be expected in the future. Field-Programmable-Gate-Arrays are in a class of ICs referred to as Application Specific Integrated Circuits (ASIC) (13:54). By the year 1993, ASICs will be more than 70% utilized for all military IC applications (13:54).

Other developments currently under way that may have an impact on future DMS cases include Total Quality Management (TQM), Computer Aided Logistics Systems (CALS) and the Qualified Manufacturers List (QML). Total Quality Management could produce better working relations with manufacturers which could result in continuation of support in some DMS cases which might not have otherwise occurred (9:58). Computer Aided Logistics Systems will reduce the paper mountain contractors endure to do business with the DOD (14:62). The problem with this idea is in the commonality of the data base which all qualified suppliers share. Contractors are reluctant to provide cost information which would be accessible to their competitors who would be monitoring the system data base (14:62). CALS may reduce the threat of DMS in marginal cases (i.e., when the cost of submitting the bid is the determining factor in the bid/no bid decision) (14:62). The Qualified Manufacturers List (QML) is an outgrowth of the old Qualified Producers List (QPL) (27:49). The improvement

lies in the rules changes which have served to reduce production cost for computer chip manufacturers by allowing more flexibility to make rapid improvement in the manufacture of military devices (27:49). The savings realized is in lower testing costs (12:49). TQM comes into play with the QML as the driving factor to create an atmosphere of mutual trust and goal attainment (27:49).

Recent trends towards the use of commercial grade hardware is seen as a positive development impacting future DMS cases (12:68). In general, items of supply which are used in both the private and public sectors, enjoy extended product life cycles as heightened demand levels become sufficient to assure a continuing source of supply (12:68).

Forecasting Problems. Accurate forecasts for long-term supply support (10 years or more) have not been possible because all variables are not or cannot be identified or determined. A simple methodology tree diagram illustrated in Figure 6, compares the alternative methods used in forecasting (1:71). Subjective methods are those in which the processes used to analyze the data have not been well specified, while objective methods are those that are well specified processes to analyze the data (1:67). Subjective methods are judgmental but can be transformed into an objective procedure by means of bootstrapping. This involves the idea that it is possible to develop a model of

how a person makes a judgmental forecast. The model may then be able to provide better forecasts than the person could (1:71).

Moving up the objective side of the tree in Figure 6, a comparison between naive and causal methods is best described on a time continuum with the line of demarcation between naive and causal open to individual interpretation. A strictly naive method necessarily leads to extrapolation forecasts. At the other end of the continuum is the causal method which implies that some causal relationship between events and outcomes can be identified (1:68). If causality can be reasonably established, a linear method of classification method might be used to forecast a future event (1:69-70). An exact causal relationship between past demands and future demands is not evident in the case of DMS items which makes it difficult to use objective methods to arrive at a reliable forecast.

The linear method shown in Figure 6 is based upon the usual way we think about causality: If (x) rises, (y) will increase by some amount (1:70). The classification method attempts to find behavioral units that respond in the same way to the casual variables and to group these units. To make a prediction, then, one merely needs to determine the category into which the unit falls (1:70). Linear

methodology leads to some econometric solution while classification results in segmentation.

Ideally, in government and business, forecasting decisions should be the result of objective analysis. Such is possible when all variables can be identified and quantified. In the case of long-term forecasting for DMS Life-of-Type procurement, complete knowledge cannot be known. Forecasts produced under these conditions of uncertainty are based upon incomplete knowledge. Procurement actions based on these faulty forecasts have resulted in over procurement.

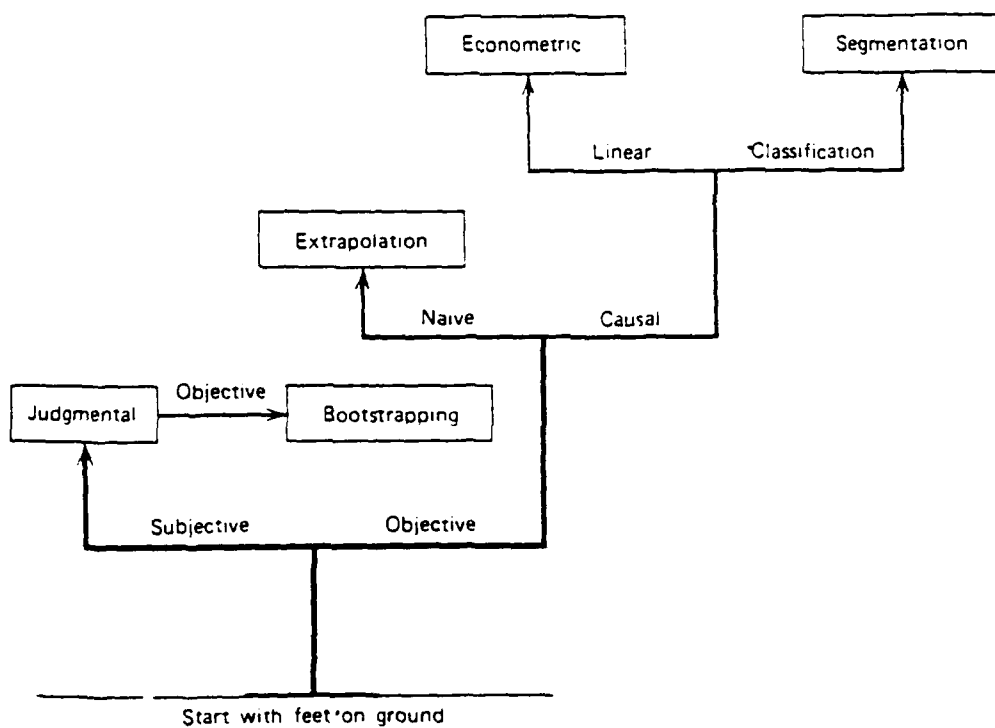


Fig. 6 Forecasting Methodology Tree (1:70)

In reference to accuracy of forecasting methods,  
Makridakis states:

...how (does one) measure the suitability of a particular forecasting method for a given data set? In most forecasting situations, accuracy is treated as the overriding criterion for selecting a forecasting method. In many instances, the word "accuracy" refers to "goodness-of-fit" which in turn refers to how well the forecasting model is able to reproduce the data that are already known. In explanatory (causal) modeling, goodness-of-fit measures predominate. In time-series modeling, it is possible to use a subset of the known data to forecast the rest of the known data, enabling one to study the accuracy of the forecast more directly. To the consumer of the forecast, it is the accuracy of the future forecast that is most important. To the modeler, it is the goodness-of-fit of the model to the known facts (quantitative and qualitative) that must be addressed (20:43-44).

This disparity between what can be quantitatively modeled and what is realistically modeled for forecast accuracy has resulted in a stand-off between modelers and users of forecasts of demands in DMS situations.

In the absence of reliable and quantitative modeling techniques and with a substantial history of DMS procurement results, subjective techniques should be examined in future forecasts for DMS Life-of-Type procurement decisions.

Background Summary. The body of literature concerning the Diminished Manufacturing Source condition prior to Fisher and Sheehan evolved around predicting the initial occurrence of DMS (Product life cycle approach of Brooks and Corbett et al) and exploring the base causes of the problem

(Capotosti and Curran). Fisher and Sheehan attempted to forecast future demands given that a DMS situation was imminent. Additionally, they examined costs in an unsuccessful and incorrect attempt to associate all costs with a correct Estimated LOT Quantity (ELQ) for the Buy-of-Type buy. Their research was not valueless, however, since it statistically evaluated the extent of procurement excesses existing at the time and which have since gone unchecked. They concluded that over procurement was a problem as early as 1982. Their conclusion today would be well received in our current climate of budget constraints and with the American public's perception of a decreased threat of war to our national security and the impact that perception has on pressure for defense cuts. The timing of their work coincided with the beginning of the build-up in national defense during the Reagan years (1980-88) and unfortunately was ignored or forgotten.

Realizing that preventing DMS is preferable to having to deal with LOT procurements and the accompanying uncertainties, the current trend is to promote continuing sources of supply. The Total Quality Management (TQM) concept, Computer Aided Logistics Systems (CALS) and the Qualified Manufacturers List (QML) are attempts to enhance communications and improve the working relationship between government and industry.

Forecasting future demands for DMS Life-of-Type buy quantities has proven to be faulty. Intuitively, one might consider the most recent past demands as a reliable indicator of future demands. In reality, such is not the case because many DMS candidates experience declining demands for an extended period of time prior to becoming a DMS item. The declining trend continues for those items after DMS is declared. Unfortunately, current management practices place heavier emphasis on most recent demands than is placed on the long term demand trend when forecasting for DMS LOT buys. The result has been over procurement in three out of four DMS LOT buys. We now have sufficient historical data on past DMS LOT procurement to make some common sense decisions about future DMS inventory investment.

## II. Methodology

### Criteria Development

A pilot study was conducted to determine the extent of over procurement in consumable electronics supply parts. Life-of-Type (LOT) year 89 was selected since conceivably, all assets purchased in 1979 for the LOT period 1980-89 would have or should have been used by 31 December 1989. Fifty-five supply items were bought for long-term support in 1979. Table 2 indicates total dollar investment for the fifty-five items at \$4,580,445. By the end of the LOT period, on hand assets totaled \$4,337,139, indicating a decline of 5.4% from the initial LOT outlay.

Three items depleted all assets before the end of the LOT period. Of these three items, only one item directly supported a weapons system and was correctly purchased based on the then procurement policies. The LOT buy for more than \$92,300 provided support for more than six years. Twenty-three items had more stock on-hand at the end of the LOT period than was purchased in the initial LOT buys. Using activities not only failed to utilize assets held in long-term storage for them, but also turned in as excess stock those inventories already on-hand prior to the beginning of the LOT period.

TABLE 2

DMS LOT Year 89

| NSN               | 1979 LOT Buy \$ | 1989 Bal   |
|-------------------|-----------------|------------|
| 1. 5930007868436  | \$ 39729        | \$ 37450   |
| 2. 5935005572514  | 63249           | 25913      |
| 3. 5945002595612  | 24950           | 19553      |
| 4. 5960000815928  | 2507            | 232716     |
| 5. 5960001169948  | 21510           | 28197      |
| 6. 5962010233276  | 9075            | 37280      |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| -                 |                 |            |
| 54. 5962004548425 | 5980            | 42091      |
| 55. 6625008347673 | 92250           | 46895      |
| Total             | \$ 4580445      | \$ 4337139 |

Ten items in federal stock class (FSC) 5960 were bought for a 5-year LOT period instead of the normal 10-year period. One might assume that a 5-year LOT period would be easier to forecast and more accurate since using activities would have to guess their requirements over a shorter period of time. Such was not the case since all ten items had stock on-hand more than a decade later. The mean dollar value for stock on-hand for these ten items was \$272,909.

When compared to the mean value for stock on-hand for the whole group of fifty-five items (\$78,860), it would appear that the ten 5-year buys skewed the data. By omitting the ten 5-year buys from the data and using the remaining 45 items, the mean dollar balance of stock on-hand at the end of the LOT period was \$36,102.

A recent internal study conducted by the Operations Research Office (RO) at the Defense Electronics Supply Center (DESC), Dayton, concluded that three out of four DMS items experience decreasing demands after becoming DMS (10:5). Percentages of decreasing demands on items exhibited in Table 3 range from 16% in Item Name Code (INC) 61638 to 97% in INC 00208. It may be noted that all except two INCs (184 and 61638) had items with zero life or zero demand experience after DMS and, more importantly, a small minority of items had life of over 40 quarters (10:5).

Column one of table three is the Federal Stock Class (FSC). All DESC stock classes having DMS items are listed. Next to the FSC in column two is the Item Name Code (INC). The INC is a further breakdown within the FSC. For example FSC 5905 has five subgroups of items which together comprise the larger FSC. Column three is the total number of items by INC for each FSC. For example INC 10 of FSC 5905 has a total of 35 DMS items.

The next two portions of Table 3 are decreasing demands after DMS is declared and increasing demands after DMS is declared. Under the decreasing demands section, the NR (number) column indicates the total number of DMS items for an INC with decreasing demands. For example, FSC 5905, INC 10, has a total of 35 items. Thirty-three items are noted to have decreasing demands and two items are associated with increasing demands. The first PCT TOTAL column under decreasing demands and the only PCT TOTAL column under the increasing demand display the percentage of the INC with decreasing or increasing demands. For those items with decreasing demands, an average life is calculated and expressed in quarters. For example under FSC 5905, INC 10, the average life after DMS was one quarter. The recommended life-of-type for the LOT buy is four quarters or one year. The average life column settles most often on twenty-eight quarters or seven years as the recommended life-of-type. The second PCT TOTAL column under decreasing demands is actually two columns. The zero life column indicates the percent of items by INC with zero life after DMS. The life-greater-than-forty-quarters column indicates the percentage of DMS items by INC with activity beyond forty quarters of demand. For example under FSC 5905, Inc 10, 89% of the 33 items with decreasing demands had zero life after DMS was

declared. None of the items had life beyond forty quarters and eleven percent had some demands during the LOT period.

The last section of Table 3 depicts those items with increasing demands. In the example previously cited, INC 10 under FSC 5905, two items of the thirty-five total had increasing demands. This represents 6% of the total items for that INC. It is assumed that all items in this section have experienced demand throughout the forty-quarter LOT period. The recommended life column for calculating the life-of-type period for items with increasing demands is set at forty quarters or ten years. The conclusion drawn from this portion of the DESC study would be that items with decreasing demands should be procured for a 28 quarter LOT period and those items with increasing demands should continue to be procured for a 40 quarter LOT period.

TABLE 3

Life After DMS in Quarters  
By INC (10:8)

| FSC   | INC   | TOTAL<br>NR | INCREASING DEMAND AFTER DMS |              |             |                                               |                     |               | INCREASING DEMAND |              |                     |
|-------|-------|-------------|-----------------------------|--------------|-------------|-----------------------------------------------|---------------------|---------------|-------------------|--------------|---------------------|
|       |       |             | NR                          | PCT<br>TOTAL | AVG<br>LIFE | RECOMMENDED<br>LIFE FOR LOT BY<br>COMPUTATION | PCT<br>RECO<br>LIFE | TOTAL<br>LIFE | NR                | PCT<br>TOTAL | RECOMMENDED<br>LIFE |
|       |       |             |                             |              |             |                                               |                     |               |                   |              |                     |
| 5905  | 10    | 35          | 33                          | 94           | 1           | 4                                             | 89                  | 0             | 2                 | 6            | 6                   |
|       | 5311  | 124         | 99                          | 80           | 31          | 32                                            | 35                  | 4             | 15                | 20           | 6                   |
|       | 37405 | 116         | 95                          | 82           | 26          | 28                                            | 27                  | 9             | 21                | 18           | 6                   |
|       | 37406 | 152         | 131                         | 86           | 25          | 28                                            | 25                  | 9             | 21                | 14           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 5910  | 7     | 39          | 22                          | 56           | 3           | 4                                             | 46                  | 0             | 17                | 4            | 6                   |
|       | 8     | 4           | 34                          | 67           | 23          | 24                                            | 14                  | 0             | 10                | 12           | 6                   |
|       | Other |             |                             |              |             | 24                                            |                     |               |                   |              | 6                   |
| 5925  | 136   | 121         | 89                          | 74           | 27          | 28                                            | 34                  | 12            | 31                | 26           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 5930  | 184   | 21          | 19                          | 90           | 25          | 28                                            | 0                   | 24            | 2                 | 10           | 6                   |
|       | 206   | 9           | 8                           | 90           | 13          | 16                                            | 33                  | 0             | 1                 | 11           | 6                   |
|       | 399   | 21          | 14                          | 67           | 22          | 24                                            | 5                   | 20            | 7                 | 33           | 6                   |
|       | 406   | 113         | 92                          | 81           | 24          | 24                                            | 24                  | 14            | 21                | 19           | 6                   |
|       | 451   | 23          | 13                          | 57           | 26          | 28                                            | 17                  | 0             | 10                | 43           | 6                   |
|       | 2134  | 29          | 21                          | 71           | 24          | 24                                            | 38                  | 14            | 8                 | 29           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 5935  | 15093 | 166         | 132                         | 80           | 24          | 24                                            | 23                  | 10            | 34                | 20           | 6                   |
|       | Other |             |                             |              |             | 24                                            |                     |               |                   |              | 6                   |
| 5945  | 19759 | 25          | 20                          | 80           | 38          | 40                                            | 36                  | 20            | 5                 | 20           | 6                   |
|       | 32512 | 136         | 94                          | 69           | 19          | 20                                            | 22                  | 7             | 42                | 31           | 6                   |
|       | Other |             |                             |              |             | 24                                            |                     |               |                   |              | 6                   |
| 5950  | 208   | 35          | 34                          | 97           | 30          | 32                                            | 32                  | 11            | 1                 | 3            | 6                   |
|       | 724   | 33          | 28                          | 85           | 6           | 8                                             | 54                  | 3             | 5                 | 15           | 6                   |
|       | 777   | 35          | 26                          | 75           | 23          | 24                                            | 37                  | 3             | 9                 | 25           | 6                   |
|       | 780   | 12          | 10                          | 83           | 18          | 20                                            | 50                  | 0             | 2                 | 17           | 6                   |
|       | 6338  | 31          | 24                          | 77           | 23          | 24                                            | 58                  | 10            | 7                 | 23           | 6                   |
|       | 32496 | 63          | 54                          | 85           | 27          | 28                                            | 50                  | 20            | 9                 | 15           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 5960  | 1     | 898         | 775                         | 86           | 28          | 28                                            | 5                   | 17            | 123               | 14           | 6                   |
| 5961  | 20588 | 342         | 289                         | 84           | 27          | 28                                            | 13                  | 23            | 53                | 16           | 6                   |
|       | 20589 | 45          | 36                          | 80           | 26          | 28                                            | 7                   | 22            | 9                 | 20           | 6                   |
|       | 33096 | 39          | 27                          | 69           | 20          | 20                                            | 3                   | 11            | 12                | 31           | 6                   |
|       | 61962 | 47          | 37                          | 79           | 23          | 24                                            | 13                  | 32            | 10                | 21           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 5962  | 31778 | 455         | 332                         | 73           | 25          | 28                                            | 14                  | 12            | 123               | 27           | 6                   |
|       | 31779 | 1380        | 1010                        | 73           | 27          | 28                                            | 11                  | 14            | 370               | 27           | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| 7025  | 61638 | 23          | 22                          | 16           | 15          | 16                                            | 0                   | 0             | 1                 | 4            | 6                   |
|       | Other |             |                             |              |             | 28                                            |                     |               |                   |              | 6                   |
| OTHER | Other | -           | -                           | -            | -           | 28                                            | -                   | -             | -                 | -            | 6                   |

Table 4 displays return rates for both pre and post DMS. A return for credit can occur when an activity finds itself with extra stock beyond its immediate needs. If the stock is serviceable ("A" condition) and if other activities have demands for the item, the source of supply (DESC) may authorize the return. When a return of stock is authorized, the stock in question is physically sent from a using activity to a Defense Logistics Agency (DLA) storage site. The necessary accounting transaction occurs which transfers accountability from the using service and their stock record account back to DLA. If there were no other demands for the item, as is the situation in many DMS cases, authorization for return would not be granted by the source of supply. The service activity may still return the excess stock to DLA but would not receive credit. In other words, the stock is given back to DLA and the service takes a loss on their stock record account. The DLA item manager at the source of supply is then charged to manage the excess by ensuring that sufficient stock is available to support the LOT period and ideally, sending all other excess stock to the nearest Property Disposal Office (PDO) for disposition. The problem with disposing of excess DMS stock is uncertainty about the future. The decision to retain these "free" stocks indefinitely is usually made. After all, the reasoning

TABLE 4

Pre & Post DMS Return Rate  
(Rate = Return x 100) (10:9)

| INC           | PRE-DMS RETURNS RATE = 0 |                  |                                | PRE-DMS RATE > 0 |                 |                  |                                |
|---------------|--------------------------|------------------|--------------------------------|------------------|-----------------|------------------|--------------------------------|
|               | NR                       | POST-DMS<br>RATE | Reduce LOT Buy<br>By Pct Below | NR               | PRE-DMS<br>RATE | POST-DMS<br>RATE | Reduce LOT Buy<br>By Pct Below |
| 1             | 120                      | 11               | 11                             | 450              | 18              | 22               | Pre-DMS rate times 1.2         |
| 4             | 267                      | 3                | 3                              | 64               | 23              | 14               | Pre-DMS rate times 0.6         |
| 6             | 52                       | 6                | 6                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 8             | 34                       | 6                | 6                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 136           | 44                       | 10               | 10                             | 30               | 29              | 24               | Pre-DMS rate times 0.8         |
| 406           | 26                       | 11               | 11                             | 24               | 18              | 21               | Pre-DMS rate times 1.2         |
| 443           | 70                       | 2                | 2                              | 14               | 17              | 15               | Pre-DMS rate times 0.9         |
| 451           | 10                       | 7                | 7                              | 11               | 23              | 12               | Pre-DMS rate times 0.5         |
| 886           | 16                       | 8                | 8                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 1938          | 58                       | 9                | 9                              | 67               | 24              | 18               | Pre-DMS rate times 0.7         |
| 2134          | 16                       | 5                | 5                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 5311          | 85                       | 10               | 10                             | 16               | 28              | 45               | Pre-DMS rate times 1.6         |
| 15077         | 14                       | 1                | 1                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 15093         | 155                      | 4                | 4                              | 52               | 28              | 21               | Pre-DMS rate times 0.8         |
| 20588         | 134                      | 6                | 6                              | 86               | 19              | 18               | Pre-DMS rate times 1.0         |
| 20589         | 21                       | 4                | 4                              | 10               | 26              | 17               | Pre-DMS rate times 0.7         |
| 31778         | 220                      | 5                | 5                              | 130              | 17              | 13               | Pre-DMS rate times 0.8         |
| 31779         | 720                      | 5                | 5                              | 315              | 15              | 16               | Pre-DMS rate times 1.0         |
| 31959         | 20                       | 6                | 6                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 32512         | 58                       | 10               | 10                             | 10               | 27              | 16               | Pre-DMS rate times 0.6         |
| 33096         | 23                       | 8                | 8                              | 43               | 24              | 27               | Pre-DMS rate times 1.0         |
| 37405         | 70                       | 8                | 8                              | 15               | 15              | 6                | Pre-DMS rate times 0.4         |
| 37406         | 87                       | 5                | 5                              | 67               | 22              | 20               | Pre-DMS rate times 0.9         |
| 61638         | 17                       | 7                | 7                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 61924         | 25                       | 10               | 10                             | -                | -               | -                | Pre-DMS rate times 1.0         |
| 61925         | 122                      | 3                | 3                              | -                | -               | -                | Pre-DMS rate times 1.0         |
| 61962         | 20                       | 15               | 15                             | 11               | 28              | 26               | Pre-DMS rate times 0.9         |
| 77777         | 75                       | 8                | 8                              | 28               | 23              | 17               | Pre-DMS rate times 0.7         |
| Total         | 2,835                    | 6                | -                              | 1,610            | 19              | 19               | Pre-DMS rate times 1.0         |
| Other<br>INCs | -                        | -                | -                              | -                | -               | -                | Pre-DMS rate times 1.0         |

goes, no outlay of funds was necessary to obtain this "free" excess stock from the using services. The resulting DESC policy has been not to dispose of excess DMS stock. This

explains why ending balances at LOT year end are often larger than the original investment at LOT year beginning. Table 4 results are derived from 4,445 DMS items in the analysis of pre and post DMS return rates (10:9). Of these items 2,835 or 63% had no returns in the three years just prior to the DMS year. The remaining 37% had a 19% return rate both before and after DMS (10:5). Since returns are previous demands not needed any more and DMS items as a group show decreasing demands, it makes good sense to reduce LOT buy requirements by the amount of forecasted returns (10:5).

Table 4 is divided into two parts: 1) all those items experiencing a pre-DMS return rate of zero and, 2) all those items with a pre-DMS return rate greater than zero. Given that a post-DMS return rate exists for those items in the first category, the applicable return rate by item name code (INC) is applied to future LOT buys in that INC. For example in INC one, of the 120 items, an 11% return rate was recorded. Accordingly, future LOT buys in that INC should be reduced by 11% after final determination quantity is reached.

In the second category of Table 4 are those items with a pre-DMS return rate greater than zero. Given that these items also exhibit a post-DMS return rate, a comparison by INC was made to see the difference. It is noted, for

example, in INC one with 450 items that 18% of those items experienced returns prior to DMS and the same items experienced a 22% return rate after DMS. To factor in the correct reduction amount for returns, the pre-DMS factor was multiplied by the differential percentage between the pre-DMS and Post-DMS return rates. For example, in INC one with 450 DMS items having a pre-DMS return rate greater than zero, the percentage difference between 18% and 22% is 1.2%. Accordingly, the pre-DMS rate was multiplied by 1.2% to yield what would be the expected post-DMS return rate. Table 4 could be used by inventory managers when the requirements determination is being completed on a newly declared DMS item. Apart from the return rate issue, inventory managers already consider such things as stock due in on contract and from using services (returns) as well as stock presently on hand. Based on the results of Table 4, inventory managers at DESC might be justified in reducing future LOT buys to account for projected returns. One major problem with applying the recommended percentage from Table 4 is that not all items experience returns either before or after the declaration of DMS. For example, INC one has a population of 898 items from Table 3. Table 4 indicates that 470 items from INC one experienced returns either before or after DMS was declared. The reduction rate would be applied across-the-board to future LOT buys within

the INC even though the item would have a moderately high posterior probability of not experiencing post-DMS returns. The recommendation of this internal study was to factor in a reduction in the LOT buy based on rates of return by item name code (INC). Additionally, it was recommended that LOT buys be reduced from 40 quarters to 28 quarters for items with decreasing demands prior to DMS. Those DMS items with increasing demands would continue with the 40 quarter LOT period.

#### Sample Population

The results of this researcher's pilot study suggested a serious over procurement problem at DESC for items bought for long-term support. Coincidentally, DESC was conducting its own internal study of the DMS problem concurrently with this researchers efforts but without exchange of information. A need for a broader study was justified because the pilot study was not complete or extensive enough and it could have been biased. The DESC study used a main-frame computer to analyze the entire population of DMS items. This researcher examined all DMS items from three stock classes. These classes were circuit breakers (5925), connectors and receptacles (5935) and transformers (5950). Federal stock classes 5960, 5961 and 5962 which have the largest numbers of DMS items and the largest dollar investment were not selected because of the volatility and

advancing technology which requires special considerations. For this research to result in some reliable decision rules for DMS procurement, a stable sample was needed for consideration. The added uncertainty associated with these three stock classes (5960, 5961 and 5962) may necessitate a more liberal procurement policy based on a different set of decision rules. What remains are thirty-seven other stock classes with more stable technology bases and consistent demand histories. From the remaining classes, three were selected based on their probable differing levels of technology although, position by stock class on the product life-cycle curve developed by Brooks does not seem to be a factor once DMS occurs, regardless of the FSC (2). Still, it seemed more valid to select several stock classes with all DMS buys for all years rather than an individual LOT year with all stock classes for that year. As in all large bureaucratic organizations, the "mood" concerning DMS investment is subject to change and modification from year to year as politics and budgets dictate. That reason alone is enough to warrant a broader examination based on LOT years using a smaller sample.

The sample size totaled 369 items or about 8% of the population. Eighteen items were excluded from the sample for a variety of reasons including contract history discrepancies, transfer to another DLA agency for management

and new sources becoming available. Documentation was sufficient on the remaining 351 items to compare the effects of Life-of-Type buy reductions.

#### Data Collection

The internal DESC report ESR11113 served as the major data source for DMS information. An example of this report is exhibited in Table 5. The first column of the report contains the national stock number (NSN). Column two is the disposition indicator code (DISP IND). This code indicates current status of the DMS item since several months may lapse while an item is being procured. As information is being compiled, the status of an item can change until final disposition is completed. The status is represented by a two-digit letter code. These codes are:

- BO: a buy out was completed
- PR: a purchase request was initiated
- NB: a no-buy decision was made
- NP: the item was non-procurable
- LL: a level load decision was made

Column three is the Life-of-Type year (LOT). The LOT year will always be the ending support year. For example, LOT year 89 was assigned in 1979 for the LOT period 1980-1989 (10 years). The next field in the ESR11113 report is the date of last buy. This Julian date represents the contract award date of the most recent procurement action

Table 5

Monthly Update Process for DMS Items

90 Jun 26

ESR11113

DMS Items Master List

Page 64

| NSN              | DISP<br>IND | LOT<br>YR | DATE<br>LAST BUY | SYS<br>QFD | BUY<br>QFD | AWARD<br>DOLLARS | W/S<br>CD | FCST<br>CD | ORC | CASE<br>NO |
|------------------|-------------|-----------|------------------|------------|------------|------------------|-----------|------------|-----|------------|
| 5925-00-552-5960 |             | 79324     | 82               | 1          | 0          | 0.00             | N         |            | LK  | 78012      |
| 5925-00-561-7329 |             | 81098     | 90               | 1          | 0          | 0.00             | N         |            | LK  | 80070      |
| 5925-00-600-7310 |             | 79324     | 89               | 1          | 0          | 0.00             | N         |            | LK  | 79009      |
| 5925-00-612-7159 | BO          | 84127     | 94               | 1          | 4          | 6,337.50         | N         | D          | LK  | 83059      |
| 5925-00-620-5844 |             | 79324     | 89               | 1          | 0          | 0.00             | F         |            | LK  | 79009      |
| 5925-00-620-5851 |             | 79324     | 89               | 1          | 0          | 0.00             | F         |            | LK  | 79009      |
| 5925-00-620-5861 |             | 79324     | 89               | 1          | 0          | 0.00             | H         |            | LK  | 79009      |
| 5925-00-627-0974 | BO          | 84154     | 94               | 1          | 15         | 66,889.80        | N         | D          | LK  | 83059      |
| 5925-00-628-7795 | BO          | 80234     | 88               | 1          | 0          | 7,065.00         | H         | D          | LK  | 79009      |
| 5925-00-643-7549 |             | 78334     | 89               | 1          | 0          | 0.00             | H         |            | LK  | 79009      |
| 5925-00-650-0690 |             | 79324     | 89               | 1          | 0          | 0.00             | N         |            | LK  | 79009      |
| 5925-00-655-1229 | BO          | 85113     | 94               | 1          | 5          | 3,660.84         | N         | D          | LK  | 83059      |
| 5925-00-677-6593 | BO          | 84117     | 94               | 1          | 8          | 13,035.40        | N         | D          | LK  | 83059      |
| 5925-00-690-1728 | BO          | 84133     | 94               | 1          | 1          | 805.00           | N         | D          | LK  | 83059      |
| 5925-00-691-0091 | BO          | 84356     | 94               | 1          | 5          | 73,476.20        | N         | D          | LK  | 83059      |
| 5925-00-691-0023 | NP          | 85088     | NP               | 1          | 1          | 0.00             | N         |            | LK  | 89104      |
| 5925-00-694-9607 |             | 76186     | 89               | 1          | 0          | 0.00             | N         |            | LK  | 79009      |
| 5925-00-703-3589 | BO          | 84058     | 94               | 3          | 0          | 13,560.48        | N         | D          | LK  | 84021      |
| 5925-00-704-2295 | BO          | 84274     | 94               | 7          | 27         | 95,598.28        | N         | D          | LV  | 83059      |
| 5925-00-706-9975 | BO          | 89333     | 94               | 1          | 4          | 3,517.50         | N         | D          | LK  | 83059      |
| 5925-00-723-4910 | BO          | 84194     | 94               | 1          | 10         | 14,875.00        | R         | D          | LK  | 83059      |
| 5925-00-723-4912 | BO          | 84216     | 94               | 1          | 4          | 15,959.70        | M         | D          | LK  | 83059      |
| 5925-00-758-7955 | BO          | 84117     | 94               | 1          | 3          | 4,057.00         | N         | D          | LK  | 83059      |
| 5925-00-761-0104 |             | 81025     | 90               | 1          | 0          | 0.00             | N         |            | LK  | 80042      |
| 5925-00-761-0105 |             | 00000     | 89               | 1          | 0          | 0.00             | N         |            | LK  | 79009      |
| 5925-00-763-4103 | BO          | 85090     | 94               | 1          | 1          | 3,540.65         | N         | D          | LK  | 85059      |

against the NSN listed on the same line. This date usually represents the final buy out date for LOT procurement but could also represent a direct-ship procurement for a foreign military customer. LOT buys do not include foreign military requirements. The foreign military may still receive assets at the discretion of the source of supply. If assets are unavailable for the foreign customer or he is otherwise deni

ed stock, his requisition may be placed on direct shipment to him from a vendor or dealer having one or two each of the required item on-hand. Rarely will the original source manufacturer have the item available even for requirements for one or two each. The ESR11113 listing is updated when these direct shipment procurements replace the LOT buy date.

Column five is the system quarterly forecast of demand (QFD). As is often the case, the DMS candidate item will be a non-stocked item with less than one demand per quarter. Non-stocked means that there is no requirements "stack" to include lead times, procurement cycle or safety level stock. The stack of requirements would be summed to yield a total requirement for the item for a specific time period. The non-stocked item is merely bought on demand and only on demand. Since DMS policy requires that candidate items be treated as stocked items, the inventory manager fixes a QFD at the lowest level, 1 per quarter. The ten-year or 40-quarter LOT period buy often is for 40 each or one per quarter as a minimum buy quantity in the absence of service projections. It is for this reason that a system QFD of 1 (one) is most evident on the ESR11113 report under the system QFD column. The next column, buy quarterly forecast of demand, may differ from the system QFD based on service forecast. The buy QFD could be higher or lower than the system QFD.

The next column is award dollars. This amount is the actual dollar value at the contract unit price awarded. A deficiency in this listing is the absence of units bought in conjunction with the award dollar amount and the inclusion of a standard price.

The next column is the weapons system code. A code of "N" indicates that the item does not directly support a specific weapons system. A code of "X,Y or Z" indicates a priority weapons system with "X" being of the highest priority followed by "Y" and "Z". Subsequent to the data cut-off date for this study, a new weapons system designator code system was initiated. The new coding involves many additional codes to more exactly identify the weapon system. Since the data are using the old system, the ESR11113 listing dated 31 December 1989 will list the old codes. It is not clear if the new coding increased the percentage of DMS items with weapons codes (currently around 30%).

The forecast code indicates the basis of determining requirements for the LOT buy. A code of "D" means that the forecast was based solely on demands. A code of "S" indicates that only a service projection of future needs was used as a basis for procurement. A code of "B" indicates that both service projections and demands were used as a basis for procurement. A quick check of the data base does not reveal great differences in excess stock on-hand as a

result of service forecast as opposed to a forecast based on demands alone. In the sample of 344 items, 81 items indicate that the using service provided input for requirements determination. It cannot be determined from the data what weight was given to service projections when arriving at requirements determinations on those items where the services provided input.

The column headed by ORC is an abbreviation for output routing code. The ORC identifies a particular inventory manager who is responsible for the maintenance and management of the item.

The final column of the ESR11113 report is the case number. A same case number is assigned to each NSN in a group of NSNs being considered for DMS action. When a manufacturer declines to be a continuing source of supply it is usually on a family of like items. A manufacturer submits to the source of supply a list of like items that will be discontinued after a specified date. The source of supply would then decide if LOT procurement was necessary to ensure long-term support. The case number helps to identify groups of NSNs in the procurement process. Buyers are able to group like items together and negotiate price reductions based on total volume. A DMS LOT contract could have dozens of NSNs associated with it, all having the same case number.

The master DMS list ESR11113 is insufficient to determine over procurement excesses for LOT buys. The list does not include current assets on-hand or unit costs. It would be necessary to compare what was currently on-hand with what was originally purchased to analyze the extent of over procurement. To do this a national inventory record (NIR) was obtained through the Standard Automated Materials Management System (SAMMS) at DESC. An example of a NIR is displayed in Table 6.

A current NIR and the ESR11113 report along with the contract interrogations from DESC were sufficient documentation to initiate analysis on over procurement for LOT buys. Because the master DMS list is sequential by NSN it was necessary to assign a factor to each LOT year to equate what was currently on-hand with what would have been expected to have been used at any given point in time, given a straight-line method of inventory draw-down over the lives of the many over-lapping LOT periods.

Table 6

| NATIONAL INVENTORY RECORD FILE PRINTOUT |       |            |                   |                 |                  |          |              |            |                 |                    |            |                   | DATE 89135 | PAGE 00001 |         |
|-----------------------------------------|-------|------------|-------------------|-----------------|------------------|----------|--------------|------------|-----------------|--------------------|------------|-------------------|------------|------------|---------|
| OF 109                                  | DESC  | QRC RT     | DIC ZCG           | RIC S9E         | NSN 593500605855 | LOC      | ACTION CD    | BR         | PGC             | REASON FOR INQUIRY |            |                   |            |            |         |
| CATALOG SECTION                         |       |            |                   |                 |                  |          |              |            |                 |                    |            |                   |            |            |         |
| 11AS DATA 03 89085                      |       | 1          | ACD-ADV-CD D      | STAND-STAT-CD 2 | TYPE-LR-CD       | TIC      | PHYSIC-CD U  | DOLCI      | 88214           |                    |            |                   |            |            |         |
| *****REFERENCE DATA*****                |       | S F EFF    | UNIT              | M S             |                  |          |              |            |                 | O R W S P **CONV   | FACI       | FAMILY            | C          |            |         |
| NSN                                     | UI KC | UI UICVF D | RIC S S           | DATE            | UNIT PRICE       | PACK     | USERS R P    | CS AD      | ORC C P S I R C | VALUE              | D          | NUMBER C          |            |            |         |
| 593500605855                            | EA CC | 00000      | 0                 | 1 N 88214       | 74.17            | 00001    | 11010        | D 1        | AA              | SM E N N S         | 00000000   | 0 008605855 A     |            |            |         |
| MANAGEMENT SECTION                      |       |            |                   |                 |                  |          |              |            |                 |                    |            |                   |            |            |         |
| MFG-CD                                  |       | WR-CD      | LATL-RDIST-ASST Y | ROP             | ROP              | ISSUABLE | PROC         | UNIT       | S               | C F CLOTH          |            |                   |            |            |         |
| B D F D I L C                           |       |            |                   | LEVEL           | COMP QTY         | DATE     | ASSETS       | GROUP      | WEIGHT          | CUBE               | L VD       | EDDS R I FACTOR E |            |            |         |
| 1                                       | MRQ 1 | IMIPS 1    | MOQ 0             | I C V C R C     | MAP R/L          |          |              |            |                 |                    |            |                   |            |            |         |
| 0                                       | 00003 | 1          | 00000001          | 0 98999         | 0 1              | C M A 1  | 000000080    | 0000001181 | 00000           | 0000001181         | 00000      | .34               | -017       | 0 80 00000 | .000000 |
| ASSET BALANCE SECTION                   |       |            |                   |                 |                  |          |              |            |                 |                    |            |                   |            |            |         |
| AC LS                                   | RIC   | P C P      | ON-HAND           | QTY             | ACT              | F Y      | CUT-OFF      | M          | DATE            | I                  | AC LS      | RIC               | P C P      | ON-HAND    | QTY     |
| 06 P                                    | SUE   | A A        | 0000000887        | 88102           | 0000000000       | 000000   | 000000       | 08 S       | NDE             | A A                | 0000000023 | 88141             | 0000000000 | 000000     | 000000  |
| 02 P                                    | SRE   | A A        | 0000000054        | 89085           | 0000000000       | 000000   | 000000       | 63 P       | FILE            | A A                | 0000001186 | 88209             | 0000000000 | 000000     | 000000  |
| 04 P                                    | SNE   | A A        | 0000000001        | 89048           | 0000000000       | 000000   | 000000       | 06 P       | SUE             | A L                | 0000000022 | 87211             | 0000000000 | 000000     | 000000  |
| NSN TOTALS                              |       | DLA OWNED  |                   | SVC OWNED       | ISSUABLE         |          | NON-ISSUABLE |            | TOTAL ON HAND   |                    | 1173       |                   |            |            |         |
|                                         |       | 4172       |                   | 0               | 1151             |          | 22           |            |                 |                    |            |                   |            |            |         |

The factors were as follows:

LOT YEAR FACTOR

|    |      |
|----|------|
| 89 | 1.00 |
| 90 | .90  |
| 91 | .80  |
| 92 | .70  |
| 93 | .60  |
| 94 | .50  |
| 95 | .40  |
| 96 | .30  |
| 97 | .20  |
| 98 | .10  |
| 99 | .00  |

A factor of .90 for LOT year 90 simply means that by the end of 1989, 90% of LOT assets should have been issued, assuming a straight-line method of inventory draw-down and that demands actually behave in a straight-line manner. If the consumption rate is different than 90% by the end of calendar year 1989, the forecast for the requirements determination may have been faulty for the LOT buy.

Assumptions and Limitations

This study does not attempt to track LOT year buys over time under differing buy assumptions. Rather, a "snapshot" is taken on 31 December 1989 and based upon statistical analysis at that instant in time, changes in buying rules are tested to observe the effects on stock levels and support capabilities.

Several factors make it difficult to track LOT years under differing buy policies. First, LOT years have different numbers of DMS items and total dollar investment.

For example LOT year 91 is not represented in the sample. Other LOT years are only slightly represented while some are overly represented. Secondly, demand levels differ between federal stock classes. While straight-line demand does not correctly identify over-all demand or even demand within any FSC, it is used by inventory managers for ease of computation when calculating LOT buy quantities and projecting that demand ten years into the future. While exact demand rates by FSC and by INC could be determined, the window of relevancy would be changing continuously if the concept of the product life-cycle is accepted. The question then becomes one of when the rate change is sufficient enough to move the window of relevancy. The window might be best visualized as a rectangle over-laying a segment of the product life cycle curve. As long as an items life cycle falls within the rectangle, a given demand rate could apply. Once outside the rectangle a "new" rate would have to be determined. In short, it would be cumbersome to fix a demand rate by FSC and Inc and have it be meaningful or relevant for any period of time.

Actual demand patterns and how they affect the LOT buy decision is not addressed in this study. Total demand is the primary concern. It is assumed that the LOT assets will be in place and ready for issue within the first year of the LOT period to satisfy total demand. A third reason for

difficulty in tracking LOT year procurement under differing policies and rules is the changing political climate. Over a ten-year period, politics and budgets have an effect on what gets procured. These "changes in attitude" are mostly budget driven and are very subtle and unofficial but sufficient to distort the comparison of LOT buys over time. Lastly, among the factors contributing to inconsistencies in LOT procurement over time, the business cycle may have an effect on the initial declaration of DMS situations. If Diminished Manufacturing Source is a continuing problem, should we not see a consistent generation of new DMS cases over time? Some LOT years are conspicuously under represented while other years are over represented. It could be that ten years is not a sufficiently long time period to evaluate consistency of DMS occurrence. Still, some long-time inventory managers at the Defense Electronics Supply Center in Dayton offer this explanation. When a business cycle takes a down turn and sole source manufacturers are unable to utilize their capacities to the fullest extent, they may individually declare some government items DMS to extort a large LOT buy from the DOD. The astute inventory manager recognizes these bluffs from companies with past histories of false DMS declarations and pressures the procurement personnel to convince the manufacturer to continue production. Other inventory

managers choose to accept at face value a companies decision to stop production and mechanically processes the LOT by requirements. These situational inconsistencies make it difficult to make general statements about the behavior of DMS LOT determinations and therefore complicate efforts to make sense of or track past DMS activity.

While it is recognized that three out of four DMS items experience declining demands both before and after the occurrence of DMS, a straight-line method for LOT year projection was used by default since a demand pattern for DMS items is not defined for the purposes of this study. In reality, it is recognized that most demand on DMS items with declining demand rates occurs at or near the initial LOT year and soon there after. By the fifth year of the LOT periods for those items with declining demand rates, much of the activity ceases. This includes also those petitions for credit on excess stock which might be received from using activities. These observations are supported by the individual trend analysis graphs reviewed for each of the 351 sampled items. Assigning values by FSC and for all 4,400 DMS items along a derived exponential decay curve is far too ambitious for this study. Recognizing perhaps a more realistic five to seven-year LOT period with exponentially declining demands would not work when confronted with an item having increasing demands. Moreover, the inventory

manager may not be able to easily determine if demands are level or increasing at the time of the LOT buy. The availability of a 40-quarter demand history is a recent development. Many demand-driven DMS buys are still based on 8-quarters or less of demand data. The problems of non use of the 40-quarter demand forecast are based in software availability and lack of training. Item managers make the best decisions with the information available to meet time table requirements.

In consideration of demands, one must recognize that whatever demand pattern is observed in the sample, total demand is unaffected. This study does not attempt to specifically identify a DMS demand pattern and match it to some decision rule for long-term procurement. Demands in general, however, have an impact upon the interpretation of the spreadsheet output from the analysis of the three LOT reduction scenarios. The spreadsheets created to analyze the 351 sampled items are contained in Appendixes A, B and C. The analysis occurs at a point in time as opposed to an analysis which covers a period of time. That is to say, if the period of the analysis was for a specific period of time rather than a specific point in time, straight-line demand projection for the LOT period would have no affect on the results. While demands clearly do not occur in a straight-line manner, the analysis assumes that it does. The results

of the three LOT buy reduction scenarios yield actual numbers of items that are expected to have deficient unit balances by the data cut-off date. As already mentioned, there is no attempt to identify a DMS demand pattern but it must be pointed out that a difference exists between the straight-line method for projecting the LOT period into the future and the actual demand pattern exhibited by the 344 items in the study sample. This difference is sufficient enough to distort the results of the analysis in terms of total numbers of items with deficient unit balances under the three LOT reduction scenarios for a given point in time. Because of this discrepancy between what was expected to be on hand at any given point in time and what actually was on hand, the results should be evaluated in the long-term.

#### Statistical Tests

Data from the master DMS listing ESR11113 report, individual national inventory records, individual procurement histories and individual 40-quarter demand histories on each item in the 351 item sample were entered into a new spreadsheet for analysis. Data of interest included the original LOT buy quantity, the unit balance on hand on 31 December 1989, a usage factor based upon a straight-line projection for future demands, demands and returns-for-credit for the LOT period and the amount in units over/short to expected balances by 31 December 1989.

That is, given a straight-line projection for demands within the LOT period an average expected demand level for a specific point in time could be determined and compared to the actual demand pattern. The expected on-hand quantity for a given point in time could be compared to actual item balances to observe the occurrences of balances being over or short to expected balances.

The decision rule for LOT buy reductions at the 10%, 33% and 50% levels was arbitrarily decided upon. The pilot study had indicated substantial over procurement but it could not be known the acceptable LOT reduction percentages. For this reason two extremes and a moderate level were chosen to provide a broad picture of the effects of the reductions. Those items in the larger 351 item sample with increasing demands (about 12% of the items) would most likely experience stock-outs before the end of the LOT period under current buying policies (8). Conversely, the 79% of the items with decreasing demands would have substantial balances remaining on-hand at the end of the LOT period. The remaining 9% of items exhibited demand patterns which could not be easily categorized as either increasing or decreasing. An examination of the sample demand data output which was similar to the one shown in Table 1, revealed that of the 351 sampled items, 277 of them or 79% demonstrated decreasing demands, 43 of them or 12%

demonstrated increasing demands and 31 items or about 9% had level demands. This study tries to determine how many new items with stock deficiencies would result from the proposed LOT reductions and to weigh those results against the risk of non-support.

### III. Findings and Analysis

#### Discussion

From the four primary data sources a spreadsheet using the Quattro software package was constructed to analyze the data. An example of the spreadsheet is illustrated in Appendix A, B and C. The four sources were the ESR11113 report (Master DMS List), the individual national inventory records (NIR), the DESC individual contract history file and individual 40-quarter demand histories. Additionally, the DESC Enable program was used to construct individual trend graphs for each item. The graphs were used to discover how many items in the sample displayed increasing or decreasing demands. By examining the trend analysis charts for the 351 items sampled, 277 items or about 79% had decreasing demands, 43 items or about 12% had increasing demands and 31 items or about 9% displayed inconsistent or level demand trends. These figures are not in agreement with the most recent DESC study indicating that three of every four items have decreasing demand trends (10:3).

The analysis involved taking a snapshot of DMS items on 31 December 1989. The individual item unit balances of on-hand assets were compared to what would have been expected to have been on-hand at that time. For example, an item from LOT year 95 should have used 40% of its stock by 31

December 1989. Differences from what would have been expected were noted. Original LOT buys were adjusted for demands and credit returns as well as for on-hand balances before the DMS LOT buy.

The original LOT buy quantities for each item in the sample was multiplied by .9, .67 and .5 to arrive at expected balances under each of the three LOT buy reduction scenarios.

#### The Comparison

The data indicate that under current and past LOT buy policies, shortages to expected item unit balances on 31 December 1989 are deficient for 43 of the 351 items sampled. This deficiency considers actual demands which have occurred and any beginning item balances. One might expect as many as 88 items (25% of the sample) to demonstrate deficient unit balances since one out of four items would be expected to have increasing demands. With increasing demands the item would be very likely to deplete all assets sometime within the LOT period. This assumes an initial straight-line buy based on the then unadjusted-for-trend demand pattern. The difference between number of sampled items displaying deficiencies initially and the number expected to be observed comes from comparing actual demand and expected straight-line demand. If this analysis were covering a specific LOT period, the actual demand pattern would have no

affect on the results. Actual demand rarely or never behaves in a straight-line manner.

Four items of the 351 item sample were out of stock by 31 December 1989. While it is recognized that this out-of-stock sample is small, on average, the period of support was 5.5 years.

Thirty-three percent or 14 of the 43 deficient items directly supports weapons systems. This is slightly higher than the population average (30%).

#### 10% Reduction in LOT Buy

Reducing the LOT buys for the 351 sampled items by 10% resulted in seven additional items demonstrating a deficient unit balance by the 31 December 1989 data cut-off date. This means that seven items in addition to the baseline count of 43 fell short in supporting their entire LOT periods. The already out-of-stock items indicate a probable period of support at 5.5 years. The 10% reduction in the initial LOT buy resulted in a savings of \$636,559 and a 2% increase in deficient unit balances. With seven additional items showing deficient unit balances by the cut-off date, four additional weapons systems would likely experience support periods of less than 10 years. This is in addition to the 14 weapons systems showing deficiencies in the baseline count of 43 total deficient items.

### 33% Reduction in LOT Buys

Reducing the LOT buys for the 351 sampled items by 33% resulted in twelve additional items beyond the 10% reduction quantity of 43 with deficient unit balances. Cumulatively, nineteen additional items would have fallen short in supporting their entire LOT periods. The savings realized from a 33% reduction in the LOT quantity would be \$2,073,842 on the sample of 344 items. The decline in weapons systems support would increase from eighteen items to twenty-eight items. This represents 45% of all deficient items at the 67% LOT buy reduction level which includes the weapons systems of the baseline amount and the 10% reduction scenario which would also fall short of receiving support for the entire LOT period. Overall, a decline of 5.4% in support would result from a 33% reduction in the LOT buy quantity.

### 50% Reduction in LOT Buy

Reducing the LOT buys for the 351 sampled items by 50% resulted in twenty additional items demonstrating a deficient unit balance by the 31 December 1989 data cut-off date. Twenty items of the sample plus the 19 items from the two previous scenarios yields 39 items with deficient unit balances. This added to the baseline quantity of 43 items results in 82 items with deficient unit balances by the cut-off date. The total deficient items would represent 23% of

the sampled data and an increase of 5.7% over the previous scenario of a 33% LOT buy reduction. Savings from a 50% LOT reduction plan would total \$3,147,856 for the 351 items sampled. In terms of weapons systems support, nearly half (49%) of all deficient items under the 50% reduction plan support weapons systems. Overall, a decline of 11.1% would result from a 59% LOT buy reduction plan.

#### IV. Conclusions and Recommendations

##### Discussion

This study has identified an over procurement problem at the Defense Electronics Supply center, Dayton, Ohio in those cases where long-term Diminished Manufacturing Support is concerned. A straight-line method for requirements determination without regard to trend analysis will likely result in over procurement 79% of the time and under procurement 12% of the time. In the absence of a widely used and working program for trend analysis at DESC, a common sense approach of across-the-board LOT buy reductions is recommended to reduce unnecessary inventory investment.

The question then becomes one of finding an acceptable level of risk to assume when deciding on LOT buy reductions. From the sample of 351 items, a 10% reduction in LOT buys would have resulted in an increase of 2% in those items displaying deficient unit balances by the cut-off date. A 33% reduction in LOT buys for the sample of 351 items, would have resulted in an 3.4% increase in those item displaying a deficient unit balance by the cut-off date. A 50% reduction in LOT buys for the sample of 351 items would have resulted in an 11.1% increase in those items displaying deficient unit balances by the cut-off date.

When considering an acceptable level of risk, the problem of weapons systems non-support is of vital importance. After all, saving investment dollars will be of little use when inoperability results in our inability to wage war or defend this nation. When the three scenarios were applied to the sample, the deterioration of weapons systems support was not constant or proportional. The baseline level of 33% of deficient items supporting weapons systems increased to 49% of the total deficient items at the 50% LOT buy reduction level. This revelation is very disturbing and may require a more liberal buy policy or decision rule for weapons systems items procured for DMS LOT buys.

The conclusion drawn from the DESC internal study on percentages of items with increasing demands and decreasing demands was 75% and 25% respectively (28:4). As discussed previously, those percentages are not verified in the 351 item sample (79% increasing items, 12% decreasing items and 9% items flat or inconsistent). The analysis of the results obtained from the sample in both the baseline and under the three reduction scenarios was inconsistent with what was expected. The baseline results should have indicated 88 items with deficient unit balances ( $351 \times .25$ ) to be consistent with the DESC internal study. The baseline result 43, was roughly half what it should have been.

The assumption in this study has been that, for convenience, a straight-line projection of demands was used to evaluate a stock position at any given point in time. For example, to evaluate an item in the fifth year of a LOT period requires an examination of actual demands with respect to expected demands which assumes a straight-line demand pattern. Any statement about the current stock position is only correct if actual demand behaves in a straight-line manner. Since actual demands seldom or never behave in a straight-line manner, it is assumed that the 351 item sample is identifiable by "some other" demand pattern which this study does not attempt to identify. With the above increased percentages of items with deficient unit balances in mind, the following decision rule is proposed:

Any reduction in Diminished Manufacturing Source Life-of-Type procurement quantities which result in a percentage increase in expected items with deficient unit balances greater than 10% is an unacceptable level of risk for providing efficient long-term support.

In consideration of the above decision rule, reductions of LOT buys by 10% and 33% are acceptable but a 50% reduction violates the decision rule.

#### Summary

From the comparisons of expected balances on 31 December 1989 with the three scenarios of proposed LOT by alternatives, a 33% reduction in LOT buys seems to be the

safest benchmark. A 33% reduction results in a 6.4% decline in support which this researcher finds acceptable as a start to reducing DMS inventory investment. Reductions greater than 33% increases the risk of non-support to unacceptable levels.

#### Recommendations for Further Research

Finding a true demand curve for DMS items by federal stock class and by item name code would help to improve forecast used in requirements determinations. DESC-R and DESC-O personnel would probably assist in retrieving data to support that effort.

Another area of interest for further research is in the lack of input from using activities when making requirements determinations. A model and software package that all services could use would be useful for DLA in tracking assets in the field with multi-service users as well as improving communications between service focal points and the inventory control point.

Appendix A: Diminished Manufacturing Source  
Life-of-Type Spreadsheet  
For 90% Buy

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 007 3962 | 94        | 4          | 5          | 651.89      | 0          | 0           |
| 5925 00 051 4889 | 94        | 42         | 20         | 113.95      | 4          | 0           |
| 5925 00 051 4892 | 94        | 262        | 20         | 319.28      | 46         | 12          |
| 5925 00 052 1743 | 94        | 10         | 10         | 213.95      | 7          | 1           |
| 5925 00 054 0100 | 94        | 21         | 40         | 193.6       | 20         | 2           |
| 5925 00 055 9360 | 94        | 15         | 50         | 374.12      | 12         | 5           |
| 5925 00 055 9371 | 94        | 17         | 54         | 61.48       | 43         | 1           |
| 5925 00 055 9373 | 94        | 13         | 10         | 319.2       | 11         | 3           |
| 5925 00 055 9374 | 94        | 4          | 5          | 436.77      | 8          | 0           |
| 5925 00 062 3354 | 97        | 5          | 4          | 377.5       | 6          | 2           |
| 5925 00 067 3359 | 94        | 7          | 10         | 649.22      | 1          | 1           |
| 5925 00 069 5343 | 94        | 15         | 15         | 231.38      | 3          | 5           |
| 5925 00 081 7593 | 94        | 12         | 50         | 559.58      | 5          | 6           |
| 5925 00 088 9602 | 94        | 53         | 135        | 171.22      | 59         | 7           |
| 5925 00 161 9147 | 94        | 15         | 25         | 559.58      | 19         | 1           |
| 5925 00 163 3658 | 94        | 7          | 8          | 60.95       | 2          | 0           |
| 5925 00 165 8539 | 94        | 7          | 5          | 232.72      | 0          | 1           |
| 5925 00 201 2244 | 93        | 6          | 34         | 49.11       | 12         | 0           |
| 5925 00 236 5094 | 94        | 5          | 5          | 651.89      | 0          | 0           |
| 5925 00 253 5137 | 94        | 26         | 50         | 200.23      | 21         | 13          |
| 5925 00 256 1218 | 94        | 6          | 55         | 355.01      | 12         | 7           |
| 5925 00 361 8836 | 94        | 8          | 5          | 436.77      | 0          | 0           |
| 5925 00 404 7431 | 94        | 13         | 154        | 500.02      | 24         | 0           |
| 5925 00 406 6398 | 94        | 0          | 7          | 20.45       | 1          | 0           |
| 5925 00 455 8584 | 94        | 2          | 25         | 193.6       | 6          | 0           |
| 5925 00 456 0651 | 94        | 18         | 40         | 92.75       | 10         | 8           |
| 5925 00 477 9644 | 94        | 35         | 40         | 193.6       | 15         | 13          |
| 5925 00 489 1537 | 94        | 60         | 45         | 202.82      | 49         | 10          |
| 5925 00 502 0979 | 94        | 49         | 55         | 193.6       | 0          | 11          |
| 5925 00 502 1947 | 94        | 16         | 5          | 210.45      | 9          | 0           |
| 5925 00 521 8208 | 94        | 88         | 45         | 202.82      | 132        | 0           |
| 5925 00 612 7159 | 94        | 10         | 39         | 172.25      | 7          | 3           |
| 5925 00 627 0974 | 94        | 22         | 135        | 525.2       | 12         | 9           |
| 5925 00 628 7795 | 88        | 1          | 90         | 120.89      | 95         | 38          |
| 5925 00 655 1229 | 94        | 0          | 6          | 610.14      | 8          | 3           |
| 5925 00 677 6593 | 94        | 46         | 70         | 186.22      | 21         | 4           |
| 5925 00 690 1728 | 94        | 7          | 14         | 60.95       | 1          | 1           |
| 5925 00 691 0019 | 94        | 41         | 155        | 474.04      | 39         | 0           |
| 5925 00 703 3589 | 94        | 192        | 516        | 27.85       | 559        | 292         |
| 5925 00 704 2295 | 94        | 0          | 131        | 356.71      | 12         | 47          |
| 5925 00 723 4910 | 94        | 35         | 70         | 212.5       | 28         | 11          |
| 5925 00 723 4912 | 94        | 17         | 30         | 223.12      | 13         | 5           |
| 5925 00 758 7955 | 94        | 14         | 10         | 434.09      | 6          | 7           |

| Dec<br>89<br>Bal | Exp<br>S/L<br>Fac | Dec89<br>O/H | Exp<br>Sht<br>Lng | Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|-------------------|--------------|-------------------|--------------|-------------------|---------------------|-------------------------|---------------------------|
| 9                | 0.5               | 5            | 4                 | 4            | 1                 | 4                   | 325.94                  | 651.89                    |
| 58               | 0.5               | 31           | 27                | 30           | 2                 | 26                  | 227.9                   | 227.9                     |
| 248              | 0.5               | 141          | 107               | 140          | 2                 | 106                 | 638.56                  | 638.56                    |
| 14               | 0.5               | 10           | 4                 | 10           | 1                 | 3                   | 213.95                  | 213.95                    |
| 43               | 0.5               | 31           | 12                | 29           | 4                 | 10                  | 774.4                   | 774.4                     |
| 58               | 0.5               | 33           | 25                | 30           | 5                 | 23                  | 1870.6                  | 1870.6                    |
| 29               | 0.5               | 36           | -7                | 33           | 6                 | -10                 | 331.99                  | 368.88                    |
| 15               | 0.5               | 12           | 3                 | 11           | 1                 | 3                   | 319.2                   | 319.2                     |
| 1                | 0.5               | 5            | -4                | 4            | 1                 | -4                  | 218.38                  | 436.77                    |
| 5                | 0.2               | 7            | -2                | 6            | 1                 | -2                  | 151                     | 377.5                     |
| 17               | 0.5               | 9            | 8                 | 8            | 1                 | 8                   | 649.22                  | 649.22                    |
| 32               | 0.5               | 15           | 17                | 14           | 2                 | 16                  | 347.07                  | 462.76                    |
| 63               | 0.5               | 31           | 32                | 29           | 5                 | 29                  | 2797.9                  | 2797.9                    |
| 136              | 0.5               | 94           | 42                | 87           | 14                | 35                  | 2311.5                  | 2397.08                   |
| 22               | 0.5               | 20           | 2                 | 19           | 3                 | 0                   | 1399                    | 1678.74                   |
| 13               | 0.5               | 8            | 5                 | 7            | 1                 | 5                   | 48.76                   | 60.95                     |
| 13               | 0.5               | 6            | 7                 | 6            | 1                 | 6                   | 116.36                  | 232.72                    |
| 28               | 0.6               | 16           | 12                | 15           | 3                 | 10                  | 166.97                  | 147.33                    |
| 10               | 0.5               | 5            | 5                 | 5            | 1                 | 4                   | 325.94                  | 651.89                    |
| 68               | 0.5               | 38           | 30                | 36           | 5                 | 27                  | 1001.1                  | 1001.15                   |
| 56               | 0.5               | 31           | 25                | 28           | 6                 | 22                  | 1952.6                  | 2130.06                   |
| 13               | 0.5               | 7            | 6                 | 6            | 1                 | 6                   | 218.38                  | 436.77                    |
| 143              | 0.5               | 84           | 59                | 76           | 15                | 52                  | 7700.3                  | 7500.3                    |
| 6                | 0.5               | 4            | 2                 | 3            | 1                 | 2                   | 14.315                  | 20.45                     |
| 21               | 0.5               | 14           | 7                 | 12           | 3                 | 6                   | 484                     | 580.8                     |
| 56               | 0.5               | 29           | 27                | 27           | 4                 | 25                  | 371                     | 371                       |
| 73               | 0.5               | 38           | 35                | 36           | 4                 | 33                  | 774.4                   | 774.4                     |
| 66               | 0.5               | 53           | 13                | 50           | 5                 | 11                  | 912.69                  | 1014.1                    |
| 115              | 0.5               | 52           | 63                | 49           | 6                 | 60                  | 1064.8                  | 1161.6                    |
| 12               | 0.5               | 11           | 1                 | 10           | 1                 | 1                   | 105.22                  | 210.45                    |
| 1                | 0.5               | 67           | -66               | 64           | 5                 | -68                 | 912.69                  | 1014.1                    |
| 45               | 0.5               | 25           | 20                | 23           | 4                 | 18                  | 671.78                  | 689                       |
| 154              | 0.5               | 79           | 75                | 72           | 14                | 68                  | 7090.2                  | 7352.8                    |
| 34               | 1                 | 0            | 34                | 0            | 9                 | 25                  | 1088                    | 1088.01                   |
| 1                | 0.5               | 3            | -2                | 3            | 1                 | -3                  | 366.08                  | 610.14                    |
| 99               | 0.5               | 58           | 41                | 55           | 7                 | 37                  | 1303.5                  | 1303.54                   |
| 21               | 0.5               | 11           | 10                | 10           | 1                 | 10                  | 85.33                   | 60.95                     |
| 157              | 0.5               | 98           | 59                | 90           | 16                | 51                  | 7347.6                  | 7584.64                   |
| 441              | 0.5               | 354          | 87                | 328          | 52                | 61                  | 1437.1                  | 1448.2                    |
| 166              | 0.5               | 66           | 100               | 59           | 13                | 94                  | 4672.9                  | 4637.23                   |
| 88               | 0.5               | 53           | 35                | 49           | 7                 | 32                  | 1487.5                  | 1487.5                    |
| 39               | 0.5               | 24           | 15                | 22           | 3                 | 14                  | 669.36                  | 669.36                    |
| 25               | 0.5               | 12           | 13                | 12           | 1                 | 12                  | 434.09                  | 434.09                    |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cost<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 763 4103 | 94        | 8          | 10         | 215.02      | 6          | 2           |
| 5925 00 763 6985 | 94        | 5          | 25         | 186.59      | 8          | 7           |
| 5925 00 782 0113 | 94        | 489        | 600        | 135.51      | 1009       | 52          |
| 5925 00 785 7882 | 94        | 0          | 33         | 32.95       | 28         | 0           |
| 5925 00 809 5627 | 94        | 220        | 61         | 223.12      | 280        | 0           |
| 5925 00 816 5263 | 94        | 19         | 5          | 464.43      | 0          | 0           |
| 5925 00 821 8602 | 94        | 136        | 90         | 191.79      | 0          | 0           |
| 5925 00 826 8813 | 94        | 23         | 20         | 209.45      | 26         | 0           |
| 5925 00 828 9725 | 94        | 0          | 5          | 651.89      | 0          | 0           |
| 5925 00 835 2059 | 94        | 38         | 55         | 563.9       | 14         | 0           |
| 5925 00 837 6203 | 94        | 5          | 10         | 222.5       | 0          | 0           |
| 5925 00 837 6637 | 94        | 18         | 10         | 649.22      | 1          | 0           |
| 5925 00 838 2648 | 94        | 12         | 50         | 70.87       | 10         | 0           |
| 5925 00 839 3889 | 94        | 0          | 23         | 174.78      | 3          | 0           |
| 5925 00 848 7917 | 95        | 130        | 100        | 495.65      | 230        | 3           |
| 5925 00 849 2703 | 94        | 144        | 1127       | 353.11      | 578        | 48          |
| 5925 00 849 2765 | 94        | 12         | 20         | 162.5       | 9          | 0           |
| 5925 00 849 2766 | 94        | 4          | 5          | 651.89      | 0          | 0           |
| 5925 00 849 2767 | 94        | 3          | 23         | 60.95       | 0          | 0           |
| 5925 00 850 8145 | 94        | 70         | 5          | 70.87       | 9          | 0           |
| 5925 00 850 8146 | 94        | 80         | 35         | 193.6       | 8          | 4           |
| 5925 00 853 1995 | 94        | 40         | 15         | 221.97      | 0          | 4           |
| 5925 00 877 8066 | 94        | 15         | 89         | 60.95       | 33         | 16          |
| 5925 00 879 0971 | 94        | 0          | 337        | 110.4       | 438        | 165         |
| 5925 00 879 5108 | 94        | 45         | 40         | 569.22      | 6          | 4           |
| 5925 00 883 7656 | 94        | 34         | 40         | 60.38       | 12         | 0           |
| 5925 00 883 7657 | 94        | 11         | 55         | 193.6       | 7          | 0           |
| 5925 00 883 7660 | 94        | 22         | 5          | 60.95       | 16         | 2           |
| 5925 00 883 7670 | 94        | 23         | 28         | 60.95       | 7          | 3           |
| 5925 00 883 7673 | 94        | 8          | 5          | 70.87       | 0          | 0           |
| 5925 00 892 9932 | 94        | 14         | 30         | 379.86      | 17         | 0           |
| 5925 00 897 0644 | 94        | 62         | 195        | 169.62      | 51         | 11          |
| 5925 00 900 5934 | 94        | 0          | 100        | 20.41       | 77         | 0           |
| 5925 00 903 1640 | 94        | 5          | 5          | 225.18      | 0          | 0           |
| 5925 00 916 0367 | 94        | 6          | 20         | 177.55      | 1          | 0           |
| 5925 00 920 6437 | 94        | 7          | 20         | 230.31      | 32         | 7           |
| 5925 00 923 4152 | 94        | 0          | 8          | 604.25      | 8          | 0           |
| 5925 00 925 7840 | 94        | 5          | 30         | 559.58      | 3          | 0           |
| 5925 00 929 7272 | 94        | 1          | 5          | 225.18      | 3          | 2           |
| 5925 00 931 0315 | 94        | 6          | 20         | 403.2       | 2          | 3           |
| 5925 00 934 2842 | 94        | 1          | 15         | 689.56      | 18         | 2           |
| 5925 00 940 3003 | 94        | 68         | 85         | 202.82      | 39         | 10          |
| 5925 00 945 3426 | 94        | 13         | 5          | 651.89      | 0          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 14               | 0.5        | 9                   | 5          | 9                   | 1                 | 4                   | 2150.2                  | 1935.18                   |
| 29               | 0.5        | 15                  | 14         | 14                  | 3                 | 12                  | 4664.8                  | 4198.275                  |
| 132              | 0.5        | 545                 | -413       | 515                 | 60                | -443                | 81306                   | 73175.4                   |
| 5                | 0.5        | 17                  | -12        | 15                  | 3                 | -13                 | 1087.4                  | 978.615                   |
| 1                | 0.5        | 141                 | -140       | 138                 | 6                 | -143                | 13610                   | 12249.29                  |
| 24               | 0.5        | 12                  | 12         | 12                  | 1                 | 11                  | 2322.2                  | 2089.935                  |
| 226              | 0.5        | 113                 | 113        | 109                 | 9                 | 108                 | 17261                   | 15534.99                  |
| 17               | 0.5        | 22                  | -5         | 21                  | 2                 | -6                  | 4189                    | 3770.1                    |
| 5                | 0.5        | 3                   | 2          | 2                   | 1                 | 2                   | 3259.4                  | 2933.505                  |
| 79               | 0.5        | 47                  | 32         | 44                  | 6                 | 29                  | 31015                   | 27913.05                  |
| 15               | 0.5        | 8                   | 7          | 7                   | 1                 | 7                   | 2225                    | 2002.5                    |
| 27               | 0.5        | 14                  | 13         | 14                  | 1                 | 12                  | 6492.2                  | 5842.98                   |
| 52               | 0.5        | 31                  | 21         | 29                  | 5                 | 18                  | 3543.5                  | 3189.15                   |
| 36               | 0.5        | 12                  | 24         | 11                  | 2                 | 23                  | 4019.9                  | 3617.946                  |
| 3                | 0.4        | 138                 | -135       | 132                 | 10                | -139                | 49565                   | 44608.5                   |
| 741              | 0.5        | 636                 | 105        | 579                 | 113               | 49                  | 397955                  | 358159.5                  |
| 23               | 0.5        | 16                  | 7          | 15                  | 2                 | 6                   | 3250                    | 2925                      |
| 9                | 0.5        | 5                   | 4          | 4                   | 1                 | 4                   | 3259.4                  | 2933.505                  |
| 26               | 0.5        | 13                  | 13         | 12                  | 2                 | 12                  | 1401.9                  | 1261.665                  |
| 66               | 0.5        | 38                  | 28         | 37                  | 1                 | 28                  | 354.35                  | 318.915                   |
| 111              | 0.5        | 58                  | 53         | 56                  | 4                 | 51                  | 6776                    | 6098.4                    |
| 59               | 0.5        | 28                  | 31         | 27                  | 2                 | 30                  | 3329.6                  | 2996.595                  |
| 87               | 0.5        | 52                  | 35         | 48                  | 9                 | 30                  | 5424.6                  | 4882.095                  |
| 64               | 0.5        | 169                 | -105       | 152                 | 34                | -122                | 37205                   | 33484.32                  |
| 83               | 0.5        | 43                  | 40         | 41                  | 4                 | 38                  | 22769                   | 20491.92                  |
| 62               | 0.5        | 37                  | 25         | 35                  | 4                 | 23                  | 2415.2                  | 2173.68                   |
| 59               | 0.5        | 33                  | 26         | 30                  | 6                 | 23                  | 10648                   | 9583.2                    |
| 13               | 0.5        | 14                  | -1         | 13                  | 1                 | -1                  | 304.75                  | 274.275                   |
| 47               | 0.5        | 26                  | 21         | 24                  | 3                 | 20                  | 1706.6                  | 1535.94                   |
| 13               | 0.5        | 7                   | 6          | 6                   | 1                 | 6                   | 354.35                  | 318.915                   |
| 27               | 0.5        | 22                  | 5          | 21                  | 3                 | 3                   | 11396                   | 10256.22                  |
| 217              | 0.5        | 129                 | 88         | 119                 | 20                | 78                  | 33076                   | 29768.31                  |
| 23               | 0.5        | 50                  | -27        | 45                  | 10                | -32                 | 2041                    | 1836.9                    |
| 10               | 0.5        | 5                   | 5          | 5                   | 1                 | 4                   | 1125.9                  | 1013.31                   |
| 25               | 0.5        | 13                  | 12         | 12                  | 2                 | 11                  | 3551                    | 3195.9                    |
| 2                | 0.5        | 14                  | -12        | 13                  | 2                 | -13                 | 4606.2                  | 4145.58                   |
| 0                | 0.5        | 4                   | -4         | 4                   | 1                 | -5                  | 4834                    | 4350.6                    |
| 32               | 0.5        | 18                  | 14         | 16                  | 3                 | 13                  | 16787                   | 15108.66                  |
| 5                | 0.5        | 3                   | 2          | 3                   | 1                 | 1                   | 1125.9                  | 1013.31                   |
| 27               | 0.5        | 13                  | 14         | 12                  | 2                 | 13                  | 8064                    | 7257.6                    |
| 0                | 0.5        | 8                   | -8         | 7                   | 2                 | -9                  | 10343                   | 9309.06                   |
| 124              | 0.5        | 77                  | 47         | 72                  | 9                 | 43                  | 17240                   | 15515.73                  |
| 18               | 0.5        | 9                   | 9          | 9                   | 1                 | 8                   | 3259.4                  | 2933.505                  |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 946 7775 | 94        | 32         | 45         | 187.14      | 36         | 7           |
| 5925 00 950 2467 | 94        | 6          | 18         | 177.55      | 5          | 0           |
| 5925 00 964 3981 | 94        | 75         | 155        | 499.29      | 42         | 20          |
| 5925 00 981 2150 | 94        | 18         | 3          | 112.5       | 10         | 2           |
| 5925 00 985 0908 | 94        | 9          | 30         | 606.14      | 0          | 3           |
| 5925 00 990 2739 | 94        | 0          | 8          | 167.5       | 0          | 0           |
| 5925 01 004 2475 | 94        | 9          | 15         | 226.25      | 2          | 0           |
| 5925 01 023 5398 | 94        | 6          | 5          | 225.18      | 0          | 0           |
| 5925 01 032 1122 | 94        | 225        | 18         | 138.63      | 253        | 27          |
| 5925 01 093 4379 | 95        | 23         | 2          | 207.46      | 16         | 1           |
| 5925 01 130 5343 | 94        | 0          | 45         | 180.94      | 59         | 17          |
| 5925 01 159 7595 | 94        | 43         | 100        | 169.75      | 74         | 3           |
| 5935 00 014 6472 | 95        | 21         | 189        | 51.65       | 71         | 1           |
| 5935 00 054 6559 | 95        | 574        | 371        | 27.8        | 439        | 78          |
| 5935 00 055 7939 | 95        | 43         | 117        | 23.82       | 7          | 0           |
| 5935 00 056 9694 | 95        | 0          | 3          | 8.53        | 2          | 0           |
| 5935 00 057 0308 | 95        | 8          | 257        | 82.25       | 0          | 4           |
| 5935 00 057 5830 | 95        | 45         | 50         | 156.78      | 28         | 20          |
| 5935 00 062 1142 | 95        | 39         | 79         | 35.95       | 23         | 1           |
| 5935 00 065 9803 | 97        | 0          | 29         | 14.84       | 9          | 17          |
| 5935 00 067 4688 | 92        | 217        | 392        | 140.41      | 187        | 46          |
| 5935 00 067 4695 | 92        | 63         | 296        | 152.51      | 73         | 40          |
| 5935 00 069 5500 | 95        | 10         | 108        | 31.57       | 13         | 3           |
| 5935 00 069 5502 | 95        | 20         | 100        | 23.79       | 26         | 0           |
| 5935 00 069 5510 | 95        | 14         | 153        | 24.84       | 17         | 5           |
| 5935 00 078 9337 | 95        | 19         | 222        | 96.27       | 26         | 1           |
| 5935 00 080 7586 | 95        | 0          | 156        | 9.44        | 189        | 33          |
| 5935 00 081 7211 | 92        | 145        | 100        | 112.01      | 181        | 12          |
| 5935 00 083 5050 | 92        | 243        | 813        | 59.1        | 474        | 121         |
| 5935 00 087 8550 | 95        | 0          | 73         | 18.57       | 4          | 0           |
| 5935 00 087 8552 | 95        | 35         | 121        | 18.16       | 16         | 0           |
| 5935 00 088 8108 | 95        | 61         | 100        | 40.32       | 24         | 0           |
| 5935 00 088 8650 | 95        | 80         | 170        | 33.99       | 64         | 15          |
| 5935 00 089 2893 | 95        | 93         | 311        | 31.9        | 42         | 1           |
| 5935 00 089 6611 | 95        | 12         | 225        | 28.67       | 23         | 8           |
| 5935 00 089 6978 | 95        | 118        | 100        | 33.27       | 2          | 5           |
| 5935 00 089 8868 | 96        | 453        | 500        | 21.1        | 358        | 978         |
| 5935 00 103 7374 | 87        | 204        | 50         | 244.82      | 264        | 31          |
| 5935 00 106 6100 | 93        | 107        | 110        | 2.54        | 102        | 0           |
| 5935 00 119 3192 | 92        | 8          | 10         | 307.4       | 8          | 2           |
| 5935 00 119 3201 | 92        | 28         | 10         | 310.55      | 11         | 23          |
| 5935 00 138 1454 | 96        | 15         | 500        | 22.4        | 90         | 11          |
| 5935 00 160 3332 | 96        | 64         | 500        | 27.9        | 49         | 3           |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 48               | 0.5        | 39                  | 9                   | 36                  | 5                 | 7                   | 8421.3                  | 7579.17                   |
| 19               | 0.5        | 12                  | 7                   | 11                  | 2                 | 6                   | 3195.9                  | 2876.31                   |
| 208              | 0.5        | 115                 | 93                  | 107                 | 16                | 85                  | 77390                   | 69650.96                  |
| 13               | 0.5        | 11                  | 2                   | 10                  | 1                 | 2                   | 337.5                   | 303.75                    |
| 42               | 0.5        | 20                  | 22                  | 18                  | 3                 | 21                  | 18184                   | 16365.78                  |
| 8                | 0.5        | 4                   | 4                   | 4                   | 1                 | 3                   | 1340                    | 1206                      |
| 22               | 0.5        | 12                  | 10                  | 11                  | 2                 | 9                   | 3393.8                  | 3054.375                  |
| 11               | 0.5        | 6                   | 5                   | 5                   | 1                 | 5                   | 1125.9                  | 1013.31                   |
| 17               | 0.5        | 122                 | -105                | 121                 | 2                 | -106                | 2495.3                  | 2245.806                  |
| 10               | 0.4        | 15                  | -5                  | 14                  | 1                 | -5                  | 414.92                  | 373.428                   |
| 3                | 0.5        | 23                  | -20                 | 20                  | 5                 | -22                 | 8142.3                  | 7328.07                   |
| 72               | 0.5        | 72                  | 0                   | 67                  | 10                | -5                  | 16975                   | 15277.5                   |
| 140              | 0.4        | 126                 | 14                  | 115                 | 19                | 6                   | 9761.9                  | 8785.665                  |
| 584              | 0.4        | 567                 | 17                  | 545                 | 37                | 2                   | 10314                   | 9282.42                   |
| 153              | 0.4        | 96                  | 57                  | 89                  | 12                | 52                  | 2786.9                  | 2508.246                  |
| 1                | 0.6        | 2                   | -1                  | 1                   | 1                 | -1                  | 25.59                   | 23.031                    |
| 269              | 0.4        | 159                 | 110                 | 143                 | 26                | 100                 | 21138                   | 19024.42                  |
| 87               | 0.4        | 57                  | 30                  | 54                  | 5                 | 28                  | 7839                    | 7055.1                    |
| 96               | 0.4        | 71                  | 25                  | 66                  | 8                 | 22                  | 2840.1                  | 2556.045                  |
| 37               | 0.2        | 23                  | 14                  | 21                  | 3                 | 13                  | 430.36                  | 387.324                   |
| 468              | 0.7        | 183                 | 285                 | 171                 | 39                | 258                 | 55041                   | 49536.65                  |
| 326              | 0.7        | 108                 | 218                 | 99                  | 30                | 197                 | 45143                   | 40628.66                  |
| 108              | 0.4        | 71                  | 37                  | 64                  | 11                | 33                  | 3409.6                  | 3068.604                  |
| 94               | 0.4        | 72                  | 22                  | 66                  | 10                | 18                  | 2379                    | 2141.1                    |
| 155              | 0.4        | 100                 | 55                  | 91                  | 15                | 49                  | 3800.5                  | 3420.468                  |
| 216              | 0.4        | 145                 | 71                  | 131                 | 22                | 63                  | 21372                   | 19234.75                  |
| 0                | 0.4        | 94                  | -94                 | 84                  | 16                | -100                | 1472.6                  | 1325.376                  |
| 76               | 0.7        | 4                   | 72                  | 71                  | 10                | -5                  | 11201                   | 10080.9                   |
| 703              | 0.7        | 317                 | 386                 | 293                 | 81                | 329                 | 48048                   | 43243.47                  |
| 69               | 0.4        | 44                  | 25                  | 40                  | 7                 | 22                  | 1355.6                  | 1220.049                  |
| 140              | 0.4        | 94                  | 46                  | 86                  | 12                | 42                  | 2197.4                  | 1977.624                  |
| 137              | 0.4        | 97                  | 40                  | 91                  | 10                | 36                  | 4032                    | 3628.8                    |
| 201              | 0.4        | 150                 | 51                  | 140                 | 17                | 44                  | 5778.3                  | 5200.47                   |
| 363              | 0.4        | 242                 | 121                 | 224                 | 31                | 108                 | 9920.9                  | 8928.81                   |
| 222              | 0.4        | 142                 | 80                  | 128                 | 23                | 71                  | 6450.8                  | 5805.675                  |
| 221              | 0.4        | 131                 | 90                  | 125                 | 10                | 86                  | 3327                    | 2994.3                    |
| 1573             | 0.3        | 667                 | 906                 | 632                 | 50                | 891                 | 10550                   | 9495                      |
| 21               | 1          | 0                   | 21                  | 0                   | 5                 | 16                  | 12241                   | 11016.9                   |
| 115              | 0.6        | 87                  | 28                  | 82                  | 11                | 22                  | 279.4                   | 251.46                    |
| 12               | 0.7        | 5                   | 7                   | 5                   | 1                 | 6                   | 3074                    | 2766.6                    |
| 50               | 0.7        | 11                  | 39                  | 11                  | 1                 | 38                  | 3105.5                  | 2794.95                   |
| 436              | 0.3        | 361                 | 75                  | 326                 | 50                | 60                  | 11200                   | 10080                     |
| 518              | 0.3        | 395                 | 123                 | 360                 | 50                | 108                 | 13950                   | 12555                     |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5935 | 00 | 163 | 3334 | 96        | 146        | 500        | 62.1        | 38         | 8           |
| 5935 | 00 | 173 | 7277 | 87        | 716        | 275        | 71.49       | 955        | 37          |
| 5935 | 00 | 184 | 7368 | 92        | 29         | 111        | 183.57      | 74         | 42          |
| 5935 | 00 | 189 | 6245 | 93        | 1427       | 10838      | 1.43        | 3734       | 1096        |
| 5935 | 00 | 227 | 7094 | 92        | 82         | 250        | 160.87      | 80         | 16          |
| 5935 | 00 | 235 | 8525 | 87        | 275        | 25         | 160.96      | 323        | 35          |
| 5935 | 00 | 250 | 0905 | 87        | 30         | 118        | 113.5       | 166        | 136         |
| 5935 | 00 | 259 | 3318 | 93        | 430        | 1921       | 1.99        | 1747       | 115         |
| 5935 | 00 | 259 | 6044 | 87        | 97         | 200        | 15.78       | 268        | 76          |
| 5935 | 00 | 274 | 1986 | 96        | 0          | 172        | 42.05       | 2          | 5           |
| 5935 | 00 | 328 | 3755 | 95        | 25         | 500        | 9.31        | 129        | 40          |
| 5935 | 00 | 333 | 7508 | 96        | 14         | 100        | 333.22      | 27         | 0           |
| 5935 | 00 | 365 | 9400 | 95        | 7          | 100        | 118.88      | 15         | 0           |
| 5935 | 00 | 396 | 6852 | 95        | 45         | 244        | 15.89       | 24         | 0           |
| 5935 | 00 | 412 | 1219 | 93        | 5          | 50         | 2.18        | 22         | 0           |
| 5935 | 00 | 439 | 0551 | 92        | 30         | 96         | 170         | 13         | 6           |
| 5935 | 00 | 450 | 5139 | 96        | 0          | 485        | 20.1        | 35         | 2           |
| 5935 | 00 | 455 | 4678 | 92        | 29         | 55         | 206.77      | 23         | 19          |
| 5935 | 00 | 455 | 9595 | 95        | 2          | 100        | 22.15       | 0          | 0           |
| 5935 | 00 | 472 | 0288 | 92        | 3          | 50         | 15.04       | 36         | 0           |
| 5935 | 00 | 476 | 6315 | 92        | 76         | 775        | 2.08        | 111        | 0           |
| 5935 | 00 | 487 | 5789 | 96        | 69         | 174        | 210         | 154        | 11          |
| 5935 | 00 | 497 | 5688 | 95        | 40         | 500        | 12.77       | 93         | 6           |
| 5935 | 00 | 497 | 9198 | 92        | 196        | 617        | 9.53        | 175        | 209         |
| 5935 | 00 | 497 | 9200 | 92        | 108        | 1000       | 3.31        | 300        | 7           |
| 5935 | 00 | 497 | 9202 | 92        | 479        | 1436       | 2.12        | 253        | 39          |
| 5935 | 00 | 497 | 9203 | 92        | 1628       | 6411       | 2.17        | 4033       | 242         |
| 5935 | 00 | 497 | 9204 | 92        | 324        | 1093       | 1.92        | 272        | 5           |
| 5935 | 00 | 498 | 5639 | 92        | 148        | 1849       | 8.86        | 168        | 35          |
| 5935 | 00 | 498 | 5641 | 92        | 156        | 344        | 5.48        | 285        | 0           |
| 5935 | 00 | 498 | 5642 | 92        | 196        | 365        | 3.03        | 424        | 124         |
| 5935 | 00 | 501 | 0948 | 96        | 30         | 500        | 15.53       | 24         | 5           |
| 5935 | 00 | 503 | 9885 | 96        | 31         | 500        | 22.35       | 15         | 0           |
| 5935 | 00 | 520 | 5235 | 93        | 12         | 10         | 6.45        | 1          | 0           |
| 5935 | 00 | 523 | 9462 | 87        | 313        | 250        | 67.31       | 416        | 1           |
| 5935 | 00 | 557 | 2514 | 89        | 9          | 613        | 147.54      | 20         | 5           |
| 5935 | 00 | 578 | 9329 | 93        | 863        | 10         | 37.49       | 335        | 78          |
| 5935 | 00 | 603 | 7706 | 93        | 35         | 110        | 23.1        | 39         | 2           |
| 5935 | 00 | 603 | 7707 | 93        | 138        | 262        | 10.93       | 157        | 9           |
| 5935 | 00 | 605 | 6714 | 96        | 10         | 500        | 18.28       | 4          | 0           |
| 5935 | 00 | 615 | 3637 | 95        | 17         | 100        | 22.62       | 17         | 9           |
| 5935 | 00 | 628 | 6513 | 96        | 27         | 103        | 95.1        | 39         | 3           |
| 5935 | 00 | 631 | 4156 | 97        | 17         | 98         | 1021.57     | 56         | 14          |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 616              | 0.3        | 452                 | 164                 | 417                 | 50                | 149                 | 31050                   | 27945                     |
| 73               | 1          | 0                   | 73                  | 0                   | 28                | 45                  | 19660                   | 17693.77                  |
| 108              | 0.7        | 42                  | 66                  | 39                  | 11                | 58                  | 20376                   | 18338.64                  |
| 9627             | 0.6        | 4906                | 4721                | 4472                | 1084              | 4071                | 15498                   | 13948.51                  |
| 268              | 0.7        | 100                 | 168                 | 92                  | 25                | 151                 | 40218                   | 36195.75                  |
| 12               | 1          | 0                   | 12                  | 0                   | 3                 | 9                   | 4024                    | 3621.6                    |
| 118              | 1          | 0                   | 118                 | 0                   | 12                | 106                 | 13393                   | 12053.7                   |
| 719              | 0.6        | 940                 | -221                | 864                 | 192               | -337                | 3822.8                  | 3440.511                  |
| 105              | 1          | 0                   | 105                 | 0                   | 20                | 85                  | 3156                    | 2840.4                    |
| 175              | 0.3        | 120                 | 55                  | 109                 | 17                | 49                  | 7232.6                  | 6509.34                   |
| 436              | 0.4        | 315                 | 121                 | 285                 | 50                | 101                 | 4655                    | 4189.5                    |
| 87               | 0.3        | 80                  | 7                   | 73                  | 10                | 4                   | 33322                   | 29989.8                   |
| 92               | 0.4        | 64                  | 28                  | 58                  | 10                | 24                  | 11888                   | 10699.2                   |
| 265              | 0.4        | 173                 | 92                  | 159                 | 24                | 82                  | 3877.2                  | 3489.444                  |
| 33               | 0.6        | 22                  | 11                  | 20                  | 5                 | 8                   | 109                     | 98.1                      |
| 119              | 0.7        | 38                  | 81                  | 35                  | 10                | 74                  | 16320                   | 14688                     |
| 452              | 0.3        | 340                 | 112                 | 305                 | 49                | 98                  | 9748.5                  | 8773.65                   |
| 80               | 0.7        | 25                  | 55                  | 23                  | 6                 | 51                  | 11372                   | 10235.11                  |
| 102              | 0.4        | 61                  | 41                  | 55                  | 10                | 37                  | 2215                    | 1993.5                    |
| 17               | 0.7        | 16                  | 1                   | 14                  | 5                 | -2                  | 752                     | 676.8                     |
| 740              | 0.7        | 255                 | 485                 | 232                 | 78                | 430                 | 1612                    | 1450.8                    |
| 100              | 0.3        | 170                 | -70                 | 158                 | 17                | -75                 | 36540                   | 32886                     |
| 453              | 0.4        | 324                 | 129                 | 294                 | 50                | 109                 | 6385                    | 5746.5                    |
| 847              | 0.7        | 244                 | 603                 | 225                 | 62                | 560                 | 5880                    | 5292.009                  |
| 815              | 0.7        | 332                 | 483                 | 302                 | 100               | 413                 | 3310                    | 2979                      |
| 1701             | 0.7        | 575                 | 1126                | 531                 | 144               | 1026                | 3044.3                  | 2739.888                  |
| 4248             | 0.7        | 2412                | 1836                | 2219                | 641               | 1388                | 13912                   | 12520.68                  |
| 1150             | 0.7        | 425                 | 725                 | 392                 | 109               | 649                 | 2098.6                  | 1888.704                  |
| 1864             | 0.7        | 599                 | 1265                | 544                 | 185               | 1135                | 16382                   | 14743.93                  |
| 215              | 0.7        | 150                 | 65                  | 140                 | 34                | 41                  | 1885.1                  | 1696.608                  |
| 261              | 0.7        | 168                 | 93                  | 157                 | 37                | 67                  | 1105.9                  | 995.355                   |
| 511              | 0.3        | 371                 | 140                 | 336                 | 50                | 125                 | 7765                    | 6988.5                    |
| 516              | 0.3        | 372                 | 144                 | 337                 | 50                | 129                 | 11175                   | 10057.5                   |
| 21               | 0.6        | 9                   | 12                  | 8                   | 1                 | 12                  | 64.5                    | 58.05                     |
| 148              | 1          | 0                   | 148                 | 0                   | 25                | 123                 | 16828                   | 15144.75                  |
| 607              | 1          | 0                   | 607                 | 0                   | 61                | 546                 | 90442                   | 81397.82                  |
| 616              | 0.6        | 349                 | 267                 | 349                 | 1                 | 266                 | 374.9                   | 337.41                    |
| 108              | 0.6        | 58                  | 50                  | 54                  | 11                | 43                  | 2541                    | 2286.9                    |
| 252              | 0.6        | 160                 | 92                  | 150                 | 26                | 76                  | 2863.7                  | 2577.294                  |
| 506              | 0.3        | 357                 | 149                 | 322                 | 50                | 134                 | 9140                    | 8226                      |
| 109              | 0.4        | 70                  | 39                  | 64                  | 10                | 35                  | 2262                    | 2035.8                    |
| 94               | 0.3        | 91                  | 3                   | 84                  | 10                | 0                   | 9795.3                  | 8815.77                   |
| 73               | 0.2        | 92                  | -19                 | 84                  | 10                | -21                 | 100114                  | 90102.47                  |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 660 5590 | 93        | 630        | 4110       | 2.34        | 1998       | 490         |
| 5935 00 660 5846 | 92        | 1547       | 2809       | 68.36       | 2542       | 378         |
| 5935 00 660 5854 | 93        | 0          | 15         | 5.05        | 12         | 2           |
| 5935 00 660 5855 | 92        | 722        | 1402       | 81.11       | 1245       | 281         |
| 5935 00 670 0033 | 95        | 231        | 1104       | 35.07       | 334        | 29          |
| 5935 00 679 0479 | 93        | 0          | 63         | 1.72        | 6          | 0           |
| 5935 00 683 1402 | 93        | 227        | 210        | 5.25        | 389        | 30          |
| 5935 00 683 2312 | 92        | 11         | 9          | 158.77      | 19         | 13          |
| 5935 00 683 5102 | 95        | 0          | 100        | 26.5        | 56         | 0           |
| 5935 00 687 1122 | 95        | 138        | 357        | 90.02       | 274        | 11          |
| 5935 00 689 4662 | 92        | 1          | 50         | 215.05      | 26         | 25          |
| 5935 00 704 6020 | 87        | 41         | 35         | 277.47      | 16         | 0           |
| 5935 00 705 9887 | 95        | 1          | 100        | 34.84       | 19         | 0           |
| 5935 00 726 4204 | 92        | 51         | 240        | 181.97      | 288        | 45          |
| 5935 00 730 4145 | 95        | 7          | 113        | 18.04       | 9          | 0           |
| 5935 00 755 6213 | 95        | 182        | 316        | 42.28       | 288        | 8           |
| 5935 00 761 3235 | 95        | 0          | 100        | 74.13       | 97         | 2           |
| 5935 00 761 4344 | 92        | 35         | 50         | 317.68      | 12         | 0           |
| 5935 00 767 5154 | 95        | 59         | 100        | 32.97       | 21         | 19          |
| 5935 00 769 5490 | 95        | 20         | 100        | 80.06       | 1          | 1           |
| 5935 00 781 3036 | 95        | 0          | 100        | 18.88       | 5          | 0           |
| 5935 00 787 3534 | 95        | 47         | 156        | 17.33       | 36         | 8           |
| 5935 00 791 5476 | 95        | 3          | 100        | 119.81      | 1          | 0           |
| 5935 00 799 3054 | 95        | 74         | 500        | 12.17       | 153        | 2           |
| 5935 00 804 2942 | 95        | 16         | 100        | 57.06       | 1          | 0           |
| 5935 00 804 2957 | 95        | 31         | 100        | 48.84       | 0          | 52          |
| 5935 00 805 3463 | 95        | 64         | 158        | 59.47       | 41         | 9           |
| 5935 00 805 3946 | 95        | 20         | 188        | 167.43      | 25         | 5           |
| 5935 00 805 4664 | 95        | 93         | 328        | 50.08       | 142        | 18          |
| 5935 00 806 7509 | 92        | 698        | 1400       | 78.81       | 1343       | 263         |
| 5935 00 807 9629 | 95        | 171        | 511        | 89.55       | 187        | 42          |
| 5935 00 811 8635 | 92        | 315        | 786        | 98.9        | 585        | 236         |
| 5935 00 812 2554 | 87        | 66         | 100        | 92.44       | 134        | 28          |
| 5935 00 813 0030 | 95        | 45         | 500        | 9.8         | 38         | 3           |
| 5935 00 814 5798 | 95        | 169        | 100        | 43.82       | 115        | 7           |
| 5935 00 814 5814 | 95        | 74         | 100        | 47.48       | 16         | 36          |
| 5935 00 814 5815 | 95        | 78         | 113        | 40.46       | 16         | 12          |
| 5935 00 820 9501 | 92        | 76         | 1100       | 55.02       | 346        | 56          |
| 5935 00 823 0295 | 95        | 192        | 323        | 32.47       | 144        | 30          |
| 5935 00 827 5022 | 96        | 0          | 500        | 18.96       | 613        | 127         |
| 5935 00 836 9653 | 95        | 14         | 100        | 34.72       | 0          | 0           |
| 5935 00 838 2762 | 87        | 338        | 57         | 196.56      | 273        | 122         |
| 5935 00 842 1374 | 95        | 7          | 100        | 28.1        | 1          | 0           |
| 5935 00 842 1376 | 95        | 72         | 100        | 72.56       | 3          | 2           |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 3232             | 0.6        | 1896                | 1336                | 1732                | 411               | 1089                | 9617.4                  | 8655.66                   |
| 2192             | 0.7        | 1307                | 885                 | 1223                | 281               | 688                 | 192023                  | 172820.9                  |
| 5                | 0.6        | 6                   | -1                  | 5                   | 2                 | -2                  | 75.75                   | 68.175                    |
| 1160             | 0.7        | 637                 | 523                 | 595                 | 140               | 425                 | 113716                  | 102344.6                  |
| 1030             | 0.4        | 801                 | 229                 | 735                 | 110               | 185                 | 38717                   | 34845.55                  |
| 57               | 0.6        | 25                  | 32                  | 23                  | 6                 | 28                  | 108.36                  | 97.524                    |
| 78               | 0.6        | 175                 | -97                 | 166                 | 21                | -109                | 1102.5                  | 992.25                    |
| 14               | 0.7        | 6                   | 8                   | 6                   | 1                 | 7                   | 1428.9                  | 1286.037                  |
| 44               | 0.4        | 60                  | -16                 | 54                  | 10                | -20                 | 2650                    | 2385                      |
| 232              | 0.4        | 297                 | -65                 | 275                 | 36                | -79                 | 32137                   | 28923.43                  |
| 50               | 0.7        | 15                  | 35                  | 14                  | 5                 | 31                  | 10753                   | 9677.25                   |
| 60               | 1          | 0                   | 60                  | 0                   | 4                 | 56                  | 9711.5                  | 8740.305                  |
| 82               | 0.4        | 61                  | 21                  | 55                  | 10                | 17                  | 3484                    | 3135.6                    |
| 48               | 0.7        | 87                  | -39                 | 80                  | 24                | -56                 | 43673                   | 39305.52                  |
| 111              | 0.4        | 72                  | 39                  | 65                  | 11                | 35                  | 2038.5                  | 1834.668                  |
| 218              | 0.4        | 299                 | -81                 | 280                 | 32                | -94                 | 13360                   | 12024.43                  |
| 5                | 0.4        | 60                  | -55                 | 54                  | 10                | -59                 | 7413                    | 6671.7                    |
| 73               | 0.7        | 26                  | 47                  | 24                  | 5                 | 44                  | 15884                   | 14295.6                   |
| 157              | 0.4        | 94                  | 63                  | 89                  | 10                | 58                  | 3297                    | 2967.3                    |
| 120              | 0.4        | 72                  | 48                  | 66                  | 10                | 44                  | 8006                    | 7205.4                    |
| 95               | 0.4        | 60                  | 35                  | 54                  | 10                | 31                  | 1888                    | 1699.2                    |
| 175              | 0.4        | 122                 | 53                  | 112                 | 16                | 47                  | 2703.5                  | 2433.132                  |
| 102              | 0.4        | 62                  | 40                  | 56                  | 10                | 36                  | 11981                   | 10782.9                   |
| 423              | 0.4        | 344                 | 79                  | 314                 | 50                | 59                  | 6085                    | 5476.5                    |
| 115              | 0.4        | 70                  | 45                  | 64                  | 10                | 41                  | 5706                    | 5135.4                    |
| 183              | 0.4        | 79                  | 104                 | 73                  | 10                | 100                 | 4884                    | 4395.6                    |
| 190              | 0.4        | 133                 | 57                  | 124                 | 16                | 50                  | 9396.3                  | 8456.634                  |
| 188              | 0.4        | 125                 | 63                  | 113                 | 19                | 56                  | 31477                   | 28329.16                  |
| 297              | 0.4        | 253                 | 44                  | 233                 | 33                | 31                  | 16426                   | 14783.62                  |
| 1018             | 0.7        | 629                 | 389                 | 587                 | 140               | 291                 | 110334                  | 99300.6                   |
| 537              | 0.4        | 409                 | 128                 | 379                 | 51                | 107                 | 45760                   | 41184.04                  |
| 752              | 0.7        | 330                 | 422                 | 307                 | 79                | 366                 | 77735                   | 69961.86                  |
| 60               | 1          | 0                   | 60                  | 0                   | 10                | 50                  | 9244                    | 8319.6                    |
| 510              | 0.4        | 327                 | 183                 | 297                 | 50                | 163                 | 4900                    | 4410                      |
| 161              | 0.4        | 161                 | 0                   | 155                 | 10                | -4                  | 4382                    | 3943.8                    |
| 194              | 0.4        | 104                 | 90                  | 98                  | 10                | 86                  | 4748                    | 4273.2                    |
| 187              | 0.4        | 115                 | 72                  | 108                 | 11                | 68                  | 4572                    | 4114.782                  |
| 886              | 0.7        | 353                 | 533                 | 320                 | 110               | 456                 | 60522                   | 54469.8                   |
| 401              | 0.4        | 309                 | 92                  | 290                 | 32                | 79                  | 10488                   | 9439.029                  |
| 14               | 0.3        | 350                 | -336                | 315                 | 50                | -351                | 9480                    | 8532                      |
| 114              | 0.4        | 68                  | 46                  | 62                  | 10                | 42                  | 3472                    | 3124.8                    |
| 244              | 1          | 0                   | 244                 | 0                   | 6                 | 238                 | 11204                   | 10083.53                  |
| 106              | 0.4        | 64                  | 42                  | 58                  | 10                | 38                  | 2810                    | 2529                      |
| 171              | 0.4        | 103                 | 68                  | 97                  | 10                | 64                  | 7256                    | 6530.4                    |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 842 9045 | 87        | 409        | 176        | 139.63      | 411        | 156         |
| 5935 00 843 0144 | 87        | 25         | 25         | 424.61      | 24         | 3           |
| 5935 00 845 7508 | 95        | 120        | 300        | 32.34       | 35         | 0           |
| 5935 00 856 2872 | 95        | 2          | 100        | 40.86       | 4          | 11          |
| 5935 00 872 4730 | 97        | 13         | 240        | 88.47       | 34         | 5           |
| 5935 00 872 6853 | 87        | 47         | 25         | 76.52       | 41         | 3           |
| 5935 00 878 1603 | 96        | 0          | 500        | 11.9        | 280        | 0           |
| 5935 00 878 1604 | 96        | 0          | 100        | 44.76       | 36         | 75          |
| 5935 00 879 8440 | 92        | 80         | 410        | 254         | 215        | 28          |
| 5935 00 883 5868 | 92        | 15         | 30         | 143.12      | 10         | 1           |
| 5935 00 884 3427 | 96        | 34         | 2500       | 35.85       | 235        | 4           |
| 5935 00 886 9796 | 87        | 13         | 25         | 142.04      | 11         | 5           |
| 5935 00 888 3708 | 96        | 296        | 500        | 9.48        | 319        | 31          |
| 5935 00 897 4610 | 95        | 10         | 100        | 28.09       | 2          | 2           |
| 5935 00 900 0859 | 95        | 0          | 100        | 36.99       | 3          | 0           |
| 5935 00 900 1239 | 96        | 14         | 500        | 8.15        | 10         | 0           |
| 5935 00 900 1987 | 95        | 95         | 203        | 26.27       | 24         | 6           |
| 5935 00 900 1989 | 95        | 11         | 100        | 38.08       | 5          | 1           |
| 5935 00 900 1990 | 95        | 8          | 100        | 38.46       | 12         | 2           |
| 5935 00 900 1992 | 95        | 2          | 100        | 53.68       | 0          | 3           |
| 5935 00 900 1997 | 95        | 52         | 100        | 18.95       | 10         | 10          |
| 5935 00 900 2001 | 95        | 28         | 164        | 31.88       | 14         | 10          |
| 5935 00 900 2002 | 95        | 29         | 100        | 55.66       | 18         | 3           |
| 5935 00 900 2003 | 95        | 4          | 100        | 38.16       | 0          | 1           |
| 5935 00 900 2076 | 95        | 27         | 100        | 19.92       | 0          | 0           |
| 5935 00 901 5912 | 95        | 20         | 100        | 23.49       | 0          | 4           |
| 5935 00 905 6652 | 95        | 60         | 182        | 25.41       | 16         | 34          |
| 5935 00 905 9676 | 92        | 257        | 850        | 72.05       | 553        | 131         |
| 5935 00 910 9280 | 92        | 8          | 25         | 245.91      | 3          | 3           |
| 5935 00 911 9871 | 93        | 414        | 37         | 2.98        | 331        | 0           |
| 5935 00 912 1432 | 93        | 83         | 31         | 4.56        | 84         | 0           |
| 5935 00 912 1436 | 93        | 414        | 1010       | 1.39        | 306        | 0           |
| 5935 00 912 1498 | 93        | 219        | 515        | 1.81        | 176        | 0           |
| 5935 00 912 6393 | 95        | 43         | 100        | 40.57       | 67         | 10          |
| 5935 00 912 7813 | 95        | 25         | 100        | 26.71       | 38         | 5           |
| 5935 00 913 7613 | 92        | 9          | 25         | 324.74      | 10         | 6           |
| 5935 00 916 0413 | 95        | 115        | 251        | 27.4        | 100        | 18          |
| 5935 00 916 0514 | 92        | 29         | 16         | 298.99      | 36         | 20          |
| 5935 00 916 0641 | 92        | 40         | 10         | 396.23      | 0          | 7           |
| 5935 00 917 3325 | 95        | 4          | 100        | 59.15       | 0          | 4           |
| 5935 00 919 0562 | 96        | 206        | 500        | 31.6        | 174        | 14          |
| 5935 00 923 4874 | 92        | 7          | 25         | 284.49      | 29         | 8           |
| 5935 00 937 7371 | 93        | 8          | 50         | 6.17        | 5          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 330              | 1          | 0                   | 330        | 0                   | 18                | 312                 | 24575                   | 22117.39                  |
| 29               | 1          | 0                   | 29         | 0                   | 3                 | 26                  | 10615                   | 9553.725                  |
| 385              | 0.4        | 252                 | 133        | 234                 | 30                | 121                 | 9702                    | 8731.8                    |
| 109              | 0.4        | 61                  | 48         | 55                  | 10                | 44                  | 4086                    | 3677.4                    |
| 224              | 0.2        | 202                 | 22         | 183                 | 24                | 17                  | 21233                   | 19109.52                  |
| 34               | 1          | 0                   | 34         | 0                   | 3                 | 31                  | 1913                    | 1721.7                    |
| 220              | 0.3        | 350                 | -130       | 315                 | 50                | -145                | 5950                    | 5355                      |
| 139              | 0.3        | 70                  | 69         | 63                  | 10                | 66                  | 4476                    | 4028.4                    |
| 303              | 0.7        | 147                 | 156        | 135                 | 41                | 127                 | 104140                  | 93726                     |
| 36               | 0.7        | 14                  | 22         | 13                  | 3                 | 20                  | 4293.6                  | 3864.24                   |
| 2303             | 0.3        | 1774                | 529        | 1599                | 250               | 454                 | 89625                   | 80662.5                   |
| 32               | 1          | 0                   | 32         | 0                   | 3                 | 29                  | 3551                    | 3195.9                    |
| 508              | 0.3        | 557                 | -49        | 522                 | 50                | -64                 | 4740                    | 4266                      |
| 110              | 0.4        | 66                  | 44         | 60                  | 10                | 40                  | 2809                    | 2528.1                    |
| 97               | 0.4        | 60                  | 37         | 54                  | 10                | 33                  | 3699                    | 3329.1                    |
| 504              | 0.3        | 360                 | 144        | 325                 | 50                | 129                 | 4075                    | 3667.5                    |
| 280              | 0.4        | 179                 | 101        | 167                 | 20                | 93                  | 5332.8                  | 4799.529                  |
| 107              | 0.4        | 67                  | 40         | 61                  | 10                | 36                  | 3808                    | 3427.2                    |
| 98               | 0.4        | 65                  | 33         | 59                  | 10                | 29                  | 3846                    | 3461.4                    |
| 105              | 0.4        | 61                  | 44         | 55                  | 10                | 40                  | 5368                    | 4831.2                    |
| 152              | 0.4        | 91                  | 61         | 85                  | 10                | 57                  | 1895                    | 1705.5                    |
| 188              | 0.4        | 115                 | 73         | 106                 | 16                | 66                  | 5228.3                  | 4705.488                  |
| 114              | 0.4        | 77                  | 37         | 71                  | 10                | 33                  | 5566                    | 5009.4                    |
| 105              | 0.4        | 62                  | 43         | 56                  | 10                | 39                  | 3816                    | 3434.4                    |
| 127              | 0.4        | 76                  | 51         | 70                  | 10                | 47                  | 1992                    | 1792.8                    |
| 124              | 0.4        | 72                  | 52         | 66                  | 10                | 48                  | 2349                    | 2114.1                    |
| 260              | 0.4        | 145                 | 115        | 134                 | 18                | 108                 | 4624.6                  | 4162.158                  |
| 685              | 0.7        | 332                 | 353        | 307                 | 85                | 293                 | 61243                   | 55118.25                  |
| 33               | 0.7        | 10                  | 23         | 9                   | 3                 | 21                  | 6147.8                  | 5532.975                  |
| 120              | 0.6        | 180                 | -60        | 179                 | 4                 | -63                 | 110.26                  | 99.234                    |
| 30               | 0.6        | 46                  | -16        | 44                  | 3                 | -17                 | 141.36                  | 127.224                   |
| 1118             | 0.6        | 570                 | 548        | 529                 | 101               | 488                 | 1403.9                  | 1263.51                   |
| 558              | 0.6        | 294                 | 264        | 273                 | 52                | 233                 | 932.15                  | 838.935                   |
| 86               | 0.4        | 86                  | 0          | 80                  | 10                | -4                  | 4057                    | 3651.3                    |
| 92               | 0.4        | 75                  | 17         | 69                  | 10                | 13                  | 2671                    | 2403.9                    |
| 30               | 0.7        | 10                  | 20         | 9                   | 3                 | 18                  | 8118.5                  | 7306.65                   |
| 284              | 0.4        | 220                 | 64         | 205                 | 25                | 54                  | 6877.4                  | 6189.66                   |
| 29               | 0.7        | 14                  | 15         | 13                  | 2                 | 14                  | 4783.8                  | 4305.456                  |
| 57               | 0.7        | 15                  | 42         | 15                  | 1                 | 41                  | 3962.3                  | 3566.07                   |
| 108              | 0.4        | 62                  | 46         | 56                  | 10                | 42                  | 5915                    | 5323.5                    |
| 546              | 0.3        | 494                 | 52         | 459                 | 50                | 37                  | 15800                   | 14220                     |
| 11               | 0.7        | 10                  | 1          | 9                   | 3                 | -1                  | 7112.3                  | 6401.025                  |
| 53               | 0.6        | 23                  | 30         | 21                  | 5                 | 27                  | 308.5                   | 277.65                    |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 938 7299 | 95        | 11         | 100        | 27.56       | 8          | 0           |
| 5935 00 946 1272 | 96        | 28         | 500        | 7.6         | 42         | 3           |
| 5935 00 947 2925 | 95        | 48         | 500        | 18.5        | 487        | 115         |
| 5935 00 951 2154 | 87        | 158        | 100        | 230.5       | 176        | 26          |
| 5935 00 952 2204 | 95        | 152        | 100        | 37.51       | 30         | 13          |
| 5935 00 954 3147 | 96        | 19         | 500        | 13          | 5          | 7           |
| 5935 00 954 7895 | 95        | 23         | 100        | 19.65       | 7          | 10          |
| 5935 00 954 7896 | 95        | 5          | 100        | 29.84       | 9          | 0           |
| 5935 00 954 9050 | 95        | 37         | 196        | 21.81       | 154        | 44          |
| 5935 00 954 9064 | 95        | 18         | 100        | 22.14       | 3          | 5           |
| 5935 00 954 9072 | 95        | 53         | 254        | 28.44       | 87         | 11          |
| 5935 00 954 9076 | 95        | 45         | 100        | 25.16       | 26         | 7           |
| 5935 00 956 4983 | 92        | 20         | 40         | 176.44      | 1          | 11          |
| 5935 00 956 8340 | 99        | 28         | 144        | 95.54       | 30         | 22          |
| 5935 00 956 8341 | 99        | 63         | 113        | 81.6        | 63         | 15          |
| 5935 00 957 8473 | 95        | 109        | 100        | 20.75       | 45         | 10          |
| 5935 00 957 8480 | 95        | 72         | 100        | 31.64       | 14         | 9           |
| 5935 00 958 7507 | 95        | 182        | 622        | 43.39       | 120        | 61          |
| 5935 00 959 8561 | 95        | 36         | 100        | 56.12       | 22         | 8           |
| 5935 00 962 0221 | 96        | 26         | 500        | 15.9        | 2          | 3           |
| 5935 00 967 1272 | 92        | 224        | 350        | 194.34      | 34         | 82          |
| 5935 00 967 1273 | 88        | 751        | 800        | 154.27      | 473        | 39          |
| 5935 00 967 1279 | 87        | 481        | 108        | 181.58      | 78         | 14          |
| 5935 00 967 1288 | 92        | 52         | 1325       | 18.03       | 123        | 30          |
| 5935 00 967 1291 | 92        | 85         | 500        | 174.38      | 80         | 22          |
| 5935 00 967 1295 | 92        | 166        | 550        | 186.19      | 123        | 48          |
| 5935 00 967 1308 | 92        | 84         | 250        | 309.85      | 165        | 26          |
| 5935 00 967 1310 | 92        | 54         | 400        | 349.77      | 84         | 7           |
| 5935 00 967 1311 | 87        | 41         | 375        | 346.86      | 88         | 0           |
| 5935 00 968 6929 | 87        | 212        | 145        | 3.01        | 182        | 54          |
| 5935 00 972 3151 | 92        | 315        | 2000       | 76.27       | 1169       | 201         |
| 5935 00 974 5683 | 92        | 1039       | 350        | 5.76        | 1011       | 0           |
| 5935 00 974 5684 | 92        | 99         | 1625       | 136.52      | 380        | 47          |
| 5935 00 974 5685 | 92        | 871        | 1425       | 149.55      | 494        | 33          |
| 5935 00 974 6929 | 95        | 23         | 100        | 13.05       | 8          | 0           |
| 5935 00 976 0023 | 92        | 546        | 1700       | 148.57      | 443        | 45          |
| 5935 00 976 4811 | 95        | 38         | 121        | 26.93       | 10         | 12          |
| 5935 00 977 5821 | 92        | 11         | 30         | 223.28      | 2          | 2           |
| 5935 00 983 5978 | 95        | 5          | 311        | 17.44       | 3          | 2           |
| 5935 00 983 8873 | 87        | 25         | 50         | 183.93      | 40         | 10          |
| 5935 00 988 5945 | 95        | 99         | 235        | 23.95       | 49         | 17          |
| 5935 00 989 0900 | 95        | 12         | 100        | 41.03       | 110        | 9           |
| 5935 00 989 5998 | 92        | 128        | 675        | 94.27       | 398        | 106         |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 103              | 0.4        | 67                  | 36         | 61                  | 10                | 32                  | 2756                    | 2480.4                    |
| 489              | 0.3        | 370                 | 119        | 335                 | 50                | 104                 | 3800                    | 3420                      |
| 176              | 0.4        | 329                 | -153       | 299                 | 50                | -173                | 9250                    | 8325                      |
| 108              | 1          | 0                   | 108        | 0                   | 10                | 98                  | 23050                   | 20745                     |
| 235              | 0.4        | 151                 | 84         | 145                 | 10                | 80                  | 3751                    | 3375.9                    |
| 521              | 0.3        | 363                 | 158        | 328                 | 50                | 143                 | 6500                    | 5850                      |
| 126              | 0.4        | 74                  | 52         | 68                  | 10                | 48                  | 1965                    | 1768.5                    |
| 96               | 0.4        | 63                  | 33         | 57                  | 10                | 29                  | 2984                    | 2685.6                    |
| 123              | 0.4        | 140                 | -17        | 128                 | 20                | -25                 | 4274.8                  | 3847.284                  |
| 120              | 0.4        | 71                  | 49         | 65                  | 10                | 45                  | 2214                    | 1992.6                    |
| 231              | 0.4        | 184                 | 47         | 169                 | 25                | 37                  | 7223.8                  | 6501.384                  |
| 126              | 0.4        | 87                  | 39         | 81                  | 10                | 35                  | 2516                    | 2264.4                    |
| 70               | 0.7        | 18                  | 52         | 17                  | 4                 | 49                  | 7057.6                  | 6351.84                   |
| 164              | 0.3        | 120                 | 44         | 111                 | 14                | 39                  | 13758                   | 12381.98                  |
| 128              | 0.3        | 123                 | 5          | 116                 | 11                | 1                   | 9220.8                  | 8298.72                   |
| 174              | 0.4        | 125                 | 49         | 119                 | 10                | 45                  | 2075                    | 1867.5                    |
| 167              | 0.4        | 103                 | 64         | 97                  | 10                | 60                  | 3164                    | 2847.6                    |
| 745              | 0.4        | 482                 | 263        | 445                 | 62                | 238                 | 26989                   | 24289.72                  |
| 122              | 0.4        | 82                  | 40         | 76                  | 10                | 36                  | 5612                    | 5050.8                    |
| 527              | 0.4        | 316                 | 211        | 286                 | 50                | 191                 | 7950                    | 7155                      |
| 622              | 0.7        | 172                 | 450        | 162                 | 35                | 425                 | 68019                   | 61217.1                   |
| 1117             | 1          | 0                   | 1117       | 0                   | 80                | 1037                | 123416                  | 111074.4                  |
| 525              | 1          | 0                   | 525        | 0                   | 11                | 514                 | 19611                   | 17649.58                  |
| 1284             | 0.7        | 413                 | 871        | 373                 | 133               | 778                 | 23890                   | 21500.78                  |
| 527              | 0.7        | 176                 | 351        | 161                 | 50                | 316                 | 87190                   | 78471                     |
| 641              | 0.7        | 215                 | 426        | 198                 | 55                | 388                 | 102405                  | 92164.05                  |
| 195              | 0.7        | 100                 | 95         | 93                  | 25                | 77                  | 77463                   | 69716.25                  |
| 377              | 0.7        | 136                 | 241        | 124                 | 40                | 213                 | 139908                  | 125917.2                  |
| 328              | 1          | 0                   | 328        | 0                   | 38                | 290                 | 130073                  | 117065.3                  |
| 229              | 1          | 0                   | 229        | 0                   | 15                | 214                 | 436.45                  | 392.805                   |
| 1347             | 0.7        | 695                 | 652        | 635                 | 200               | 512                 | 152540                  | 137286                    |
| 378              | 0.7        | 417                 | -39        | 406                 | 35                | -63                 | 2016                    | 1814.4                    |
| 1391             | 0.7        | 517                 | 874        | 468                 | 163               | 760                 | 221845                  | 199660.5                  |
| 1835             | 0.7        | 689                 | 1146       | 646                 | 143               | 1046                | 213109                  | 191797.9                  |
| 115              | 0.4        | 74                  | 41         | 68                  | 10                | 37                  | 1305                    | 1174.5                    |
| 1848             | 0.7        | 674                 | 1174       | 623                 | 170               | 1055                | 252569                  | 227312.1                  |
| 161              | 0.4        | 95                  | 66         | 88                  | 12                | 61                  | 3258.5                  | 2932.677                  |
| 41               | 0.7        | 12                  | 29         | 11                  | 3                 | 27                  | 6698.4                  | 6028.56                   |
| 315              | 0.4        | 190                 | 125        | 171                 | 31                | 113                 | 5423.8                  | 4881.456                  |
| 45               | 1          | 0                   | 45         | 0                   | 5                 | 40                  | 9196.5                  | 8276.85                   |
| 302              | 0.4        | 200                 | 102        | 186                 | 24                | 92                  | 5628.3                  | 5065.425                  |
| 11               | 0.4        | 67                  | -56        | 61                  | 10                | -60                 | 4103                    | 3692.7                    |
| 511              | 0.7        | 241                 | 270        | 221                 | 68                | 222                 | 63632                   | 57269.02                  |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 999 7223 | 92        | 107        | 235        | 140.94      | 82         | 34          |
| 5935 01 006 8183 | 96        | 6          | 500        | 17.8        | 7          | 0           |
| 5935 01 006 8212 | 96        | 382        | 500        | 12.35       | 239        | 0           |
| 5935 01 008 2898 | 90        | 1299       | 3899       | 0.14        | 4392       | 386         |
| 5935 01 011 7666 | 96        | 7          | 500        | 13.48       | 3          | 0           |
| 5935 01 016 3813 | 96        | 69         | 500        | 21.55       | 5          | 10          |
| 5935 01 017 3697 | 87        | 285        | 100        | 135.22      | 497        | 127         |
| 5935 01 025 9086 | 96        | 367        | 1070       | 26.12       | 109        | 9           |
| 5935 01 029 2518 | 95        | 4          | 100        | 14.28       | 12         | 0           |
| 5935 01 030 6991 | 95        | 4          | 100        | 14.74       | 0          | 0           |
| 5935 01 037 6493 | 96        | 51         | 500        | 6.9         | 26         | 0           |
| 5935 01 038 6473 | 95        | 7          | 100        | 18.44       | 4          | 0           |
| 5935 01 044 4436 | 90        | 910        | 730        | 1.09        | 1189       | 0           |
| 5935 01 044 8588 | 90        | 172        | 506        | 0.55        | 132        | 0           |
| 5935 01 045 2926 | 90        | 400        | 876        | 0.26        | 429        | 0           |
| 5935 01 045 4830 | 90        | 172        | 323        | 0.39        | 136        | 0           |
| 5935 01 064 4721 | 95        | 114        | 100        | 20.91       | 21         | 0           |
| 5935 01 065 8357 | 95        | 3          | 100        | 25.94       | 0          | 0           |
| 5935 01 072 3866 | 90        | 157        | 929        | 0.21        | 1086       | 0           |
| 5935 01 074 8607 | 96        | 39         | 500        | 8.7         | 49         | 1           |
| 5935 01 077 7173 | 96        | 5          | 500        | 22.13       | 5          | 0           |
| 5935 01 079 7333 | 95        | 16         | 100        | 35.2        | 3          | 0           |
| 5935 01 079 7383 | 95        | 2          | 100        | 59.55       | 7          | 0           |
| 5935 01 079 8948 | 96        | 229        | 500        | 11.08       | 287        | 39          |
| 5935 01 081 3860 | 96        | 23         | 500        | 7.37        | 33         | 0           |
| 5935 01 082 8806 | 96        | 19         | 500        | 7.37        | 37         | 0           |
| 5935 01 084 5790 | 96        | 12         | 500        | 4.02        | 5          | 0           |
| 5935 01 086 6228 | 96        | 13         | 500        | 7.4         | 1          | 0           |
| 5935 01 086 8444 | 96        | 27         | 500        | 9.48        | 30         | 0           |
| 5935 01 089 1419 | 96        | 16         | 500        | 6.9         | 12         | 0           |
| 5935 01 089 1420 | 96        | 49         | 500        | 16.93       | 48         | 4           |
| 5935 01 091 1846 | 95        | 0          | 100        | 34.88       | 100        | 118         |
| 5935 01 094 3684 | 95        | 3          | 100        | 82.21       | 6          | 0           |
| 5935 01 103 4797 | 95        | 0          | 100        | 16.45       | 0          | 0           |
| 5935 01 105 7922 | 96        | 29         | 500        | 11.65       | 0          | 0           |
| 5935 01 112 5449 | 95        | 5          | 100        | 17.57       | 0          | 0           |
| 5935 01 122 7526 | 96        | 21         | 500        | 20.55       | 139        | 2           |
| 5935 01 134 1247 | 95        | 6          | 100        | 119.81      | 1          | 0           |
| 5935 01 136 1973 | 96        | 6          | 500        | 14.63       | 0          | 0           |
| 5935 01 147 9432 | 95        | 4          | 100        | 87.75       | 3          | 0           |
| 5935 01 157 9555 | 95        | 48         | 100        | 120.7       | 22         | 1           |
| 5950 00 052 4343 | 94        | 1093       | 106        | 18.77       | 1229       | 54          |
| 5950 00 234 0545 | 97        | 4          | 176        | 4.85        | 0          | 0           |
| 5950 00 443 9516 | 97        | 6          | 35         | 24.25       | 4          | 6           |

| Dec<br>89<br>Bal | S/L<br>Fac | Exp<br>Dec89<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>Dec89<br>@.9 | Red<br>LOT<br>Qty | .9 LT<br>Sht<br>Lng | (.1)<br>RedLOT<br>Value | .1 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|---------------------|-------------------|---------------------|-------------------------|---------------------------|
| 294              | 0.7        | 103                 | 191                 | 95                  | 24                | 175                 | 33121                   | 29808.81                  |
| 499              | 0.3        | 354                 | 145                 | 319                 | 50                | 130                 | 8900                    | 8010                      |
| 643              | 0.3        | 617                 | 26                  | 582                 | 50                | 11                  | 6175                    | 5557.5                    |
| 1192             | 0.9        | 520                 | 672                 | 481                 | 390               | 321                 | 545.86                  | 491.274                   |
| 504              | 0.3        | 355                 | 149                 | 320                 | 50                | 134                 | 6740                    | 6066                      |
| 574              | 0.3        | 398                 | 176                 | 363                 | 50                | 161                 | 10775                   | 9697.5                    |
| 15               | 1          | 0                   | 15                  | 0                   | 10                | 5                   | 13522                   | 12169.8                   |
| 1337             | 0.3        | 1006                | 331                 | 931                 | 107               | 299                 | 27948                   | 25153.56                  |
| 92               | 0.4        | 62                  | 30                  | 56                  | 10                | 26                  | 1428                    | 1285.2                    |
| 104              | 0.4        | 62                  | 42                  | 56                  | 10                | 38                  | 1474                    | 1326.6                    |
| 525              | 0.3        | 386                 | 139                 | 351                 | 50                | 124                 | 3450                    | 3105                      |
| 103              | 0.4        | 64                  | 39                  | 58                  | 10                | 35                  | 1844                    | 1659.6                    |
| 451              | 0.9        | 164                 | 287                 | 157                 | 73                | 221                 | 795.7                   | 716.13                    |
| 546              | 0.9        | 68                  | 478                 | 63                  | 51                | 432                 | 278.3                   | 250.47                    |
| 847              | 0.9        | 128                 | 719                 | 119                 | 88                | 640                 | 227.76                  | 204.984                   |
| 359              | 0.9        | 50                  | 309                 | 46                  | 32                | 281                 | 125.97                  | 113.373                   |
| 193              | 0.4        | 128                 | 65                  | 122                 | 10                | 61                  | 2091                    | 1881.9                    |
| 103              | 0.4        | 62                  | 41                  | 56                  | 10                | 37                  | 2594                    | 2334.6                    |
| 0                | 0.9        | 109                 | -109                | 99                  | 93                | -192                | 195.09                  | 175.581                   |
| 491              | 0.3        | 377                 | 114                 | 342                 | 50                | 99                  | 4350                    | 3915                      |
| 500              | 0.3        | 354                 | 146                 | 319                 | 50                | 131                 | 11065                   | 9958.5                    |
| 113              | 0.4        | 70                  | 43                  | 64                  | 10                | 39                  | 3520                    | 3168                      |
| 95               | 0.4        | 61                  | 34                  | 55                  | 10                | 30                  | 5955                    | 5359.5                    |
| 481              | 0.3        | 510                 | -29                 | 475                 | 50                | -44                 | 5540                    | 4986                      |
| 490              | 0.3        | 366                 | 124                 | 331                 | 50                | 109                 | 3685                    | 3316.5                    |
| 482              | 0.3        | 363                 | 119                 | 328                 | 50                | 104                 | 3685                    | 3316.5                    |
| 507              | 0.3        | 358                 | 149                 | 323                 | 50                | 134                 | 2010                    | 1809                      |
| 512              | 0.3        | 359                 | 153                 | 324                 | 50                | 138                 | 3700                    | 3330                      |
| 497              | 0.3        | 369                 | 128                 | 334                 | 50                | 113                 | 4740                    | 4266                      |
| 504              | 0.3        | 361                 | 143                 | 326                 | 50                | 128                 | 3450                    | 3105                      |
| 505              | 0.3        | 384                 | 121                 | 349                 | 50                | 106                 | 8465                    | 7618.5                    |
| 118              | 0.4        | 60                  | 58                  | 54                  | 10                | 54                  | 3488                    | 3139.2                    |
| 97               | 0.4        | 62                  | 35                  | 56                  | 10                | 31                  | 8221                    | 7398.9                    |
| 100              | 0.4        | 60                  | 40                  | 54                  | 10                | 36                  | 1645                    | 1480.5                    |
| 529              | 0.3        | 370                 | 159                 | 335                 | 50                | 144                 | 5825                    | 5242.5                    |
| 105              | 0.4        | 63                  | 42                  | 57                  | 10                | 38                  | 1757                    | 1581.3                    |
| 384              | 0.3        | 365                 | 19                  | 330                 | 50                | 4                   | 10275                   | 9247.5                    |
| 105              | 0.4        | 64                  | 41                  | 58                  | 10                | 37                  | 11981                   | 10782.9                   |
| 506              | 0.3        | 354                 | 152                 | 319                 | 50                | 137                 | 7315                    | 6583.5                    |
| 101              | 0.4        | 62                  | 39                  | 56                  | 10                | 35                  | 8775                    | 7897.5                    |
| 127              | 0.4        | 89                  | 38                  | 83                  | 10                | 34                  | 12070                   | 10863                     |
| 24               | 0.5        | 600                 | -576                | 594                 | 11                | -581                | 1989.6                  | 1790.658                  |
| 180              | 0.2        | 144                 | 36                  | 130                 | 18                | 32                  | 853.6                   | 768.24                    |
| 43               | 0.2        | 33                  | 10                  | 30                  | 4                 | 9                   | 848.75                  | 763.875                   |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5950 | 00 | 462 | 1773 | 94        | 5          | 44         | 495.56      | 5          | 4           |
| 5950 | 00 | 624 | 1989 | 95        | 849        | 7312       | 9.71        | 1297       | 368         |
| 5950 | 00 | 624 | 1990 | 95        | 3622       | 16417      | 7.87        | 6447       | 699         |
| 5950 | 00 | 780 | 7417 | 95        | 6          | 53         | 223.6       | 0          | 1           |
| 5950 | 00 | 983 | 7611 | 95        | 8          | 65         | 247.52      | 9          | 0           |

| Dec                 |     | Exp   |      | Exp   | Red  | .9 LT | (.1)   | .1 Red   |
|---------------------|-----|-------|------|-------|------|-------|--------|----------|
| 89                  | S/L | Dec89 | Sht  | Dec89 | LOT  | Sht   | RedLOT | Extend   |
| Bal                 | Fac | O/H   | Lng  | @.9   | Qty  | Lng   | Value  | Value    |
| 48                  | 0.3 | 34    | 14   | 32    | 4    | 12    | 21805  | 19624.18 |
| 7252                | 0.4 | 4897  | 2355 | 4458  | 731  | 2063  | 71000  | 63899.57 |
| 14291               | 0.4 | 12023 | 2268 | 11038 | 1642 | 1611  | 129202 | 116281.6 |
| 60                  | 0.4 | 35    | 25   | 32    | 5    | 23    | 11851  | 10665.72 |
| 64                  | 0.4 | 44    | 20   | 40    | 7    | 17    | 16089  | 14479.92 |
| -----               |     |       |      |       |      |       |        |          |
| Saved \$ 636,559.00 |     |       |      |       |      |       |        |          |

Appendix B: Diminished Manufacturing Source  
Life-of-Type Spreadsheet For 67% Buy

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 007 3962 | 94        | 4          | 5          | 651.89      | 0          | 0           |
| 5925 00 051 4889 | 94        | 42         | 20         | 113.95      | 4          | 0           |
| 5925 00 051 4892 | 94        | 262        | 20         | 319.28      | 46         | 12          |
| 5925 00 052 1743 | 94        | 10         | 10         | 213.95      | 7          | 1           |
| 5925 00 054 0100 | 94        | 21         | 40         | 193.6       | 20         | 2           |
| 5925 00 055 9360 | 94        | 15         | 50         | 374.12      | 12         | 5           |
| 5925 00 055 9371 | 94        | 17         | 54         | 61.48       | 43         | 1           |
| 5925 00 055 9373 | 94        | 13         | 10         | 319.2       | 11         | 3           |
| 5925 00 055 9374 | 94        | 4          | 5          | 436.77      | 8          | 0           |
| 5925 00 062 3354 | 97        | 5          | 4          | 377.5       | 6          | 2           |
| 5925 00 067 3359 | 94        | 7          | 10         | 649.22      | 1          | 1           |
| 5925 00 069 5343 | 94        | 15         | 15         | 231.38      | 3          | 5           |
| 5925 00 081 7593 | 94        | 12         | 50         | 559.58      | 5          | 6           |
| 5925 00 088 9602 | 94        | 53         | 135        | 171.22      | 59         | 7           |
| 5925 00 161 9147 | 94        | 15         | 25         | 559.58      | 19         | 1           |
| 5925 00 163 3658 | 94        | 7          | 8          | 60.95       | 2          | 0           |
| 5925 00 165 8539 | 94        | 7          | 5          | 232.72      | 0          | 1           |
| 5925 00 201 2244 | 93        | 6          | 34         | 49.11       | 12         | 0           |
| 5925 00 236 5094 | 94        | 5          | 5          | 651.89      | 0          | 0           |
| 5925 00 253 5137 | 94        | 26         | 50         | 200.23      | 21         | 13          |
| 5925 00 256 1218 | 94        | 6          | 55         | 355.01      | 12         | 7           |
| 5925 00 361 8836 | 94        | 8          | 5          | 436.77      | 0          | 0           |
| 5925 00 404 7431 | 94        | 13         | 154        | 500.02      | 24         | 0           |
| 5925 00 406 6398 | 94        | 0          | 7          | 20.45       | 1          | 0           |
| 5925 00 455 8584 | 94        | 2          | 25         | 193.6       | 6          | 0           |
| 5925 00 456 0651 | 94        | 18         | 40         | 92.75       | 10         | 8           |
| 5925 00 477 9644 | 94        | 35         | 40         | 193.6       | 15         | 13          |
| 5925 00 489 1537 | 94        | 60         | 45         | 202.82      | 49         | 10          |
| 5925 00 502 0979 | 94        | 49         | 55         | 193.6       | 0          | 11          |
| 5925 00 502 1947 | 94        | 16         | 5          | 210.45      | 9          | 0           |
| 5925 00 521 8208 | 94        | 88         | 45         | 202.82      | 132        | 0           |
| 5925 00 612 7159 | 94        | 10         | 39         | 172.25      | 7          | 3           |
| 5925 00 627 0974 | 94        | 22         | 135        | 525.2       | 12         | 9           |
| 5925 00 628 7795 | 88        | 1          | 90         | 120.89      | 95         | 38          |
| 5925 00 655 1229 | 94        | 0          | 6          | 610.14      | 8          | 3           |
| 5925 00 677 6593 | 94        | 46         | 70         | 186.22      | 21         | 4           |
| 5925 00 690 1728 | 94        | 7          | 14         | 60.95       | 1          | 1           |
| 5925 00 691 0019 | 94        | 41         | 155        | 474.04      | 39         | 0           |
| 5925 00 703 3589 | 94        | 192        | 516        | 27.85       | 559        | 292         |
| 5925 00 704 2295 | 94        | 0          | 131        | 356.71      | 12         | 47          |
| 5925 00 723 4910 | 94        | 35         | 70         | 212.5       | 28         | 11          |
| 5925 00 723 4912 | 94        | 17         | 30         | 223.12      | 13         | 5           |
| 5925 00 758 7955 | 94        | 14         | 10         | 434.09      | 6          | 7           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|-------------|-------------------|---------------------|-------------------------|----------------------------|
| 9                | 0.5        | 5                   | 4                   | 3           | 2                 | 4                   | 3259.45                 | 2183.832                   |
| 58               | 0.5        | 31                  | 27                  | 28          | 7                 | 23                  | 2279                    | 1526.93                    |
| 248              | 0.5        | 141                 | 107                 | 138         | 7                 | 103                 | 6385.6                  | 4278.352                   |
| 14               | 0.5        | 10                  | 4                   | 8           | 3                 | 3                   | 2139.5                  | 1433.465                   |
| 43               | 0.5        | 31                  | 12                  | 23          | 13                | 7                   | 7744                    | 5188.48                    |
| 58               | 0.5        | 33                  | 25                  | 24          | 17                | 17                  | 18706                   | 12533.02                   |
| 29               | 0.5        | 36                  | -7                  | 27          | 18                | -16                 | 3319.92                 | 2224.346                   |
| 15               | 0.5        | 12                  | 3                   | 10          | 3                 | 2                   | 3192                    | 2138.64                    |
| 1                | 0.5        | 5                   | -4                  | 4           | 2                 | -5                  | 2183.85                 | 1463.179                   |
| 5                | 0.2        | 7                   | -2                  | 6           | 1                 | -2                  | 1510                    | 1011.7                     |
| 17               | 0.5        | 9                   | 8                   | 7           | 3                 | 7                   | 6492.2                  | 4349.774                   |
| 32               | 0.5        | 15                  | 17                  | 13          | 5                 | 14                  | 3470.7                  | 2325.369                   |
| 63               | 0.5        | 31                  | 32                  | 23          | 17                | 23                  | 27979                   | 18745.93                   |
| 136              | 0.5        | 94                  | 42                  | 72          | 45                | 19                  | 23114.7                 | 15486.85                   |
| 22               | 0.5        | 20                  | 2                   | 16          | 8                 | -2                  | 13989.5                 | 9372.965                   |
| 13               | 0.5        | 8                   | 5                   | 6           | 3                 | 4                   | 487.6                   | 326.692                    |
| 13               | 0.5        | 6                   | 7                   | 5           | 2                 | 6                   | 1163.6                  | 779.612                    |
| 28               | 0.6        | 16                  | 12                  | 12          | 11                | 5                   | 1669.74                 | 1118.726                   |
| 10               | 0.5        | 5                   | 5                   | 4           | 2                 | 4                   | 3259.45                 | 2183.832                   |
| 68               | 0.5        | 38                  | 30                  | 30          | 17                | 21                  | 10011.5                 | 6707.705                   |
| 56               | 0.5        | 31                  | 25                  | 21          | 18                | 17                  | 19525.55                | 13082.12                   |
| 13               | 0.5        | 7                   | 6                   | 6           | 2                 | 5                   | 2183.85                 | 1463.179                   |
| 143              | 0.5        | 84                  | 59                  | 58          | 51                | 34                  | 7 13.08                 | 51592.06                   |
| 6                | 0.5        | 4                   | 2                   | 2           | 2                 | 2                   | 143.15                  | 95.9105                    |
| 21               | 0.5        | 14                  | 7                   | 9           | 8                 | 4                   | 4840                    | 3242.8                     |
| 56               | 0.5        | 29                  | 27                  | 22          | 13                | 21                  | 3710                    | 2485.7                     |
| 73               | 0.5        | 38                  | 35                  | 31          | 13                | 29                  | 7744                    | 5188.48                    |
| 66               | 0.5        | 53                  | 13                  | 45          | 14                | 7                   | 9126.9                  | 6115.023                   |
| 115              | 0.5        | 52                  | 63                  | 43          | 18                | 54                  | 10648                   | 7134.16                    |
| 12               | 0.5        | 11                  | 1                   | 10          | 2                 | 0                   | 1052.25                 | 705.0075                   |
| 1                | 0.5        | 67                  | -66                 | 59          | 15                | -73                 | 9126.9                  | 6115.023                   |
| 45               | 0.5        | 25                  | 20                  | 18          | 13                | 14                  | 6717.75                 | 4500.893                   |
| 154              | 0.5        | 79                  | 75                  | 56          | 45                | 53                  | 70902                   | 47504.34                   |
| 34               | 1          | 0                   | 34                  | 0           | 30                | 4                   | 10880.1                 | 7289.667                   |
| 1                | 0.5        | 3                   | -2                  | 2           | 2                 | -3                  | 3660.84                 | 2452.763                   |
| 99               | 0.5        | 58                  | 41                  | 46          | 23                | 30                  | 13035.4                 | 8733.718                   |
| 21               | 0.5        | 11                  | 10                  | 8           | 5                 | 8                   | 853.3                   | 571.711                    |
| 157              | 0.5        | 98                  | 59                  | 72          | 51                | 34                  | 73476.2                 | 49229.05                   |
| 441              | 0.5        | 354                 | 87                  | 269         | 170               | 2                   | 14370.6                 | 9628.302                   |
| 166              | 0.5        | 66                  | 100                 | 44          | 43                | 79                  | 46729.01                | 31308.44                   |
| 88               | 0.5        | 53                  | 35                  | 41          | 23                | 24                  | 14875                   | 9966.25                    |
| 39               | 0.5        | 24                  | 15                  | 18          | 10                | 11                  | 6693.6                  | 4484.712                   |
| 25               | 0.5        | 12                  | 13                  | 10          | 3                 | 12                  | 4340.9                  | 2908.403                   |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5925 | 00 | 763 | 4103 | 94        | 8          | 10         | 215.02      | 6          | 2           |
| 5925 | 00 | 763 | 6985 | 94        | 5          | 25         | 186.59      | 8          | 7           |
| 5925 | 00 | 782 | 0113 | 94        | 489        | 600        | 135.51      | 1009       | 52          |
| 5925 | 00 | 785 | 7882 | 94        | 0          | 33         | 32.95       | 28         | 0           |
| 5925 | 00 | 809 | 5627 | 94        | 220        | 61         | 223.12      | 280        | 0           |
| 5925 | 00 | 816 | 5263 | 94        | 19         | 5          | 464.43      | 0          | 0           |
| 5925 | 00 | 821 | 8602 | 94        | 136        | 90         | 191.79      | 0          | 0           |
| 5925 | 00 | 826 | 8813 | 94        | 23         | 20         | 209.45      | 26         | 0           |
| 5925 | 00 | 828 | 9725 | 94        | 0          | 5          | 651.89      | 0          | 0           |
| 5925 | 00 | 835 | 2059 | 94        | 38         | 55         | 563.9       | 14         | 0           |
| 5925 | 00 | 837 | 6203 | 94        | 5          | 10         | 222.5       | 0          | 0           |
| 5925 | 00 | 837 | 6637 | 94        | 18         | 10         | 649.22      | 1          | 0           |
| 5925 | 00 | 838 | 2648 | 94        | 12         | 50         | 70.87       | 10         | 0           |
| 5925 | 00 | 839 | 3889 | 94        | 0          | 23         | 174.78      | 3          | 0           |
| 5925 | 00 | 848 | 7917 | 95        | 130        | 100        | 495.65      | 230        | 3           |
| 5925 | 00 | 849 | 2763 | 94        | 144        | 1127       | 353.11      | 578        | 48          |
| 5925 | 00 | 849 | 2765 | 94        | 12         | 20         | 162.5       | 9          | 0           |
| 5925 | 00 | 849 | 2766 | 94        | 4          | 5          | 651.89      | 0          | 0           |
| 5925 | 00 | 849 | 2767 | 94        | 3          | 23         | 60.95       | 0          | 0           |
| 5925 | 00 | 850 | 8145 | 94        | 70         | 5          | 70.87       | 9          | 0           |
| 5925 | 00 | 850 | 8146 | 94        | 80         | 35         | 193.6       | 8          | 4           |
| 5925 | 00 | 853 | 1995 | 94        | 40         | 15         | 221.97      | 0          | 4           |
| 5925 | 00 | 877 | 8066 | 94        | 15         | 89         | 60.95       | 33         | 16          |
| 5925 | 00 | 879 | 0971 | 94        | 0          | 337        | 110.4       | 438        | 165         |
| 5925 | 00 | 879 | 5108 | 94        | 45         | 40         | 569.22      | 6          | 4           |
| 5925 | 00 | 883 | 7656 | 94        | 34         | 40         | 60.38       | 12         | 0           |
| 5925 | 00 | 883 | 7657 | 94        | 11         | 55         | 193.6       | 7          | 0           |
| 5925 | 00 | 883 | 7660 | 94        | 22         | 5          | 60.95       | 16         | 2           |
| 5925 | 00 | 883 | 7670 | 94        | 23         | 28         | 60.95       | 7          | 3           |
| 5925 | 00 | 883 | 7673 | 94        | 8          | 5          | 70.87       | 0          | 0           |
| 5925 | 00 | 892 | 9932 | 94        | 14         | 30         | 379.86      | 17         | 0           |
| 5925 | 00 | 897 | 0644 | 94        | 62         | 195        | 169.62      | 51         | 11          |
| 5925 | 00 | 900 | 5934 | 94        | 0          | 100        | 20.41       | 77         | 0           |
| 5925 | 00 | 903 | 1640 | 94        | 5          | 5          | 225.18      | 0          | 0           |
| 5925 | 00 | 916 | 0367 | 94        | 6          | 20         | 177.55      | 1          | 0           |
| 5925 | 00 | 920 | 6437 | 94        | 7          | 20         | 230.31      | 32         | 7           |
| 5925 | 00 | 923 | 4152 | 94        | 0          | 8          | 604.25      | 8          | 0           |
| 5925 | 00 | 925 | 7840 | 94        | 5          | 30         | 559.58      | 3          | 0           |
| 5925 | 00 | 929 | 7272 | 94        | 1          | 5          | 225.18      | 3          | 2           |
| 5925 | 00 | 931 | 0315 | 94        | 6          | 20         | 403.2       | 2          | 3           |
| 5925 | 00 | 934 | 2842 | 94        | 1          | 15         | 689.56      | 18         | 2           |
| 5925 | 00 | 940 | 3003 | 94        | 68         | 85         | 202.82      | 39         | 10          |
| 5925 | 00 | 945 | 3426 | 94        | 13         | 5          | 651.89      | 0          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 14               | 0.5        | 9                   | 5          | 7                    | 3                 | 4                   | 2150.2                  | 1440.634                   |
| 29               | 0.5        | 15                  | 14         | 11                   | 8                 | 10                  | 4664.75                 | 3125.383                   |
| 132              | 0.5        | 545                 | -413       | 446                  | 198               | -512                | 81306                   | 54475.02                   |
| 5                | 0.5        | 17                  | -12        | 11                   | 11                | -17                 | 1087.35                 | 728.5245                   |
| 1                | 0.5        | 141                 | -140       | 130                  | 20                | -149                | 13610.32                | 9118.914                   |
| 24               | 0.5        | 12                  | 12         | 11                   | 2                 | 11                  | 2322.15                 | 1555.841                   |
| 226              | 0.5        | 113                 | 113        | 98                   | 30                | 98                  | 17261.1                 | 11564.94                   |
| 17               | 0.5        | 22                  | -5         | 18                   | 7                 | -8                  | 4189                    | 2806.63                    |
| 5                | 0.5        | 3                   | 2          | 2                    | 2                 | 1                   | 3259.45                 | 2183.832                   |
| 79               | 0.5        | 47                  | 32         | 37                   | 18                | 24                  | 31014.5                 | 20779.72                   |
| 15               | 0.5        | 8                   | 7          | 6                    | 3                 | 6                   | 2225                    | 1490.75                    |
| 27               | 0.5        | 14                  | 13         | 12                   | 3                 | 12                  | 6492.2                  | 4349.774                   |
| 52               | 0.5        | 31                  | 21         | 23                   | 17                | 12                  | 3543.5                  | 2374.145                   |
| 36               | 0.5        | 12                  | 24         | 8                    | 8                 | 20                  | 4019.94                 | 2693.36                    |
| 3                | 0.4        | 138                 | -135       | 118                  | 33                | -148                | 49565                   | 33208.55                   |
| 741              | 0.5        | 636                 | 105        | 450                  | 372               | -81                 | 397955                  | 266629.8                   |
| 23               | 0.5        | 16                  | 7          | 13                   | 7                 | 3                   | 3250                    | 2177.5                     |
| 9                | 0.5        | 5                   | 4          | 4                    | 2                 | 3                   | 3259.45                 | 2183.832                   |
| 26               | 0.5        | 13                  | 13         | 9                    | 8                 | 9                   | 1401.85                 | 939.2395                   |
| 66               | 0.5        | 38                  | 28         | 37                   | 2                 | 27                  | 354.35                  | 237.4145                   |
| 111              | 0.5        | 58                  | 53         | 52                   | 12                | 47                  | 6776                    | 4539.92                    |
| 59               | 0.5        | 28                  | 31         | 25                   | 5                 | 29                  | 3329.55                 | 2230.799                   |
| 87               | 0.5        | 52                  | 35         | 37                   | 29                | 21                  | 5424.55                 | 3634.449                   |
| 64               | 0.5        | 169                 | -105       | 113                  | 111               | -160                | 37204.8                 | 24927.22                   |
| 83               | 0.5        | 43                  | 40         | 36                   | 13                | 34                  | 22768.8                 | 15255.1                    |
| 62               | 0.5        | 37                  | 25         | 30                   | 13                | 19                  | 2415.2                  | 1618.184                   |
| 59               | 0.5        | 33                  | 26         | 24                   | 18                | 17                  | 10648                   | 7134.16                    |
| 13               | 0.5        | 14                  | -1         | 13                   | 2                 | -2                  | 304.75                  | 204.1825                   |
| 47               | 0.5        | 26                  | 21         | 21                   | 9                 | 17                  | 1706.6                  | 1143.422                   |
| 13               | 0.5        | 7                   | 6          | 6                    | 2                 | 5                   | 354.35                  | 237.4145                   |
| 27               | 0.5        | 22                  | 5          | 17                   | 10                | 0                   | 11395.8                 | 7635.186                   |
| 217              | 0.5        | 129                 | 88         | 96                   | 64                | 57                  | 33075.9                 | 22160.85                   |
| 23               | 0.5        | 50                  | -27        | 34                   | 33                | -44                 | 2041                    | 1367.47                    |
| 10               | 0.5        | 5                   | 5          | 4                    | 2                 | 4                   | 1125.9                  | 754.353                    |
| 25               | 0.5        | 13                  | 12         | 10                   | 7                 | 8                   | 3551                    | 2379.17                    |
| 2                | 0.5        | 14                  | -12        | 10                   | 7                 | -15                 | 4606.2                  | 3086.154                   |
| 0                | 0.5        | 4                   | -4         | 3                    | 3                 | -6                  | 4834                    | 3238.78                    |
| 32               | 0.5        | 18                  | 14         | 13                   | 10                | 9                   | 16787.4                 | 11247.56                   |
| 5                | 0.5        | 3                   | 2          | 2                    | 2                 | 1                   | 1125.9                  | 754.353                    |
| 27               | 0.5        | 13                  | 14         | 10                   | 7                 | 10                  | 8064                    | 5402.88                    |
| 0                | 0.5        | 8                   | -8         | 6                    | 5                 | -11                 | 10343.4                 | 6930.078                   |
| 124              | 0.5        | 77                  | 47         | 62                   | 28                | 34                  | 17239.7                 | 11550.6                    |
| 18               | 0.5        | 9                   | 9          | 8                    | 2                 | 8                   | 3259.45                 | 2183.832                   |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 946 7775 | 94        | 32         | 45         | 187.14      | 36         | 7           |
| 5925 00 950 2467 | 94        | 6          | 18         | 177.55      | 5          | 0           |
| 5925 00 964 3981 | 94        | 75         | 155        | 499.29      | 42         | 20          |
| 5925 00 981 2150 | 94        | 18         | 3          | 112.5       | 10         | 2           |
| 5925 00 985 0908 | 94        | 9          | 30         | 606.14      | 0          | 3           |
| 5925 00 990 2739 | 94        | 0          | 8          | 167.5       | 0          | 0           |
| 5925 01 004 2475 | 94        | 9          | 15         | 226.25      | 2          | 0           |
| 5925 01 023 5398 | 94        | 6          | 5          | 225.18      | 0          | 0           |
| 5925 01 032 1122 | 94        | 225        | 18         | 138.63      | 253        | 27          |
| 5925 01 093 4379 | 95        | 23         | 2          | 207.46      | 16         | 1           |
| 5925 01 130 5343 | 94        | 0          | 45         | 180.94      | 59         | 17          |
| 5925 01 159 7595 | 94        | 43         | 100        | 169.75      | 74         | 3           |
| 5935 00 014 6472 | 95        | 21         | 189        | 51.65       | 71         | 1           |
| 5935 00 054 6559 | 95        | 574        | 371        | 27.8        | 439        | 78          |
| 5935 00 055 7939 | 95        | 43         | 117        | 23.82       | 7          | 0           |
| 5935 00 056 9694 | 95        | 0          | 3          | 8.53        | 2          | 0           |
| 5935 00 057 0308 | 95        | 8          | 257        | 82.25       | 0          | 4           |
| 5935 00 057 5830 | 95        | 45         | 50         | 156.78      | 28         | 20          |
| 5935 00 062 1142 | 95        | 39         | 79         | 35.95       | 23         | 1           |
| 5935 00 065 9803 | 97        | 0          | 29         | 14.84       | 9          | 17          |
| 5935 00 067 4688 | 92        | 217        | 392        | 140.41      | 187        | 46          |
| 5935 00 067 4695 | 92        | 63         | 296        | 152.51      | 73         | 40          |
| 5935 00 069 5500 | 95        | 10         | 108        | 31.57       | 13         | 3           |
| 5935 00 069 5502 | 95        | 20         | 100        | 23.79       | 26         | 0           |
| 5935 00 069 5510 | 95        | 14         | 153        | 24.84       | 17         | 5           |
| 5935 00 078 9337 | 95        | 19         | 222        | 96.27       | 26         | 1           |
| 5935 00 080 7586 | 95        | 0          | 156        | 9.44        | 189        | 33          |
| 5935 00 081 7211 | 92        | 145        | 100        | 112.01      | 181        | 12          |
| 5935 00 083 5050 | 92        | 243        | 813        | 59.1        | 474        | 121         |
| 5935 00 087 8550 | 95        | 0          | 73         | 18.57       | 4          | 0           |
| 5935 00 087 8552 | 95        | 35         | 121        | 18.16       | 16         | 0           |
| 5935 00 088 8108 | 95        | 61         | 100        | 40.32       | 24         | 0           |
| 5935 00 088 8650 | 95        | 80         | 170        | 33.99       | 64         | 15          |
| 5935 00 089 2893 | 95        | 93         | 311        | 31.9        | 42         | 1           |
| 5935 00 089 6611 | 95        | 12         | 225        | 28.67       | 23         | 8           |
| 5935 00 089 6978 | 95        | 118        | 100        | 33.27       | 2          | 5           |
| 5935 00 089 8868 | 96        | 453        | 500        | 21.1        | 358        | 978         |
| 5935 00 103 7374 | 87        | 204        | 50         | 244.82      | 264        | 31          |
| 5935 00 106 6100 | 93        | 107        | 110        | 2.54        | 102        | 0           |
| 5935 00 119 3192 | 92        | 8          | 10         | 307.4       | 8          | 2           |
| 5935 00 119 3201 | 92        | 28         | 10         | 310.55      | 11         | 23          |
| 5935 00 138 1454 | 96        | 15         | 500        | 22.4        | 90         | 11          |
| 5935 00 160 3332 | 96        | 64         | 500        | 27.9        | 49         | 3           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Dec89<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|---------------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 48               | 0.5        | 39                  | 9                   | 31                   | 15                | 2                   | 8421.3                  | 5642.271                   |
| 19               | 0.5        | 12                  | 7                   | 9                    | 6                 | 4                   | 3195.9                  | 2141.253                   |
| 208              | 0.5        | 115                 | 93                  | 89                   | 51                | 68                  | 77389.95                | 51851.27                   |
| 13               | 0.5        | 11                  | 2                   | 10                   | 1                 | 2                   | 337.5                   | 226.125                    |
| 42               | 0.5        | 20                  | 22                  | 15                   | 10                | 17                  | 18184.2                 | 12183.41                   |
| 8                | 0.5        | 4                   | 4                   | 3                    | 3                 | 2                   | 1340                    | 897.8                      |
| 22               | 0.5        | 12                  | 10                  | 10                   | 5                 | 7                   | 3393.75                 | 2273.813                   |
| 11               | 0.5        | 6                   | 5                   | 5                    | 2                 | 4                   | 1125.9                  | 754.353                    |
| 17               | 0.5        | 122                 | -105                | 119                  | 6                 | -108                | 2495.34                 | 1671.878                   |
| 10               | 0.4        | 15                  | -5                  | 15                   | 1                 | -6                  | 414.92                  | 277.9964                   |
| 3                | 0.5        | 23                  | -20                 | 15                   | 15                | -27                 | 8142.3                  | 5455.341                   |
| 72               | 0.5        | 72                  | 0                   | 55                   | 33                | -16                 | 16975                   | 11373.25                   |
| 140              | 0.4        | 126                 | 14                  | 89                   | 62                | -11                 | 9761.85                 | 6540.44                    |
| 584              | 0.4        | 567                 | 17                  | 494                  | 122               | -32                 | 10313.8                 | 6910.246                   |
| 153              | 0.4        | 96                  | 57                  | 73                   | 39                | 41                  | 2786.94                 | 1867.25                    |
| 1                | 0.6        | 2                   | -1                  | 1                    | 1                 | -1                  | 25.59                   | 17.1453                    |
| 269              | 0.4        | 159                 | 110                 | 108                  | 85                | 76                  | 21138.25                | 14162.63                   |
| 87               | 0.4        | 57                  | 30                  | 47                   | 17                | 23                  | 7839                    | 5252.13                    |
| 96               | 0.4        | 71                  | 25                  | 55                   | 26                | 15                  | 2840.05                 | 1902.834                   |
| 37               | 0.2        | 23                  | 14                  | 16                   | 10                | 11                  | 430.36                  | 288.3412                   |
| 468              | 0.7        | 183                 | 285                 | 144                  | 129               | 195                 | 55040.72                | 36877.28                   |
| 326              | 0.7        | 108                 | 218                 | 78                   | 98                | 150                 | 45142.96                | 30245.78                   |
| 108              | 0.4        | 71                  | 37                  | 49                   | 36                | 23                  | 3409.56                 | 2284.405                   |
| 94               | 0.4        | 72                  | 22                  | 52                   | 33                | 9                   | 2379                    | 1593.93                    |
| 155              | 0.4        | 100                 | 55                  | 70                   | 50                | 35                  | 3800.52                 | 2546.348                   |
| 216              | 0.4        | 145                 | 71                  | 101                  | 73                | 42                  | 21371.94                | 14319.2                    |
| 0                | 0.4        | 94                  | -94                 | 63                   | 51                | -114                | 1472.64                 | 986.6688                   |
| 76               | 0.7        | 4                   | 72                  | 64                   | 33                | -21                 | 11201                   | 7504.67                    |
| 703              | 0.7        | 317                 | 386                 | 236                  | 268               | 199                 | 48048.3                 | 32192.36                   |
| 69               | 0.4        | 44                  | 25                  | 29                   | 24                | 16                  | 1355.61                 | 908.2587                   |
| 140              | 0.4        | 94                  | 46                  | 70                   | 40                | 30                  | 2197.36                 | 1472.231                   |
| 137              | 0.4        | 97                  | 40                  | 77                   | 33                | 27                  | 4032                    | 2701.44                    |
| 201              | 0.4        | 150                 | 51                  | 116                  | 56                | 29                  | 5778.3                  | 3871.461                   |
| 363              | 0.4        | 242                 | 121                 | 181                  | 103               | 79                  | 9920.9                  | 6647.003                   |
| 222              | 0.4        | 142                 | 80                  | 98                   | 74                | 50                  | 6450.75                 | 4322.003                   |
| 221              | 0.4        | 131                 | 90                  | 111                  | 33                | 77                  | 3327                    | 2229.09                    |
| 1573             | 0.3        | 667                 | 906                 | 552                  | 165               | 856                 | 10550                   | 7068.5                     |
| 21               | 1          | 0                   | 21                  | 0                    | 17                | 4                   | 12241                   | 8201.47                    |
| 115              | 0.6        | 87                  | 28                  | 72                   | 36                | 7                   | 279.4                   | 187.198                    |
| 12               | 0.7        | 5                   | 7                   | 4                    | 3                 | 5                   | 3074                    | 2059.58                    |
| 50               | 0.7        | 11                  | 39                  | 10                   | 3                 | 37                  | 3105.5                  | 2080.685                   |
| 436              | 0.3        | 361                 | 75                  | 245                  | 165               | 26                  | 11200                   | 7504                       |
| 518              | 0.3        | 395                 | 123                 | 279                  | 165               | 74                  | 13950                   | 9346.5                     |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 163 3334 | 96        | 146        | 500        | 62.1        | 38         | 8           |
| 5935 00 173 7277 | 87        | 716        | 275        | 71.49       | 955        | 37          |
| 5935 00 184 7368 | 92        | 29         | 111        | 183.57      | 74         | 42          |
| 5935 00 189 6245 | 93        | 1427       | 10838      | 1.43        | 3734       | 1096        |
| 5935 00 227 7094 | 92        | 82         | 250        | 160.87      | 80         | 16          |
| 5935 00 235 8525 | 87        | 275        | 25         | 160.96      | 323        | 35          |
| 5935 00 250 0905 | 87        | 30         | 118        | 113.5       | 166        | 136         |
| 5935 00 259 3318 | 93        | 430        | 1921       | 1.99        | 1747       | 115         |
| 5935 00 259 6044 | 87        | 97         | 200        | 15.78       | 268        | 76          |
| 5935 00 274 1986 | 96        | 0          | 172        | 42.05       | 2          | 5           |
| 5935 00 328 3755 | 95        | 25         | 500        | 9.31        | 129        | 40          |
| 5935 00 333 7508 | 96        | 14         | 100        | 333.22      | 27         | 0           |
| 5935 00 365 9400 | 95        | 7          | 100        | 118.88      | 15         | 0           |
| 5935 00 396 6852 | 95        | 45         | 244        | 15.89       | 24         | 0           |
| 5935 00 412 1219 | 93        | 5          | 50         | 2.18        | 22         | 0           |
| 5935 00 439 0551 | 92        | 30         | 96         | 170         | 13         | 6           |
| 5935 00 450 5139 | 96        | 0          | 485        | 20.1        | 35         | 2           |
| 5935 00 455 4678 | 92        | 29         | 55         | 206.77      | 23         | 19          |
| 5935 00 455 9595 | 95        | 2          | 100        | 22.15       | 0          | 0           |
| 5935 00 472 0288 | 92        | 3          | 50         | 15.04       | 36         | 0           |
| 5935 00 476 6315 | 92        | 76         | 775        | 2.08        | 111        | 0           |
| 5935 00 487 5789 | 96        | 69         | 174        | 210         | 154        | 11          |
| 5935 00 497 5688 | 95        | 40         | 500        | 12.77       | 93         | 6           |
| 5935 00 497 9198 | 92        | 196        | 617        | 9.53        | 175        | 209         |
| 5935 00 497 9200 | 92        | 108        | 1000       | 3.31        | 300        | 7           |
| 5935 00 497 9202 | 92        | 479        | 1436       | 2.12        | 253        | 39          |
| 5935 00 497 9203 | 92        | 1628       | 6411       | 2.17        | 4033       | 242         |
| 5935 00 497 9204 | 92        | 324        | 1093       | 1.92        | 272        | 5           |
| 5935 00 498 5639 | 92        | 148        | 1849       | 8.86        | 168        | 35          |
| 5935 00 498 5641 | 92        | 156        | 344        | 5.48        | 285        | 0           |
| 5935 00 498 5642 | 92        | 196        | 365        | 3.03        | 424        | 124         |
| 5935 00 501 0948 | 96        | 30         | 500        | 15.53       | 24         | 5           |
| 5935 00 503 9885 | 96        | 31         | 500        | 22.35       | 15         | 0           |
| 5935 00 520 5235 | 93        | 12         | 10         | 6.45        | 1          | 0           |
| 5935 00 523 9462 | 87        | 313        | 250        | 67.31       | 416        | 1           |
| 5935 00 557 2514 | 89        | 9          | 613        | 147.54      | 20         | 5           |
| 5935 00 578 9329 | 93        | 863        | 10         | 37.49       | 335        | 78          |
| 5935 00 603 7706 | 93        | 35         | 110        | 23.1        | 39         | 2           |
| 5935 00 603 7707 | 93        | 138        | 262        | 10.93       | 157        | 9           |
| 5935 00 605 6714 | 96        | 10         | 500        | 18.28       | 4          | 0           |
| 5935 00 615 3637 | 95        | 17         | 100        | 22.62       | 17         | 9           |
| 5935 00 628 6513 | 96        | 27         | 103        | 95.1        | 39         | 3           |
| 5935 00 631 4156 | 97        | 17         | 98         | 1021.6      | 56         | 14          |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 616              | 0.3        | 452                 | 164        | 337                  | 165               | 114                 | 31050                   | 20803.5                    |
| 73               | 1          | 0                   | 73         | 0                    | 91                | -18                 | 19659.75                | 13172.03                   |
| 108              | 0.7        | 42                  | 66         | 31                   | 37                | 40                  | 20376.27                | 13652.1                    |
| 9627             | 0.6        | 4906                | 4721       | 3475                 | 3576              | 2576                | 15498.34                | 10383.89                   |
| 268              | 0.7        | 100                 | 168        | 75                   | 83                | 110                 | 40217.5                 | 26945.73                   |
| 12               | 1          | 0                   | 12         | 0                    | 8                 | 4                   | 4024                    | 2696.08                    |
| 118              | 1          | 0                   | 118        | 0                    | 39                | 79                  | 13393                   | 8973.31                    |
| 719              | 0.6        | 940                 | -221       | 687                  | 634               | -602                | 3822.79                 | 2561.269                   |
| 105              | 1          | 0                   | 105        | 0                    | 66                | 39                  | 3156                    | 2114.52                    |
| 175              | 0.3        | 120                 | 55         | 81                   | 57                | 37                  | 7232.6                  | 4845.842                   |
| 436              | 0.4        | 315                 | 121        | 216                  | 165               | 55                  | 4655                    | 3118.85                    |
| 87               | 0.3        | 80                  | 7          | 57                   | 33                | -3                  | 33322                   | 22325.74                   |
| 92               | 0.4        | 64                  | 28         | 44                   | 33                | 15                  | 11888                   | 7964.96                    |
| 265              | 0.4        | 173                 | 92         | 125                  | 81                | 59                  | 3877.16                 | 2597.697                   |
| 33               | 0.6        | 22                  | 11         | 15                   | 17                | 1                   | 109                     | 73.03                      |
| 119              | 0.7        | 38                  | 81         | 28                   | 32                | 59                  | 16320                   | 10934.4                    |
| 452              | 0.3        | 340                 | 112        | 227                  | 160               | 65                  | 9748.5                  | 6531.495                   |
| 80               | 0.7        | 25                  | 55         | 20                   | 18                | 42                  | 11372.35                | 7619.475                   |
| 102              | 0.4        | 61                  | 41         | 41                   | 33                | 28                  | 2215                    | 1484.05                    |
| 17               | 0.7        | 16                  | 1          | 11                   | 17                | -11                 | 752                     | 503.84                     |
| 740              | 0.7        | 255                 | 485        | 179                  | 256               | 305                 | 1612                    | 1080.04                    |
| 100              | 0.3        | 170                 | -70        | 130                  | 57                | -87                 | 36540                   | 24481.8                    |
| 453              | 0.4        | 324                 | 129        | 225                  | 165               | 63                  | 6385                    | 4277.95                    |
| 847              | 0.7        | 244                 | 603        | 183                  | 204               | 460                 | 5880.01                 | 3939.607                   |
| 815              | 0.7        | 332                 | 483        | 233                  | 330               | 252                 | 3310                    | 2217.7                     |
| 1701             | 0.7        | 575                 | 1126       | 432                  | 474               | 795                 | 3044.32                 | 2039.694                   |
| 4248             | 0.7        | 2412                | 1836       | 1777                 | 2116              | 355                 | 13911.87                | 9320.953                   |
| 1150             | 0.7        | 425                 | 725        | 317                  | 361               | 472                 | 2098.56                 | 1406.035                   |
| 1864             | 0.7        | 599                 | 1265       | 416                  | 610               | 838                 | 16382.14                | 10976.03                   |
| 215              | 0.7        | 150                 | 65         | 116                  | 114               | -15                 | 1885.12                 | 1263.03                    |
| 261              | 0.7        | 168                 | 93         | 132                  | 120               | 9                   | 1105.95                 | 740.9865                   |
| 511              | 0.3        | 371                 | 140        | 256                  | 165               | 90                  | 7765                    | 5202.55                    |
| 516              | 0.3        | 372                 | 144        | 256                  | 165               | 95                  | 11175                   | 7487.25                    |
| 21               | 0.6        | 9                   | 12         | 7                    | 3                 | 11                  | 64.5                    | 43.215                     |
| 148              | 1          | 0                   | 148        | 0                    | 83                | 65                  | 16827.5                 | 11274.43                   |
| 607              | 1          | 0                   | 607        | 0                    | 202               | 405                 | 90442.02                | 60596.15                   |
| 616              | 0.6        | 349                 | 267        | 348                  | 3                 | 265                 | 374.9                   | 251.183                    |
| 108              | 0.6        | 58                  | 50         | 43                   | 36                | 29                  | 2541                    | 1702.47                    |
| 252              | 0.6        | 160                 | 92         | 125                  | 86                | 41                  | 2863.66                 | 1918.652                   |
| 506              | 0.3        | 357                 | 149        | 242                  | 165               | 99                  | 9140                    | 6123.8                     |
| 109              | 0.4        | 70                  | 39         | 50                   | 33                | 26                  | 2262                    | 1515.54                    |
| 94               | 0.3        | 91                  | 3          | 67                   | 34                | -7                  | 9795.3                  | 6562.851                   |
| 73               | 0.2        | 92                  | -19        | 66                   | 32                | -25                 | 100113.9                | 67076.29                   |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 660 5590 | 93        | 630        | 4110       | 2.34        | 1998       | 490         |
| 5935 00 660 5846 | 92        | 1547       | 2809       | 68.36       | 2542       | 378         |
| 5935 00 660 5854 | 93        | 0          | 15         | 5.05        | 12         | 2           |
| 5935 00 660 5855 | 92        | 722        | 1402       | 81.11       | 1245       | 281         |
| 5935 00 670 0033 | 95        | 231        | 1104       | 35.07       | 334        | 29          |
| 5935 00 679 0479 | 93        | 0          | 63         | 1.72        | 6          | 0           |
| 5935 00 683 1402 | 93        | 227        | 210        | 5.25        | 389        | 30          |
| 5935 00 683 2312 | 92        | 11         | 9          | 158.77      | 19         | 13          |
| 5935 00 683 5102 | 95        | 0          | 100        | 26.5        | 56         | 0           |
| 5935 00 687 1122 | 95        | 138        | 357        | 90.02       | 274        | 11          |
| 5935 00 689 4662 | 92        | 1          | 50         | 215.05      | 26         | 25          |
| 5935 00 704 6020 | 87        | 41         | 35         | 277.47      | 16         | 0           |
| 5935 00 705 9887 | 95        | 1          | 100        | 34.84       | 19         | 0           |
| 5935 00 726 4204 | 92        | 51         | 240        | 181.97      | 288        | 45          |
| 5935 00 730 4145 | 95        | 7          | 113        | 18.04       | 9          | 0           |
| 5935 00 755 6213 | 95        | 182        | 316        | 42.28       | 288        | 8           |
| 5935 00 761 3235 | 95        | 0          | 100        | 74.13       | 97         | 2           |
| 5935 00 761 4344 | 92        | 35         | 50         | 317.68      | 12         | 0           |
| 5935 00 767 5154 | 95        | 59         | 100        | 32.97       | 21         | 19          |
| 5935 00 769 5490 | 95        | 20         | 100        | 80.06       | 1          | 1           |
| 5935 00 781 3036 | 95        | 0          | 100        | 18.88       | 5          | 0           |
| 5935 00 787 3534 | 95        | 47         | 156        | 17.33       | 36         | 8           |
| 5935 00 791 5476 | 95        | 3          | 100        | 119.81      | 1          | 0           |
| 5935 00 799 3054 | 95        | 74         | 500        | 12.17       | 153        | 2           |
| 5935 00 804 2942 | 95        | 16         | 100        | 57.06       | 1          | 0           |
| 5935 00 804 2957 | 95        | 31         | 100        | 48.84       | 0          | 52          |
| 5935 00 805 3463 | 95        | 64         | 158        | 59.47       | 41         | 9           |
| 5935 00 805 3946 | 95        | 20         | 188        | 167.43      | 25         | 5           |
| 5935 00 805 4664 | 95        | 93         | 328        | 50.08       | 142        | 18          |
| 5935 00 806 7509 | 92        | 698        | 1400       | 78.81       | 1343       | 263         |
| 5935 00 807 9629 | 95        | 171        | 511        | 89.55       | 187        | 42          |
| 5935 00 811 8635 | 92        | 315        | 786        | 98.9        | 585        | 236         |
| 5935 00 812 2554 | 87        | 66         | 100        | 92.44       | 134        | 28          |
| 5935 00 813 0030 | 95        | 45         | 500        | 9.8         | 38         | 3           |
| 5935 00 814 5798 | 95        | 169        | 100        | 43.82       | 115        | 7           |
| 5935 00 814 5814 | 95        | 74         | 100        | 47.48       | 16         | 36          |
| 5935 00 814 5815 | 95        | 78         | 113        | 40.46       | 16         | 12          |
| 5935 00 820 9501 | 92        | 76         | 1100       | 55.02       | 346        | 56          |
| 5935 00 823 0295 | 95        | 192        | 323        | 32.47       | 144        | 30          |
| 5935 00 827 5022 | 96        | 0          | 500        | 18.96       | 613        | 127         |
| 5935 00 836 9653 | 95        | 14         | 100        | 34.72       | 0          | 0           |
| 5935 00 838 2762 | 87        | 338        | 57         | 196.56      | 273        | 122         |
| 5935 00 842 1374 | 95        | 7          | 100        | 28.1        | 1          | 0           |
| 5935 00 842 1376 | 95        | 72         | 100        | 72.56       | 3          | 2           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 3232             | 0.6        | 1896                | 1336       | 1353                 | 1356              | 523                 | 9617.4                  | 6443.658                   |
| 2192             | 0.7        | 1307                | 885        | 1029                 | 927               | 236                 | 192023.2                | 128655.6                   |
| 5                | 0.6        | 6                   | -1         | 4                    | 5                 | -4                  | 75.75                   | 50.7525                    |
| 1160             | 0.7        | 637                 | 523        | 498                  | 463               | 199                 | 113716.2                | 76189.87                   |
| 1030             | 0.4        | 801                 | 229        | 582                  | 364               | 84                  | 38717.28                | 25940.58                   |
| 57               | 0.6        | 25                  | 32         | 17                   | 21                | 19                  | 108.36                  | 72.6012                    |
| 78               | 0.6        | 175                 | -97        | 147                  | 69                | -138                | 1102.5                  | 738.675                    |
| 14               | 0.7        | 6                   | 8          | 5                    | 3                 | 6                   | 1428.93                 | 957.3831                   |
| 44               | 0.4        | 60                  | -16        | 40                   | 33                | -29                 | 2650                    | 1775.5                     |
| 232              | 0.4        | 297                 | -65        | 226                  | 118               | -112                | 32137.14                | 21531.88                   |
| 50               | 0.7        | 15                  | 35         | 10                   | 17                | 23                  | 10752.5                 | 7204.175                   |
| 60               | 1          | 0                   | 60         | 0                    | 12                | 48                  | 9711.45                 | 6506.672                   |
| 82               | 0.4        | 61                  | 21         | 41                   | 33                | 8                   | 3484                    | 2334.28                    |
| 48               | 0.7        | 87                  | -39        | 64                   | 79                | -95                 | 43672.8                 | 29260.78                   |
| 111              | 0.4        | 72                  | 39         | 50                   | 37                | 24                  | 2038.52                 | 1365.808                   |
| 218              | 0.4        | 299                 | -81        | 236                  | 104               | -122                | 13360.48                | 8951.522                   |
| 5                | 0.4        | 60                  | -55        | 40                   | 33                | -68                 | 7413                    | 4966.71                    |
| 73               | 0.7        | 26                  | 47         | 21                   | 17                | 35                  | 15884                   | 10642.28                   |
| 157              | 0.4        | 94                  | 63         | 76                   | 33                | 48                  | 3297                    | 2208.99                    |
| 120              | 0.4        | 72                  | 48         | 52                   | 33                | 35                  | 8006                    | 5364.02                    |
| 95               | 0.4        | 60                  | 35         | 40                   | 33                | 22                  | 1888                    | 1264.96                    |
| 175              | 0.4        | 122                 | 53         | 91                   | 51                | 33                  | 2703.48                 | 1811.332                   |
| 102              | 0.4        | 62                  | 40         | 42                   | 33                | 27                  | 11981                   | 8027.27                    |
| 423              | 0.4        | 344                 | 79         | 245                  | 165               | 13                  | 6085                    | 4076.95                    |
| 115              | 0.4        | 70                  | 45         | 50                   | 33                | 32                  | 5706                    | 3823.02                    |
| 183              | 0.4        | 79                  | 104        | 59                   | 33                | 91                  | 4884                    | 3272.28                    |
| 190              | 0.4        | 133                 | 57         | 102                  | 52                | 36                  | 9396.26                 | 6295.494                   |
| 188              | 0.4        | 125                 | 63         | 88                   | 62                | 38                  | 31476.84                | 21089.48                   |
| 297              | 0.4        | 253                 | 44         | 188                  | 108               | 1                   | 16426.24                | 11005.58                   |
| 1018             | 0.7        | 629                 | 389        | 491                  | 462               | 65                  | 110334                  | 73923.78                   |
| 537              | 0.4        | 409                 | 128        | 308                  | 169               | 60                  | 45760.05                | 30659.23                   |
| 752              | 0.7        | 330                 | 422        | 252                  | 259               | 241                 | 77735.4                 | 52082.72                   |
| 60               | 1          | 0                   | 60         | 0                    | 33                | 27                  | 9244                    | 6193.48                    |
| 510              | 0.4        | 327                 | 183        | 228                  | 165               | 117                 | 4900                    | 3283                       |
| 161              | 0.4        | 161                 | 0          | 142                  | 33                | -14                 | 4382                    | 2935.94                    |
| 194              | 0.4        | 104                 | 90         | 85                   | 33                | 76                  | 4748                    | 3181.16                    |
| 187              | 0.4        | 115                 | 72         | 92                   | 37                | 58                  | 4571.98                 | 3063.227                   |
| 886              | 0.7        | 353                 | 533        | 244                  | 363               | 279                 | 60522                   | 40549.74                   |
| 401              | 0.4        | 309                 | 92         | 245                  | 107               | 49                  | 10487.81                | 7026.833                   |
| 14               | 0.3        | 350                 | -336       | 235                  | 165               | -386                | 9480                    | 6351.6                     |
| 114              | 0.4        | 68                  | 46         | 49                   | 33                | 32                  | 3472                    | 2326.24                    |
| 244              | 1          | 0                   | 244        | 0                    | 19                | 225                 | 11203.92                | 7506.626                   |
| 106              | 0.4        | 64                  | 42         | 44                   | 33                | 29                  | 2810                    | 1882.7                     |
| 171              | 0.4        | 103                 | 68         | 83                   | 33                | 55                  | 7256                    | 4861.52                    |

|      | NSN         | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|-------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 | 00 842 9045 | 87        | 409        | 176        | 139.63      | 411        | 156         |
| 5935 | 00 843 0144 | 87        | 25         | 25         | 424.61      | 24         | 3           |
| 5935 | 00 845 7508 | 95        | 120        | 300        | 32.34       | 35         | 0           |
| 5935 | 00 856 2872 | 95        | 2          | 100        | 40.86       | 4          | 11          |
| 5935 | 00 872 4730 | 97        | 13         | 240        | 88.47       | 34         | 5           |
| 5935 | 00 872 6853 | 87        | 47         | 25         | 76.52       | 41         | 3           |
| 5935 | 00 878 1603 | 96        | 0          | 500        | 11.9        | 280        | 0           |
| 5935 | 00 878 1604 | 96        | 0          | 100        | 44.76       | 36         | 75          |
| 5935 | 00 879 8440 | 92        | 80         | 410        | 254         | 215        | 28          |
| 5935 | 00 883 5868 | 92        | 15         | 30         | 143.12      | 10         | 1           |
| 5935 | 00 884 3427 | 96        | 34         | 2500       | 35.85       | 235        | 4           |
| 5935 | 00 886 9796 | 87        | 13         | 25         | 142.04      | 11         | 5           |
| 5935 | 00 888 3708 | 96        | 296        | 500        | 9.48        | 319        | 31          |
| 5935 | 00 897 4610 | 95        | 10         | 100        | 28.09       | 2          | 2           |
| 5935 | 00 900 0859 | 95        | 0          | 100        | 36.99       | 3          | 0           |
| 5935 | 00 900 1239 | 96        | 14         | 500        | 8.15        | 10         | 0           |
| 5935 | 00 900 1987 | 95        | 95         | 203        | 26.27       | 24         | 6           |
| 5935 | 00 900 1989 | 95        | 11         | 100        | 38.08       | 5          | 1           |
| 5935 | 00 900 1990 | 95        | 8          | 100        | 38.46       | 12         | 2           |
| 5935 | 00 900 1992 | 95        | 2          | 100        | 53.68       | 0          | 3           |
| 5935 | 00 900 1997 | 95        | 52         | 100        | 18.95       | 10         | 10          |
| 5935 | 00 900 2001 | 95        | 28         | 164        | 31.88       | 14         | 10          |
| 5935 | 00 900 2002 | 95        | 29         | 100        | 55.66       | 18         | 3           |
| 5935 | 00 900 2003 | 95        | 4          | 100        | 38.16       | 0          | 1           |
| 5935 | 00 900 2076 | 95        | 27         | 100        | 19.92       | 0          | 0           |
| 5935 | 00 901 5912 | 95        | 20         | 100        | 23.49       | 0          | 4           |
| 5935 | 00 905 6652 | 95        | 60         | 182        | 25.41       | 16         | 34          |
| 5935 | 00 905 9676 | 92        | 257        | 850        | 72.05       | 553        | 131         |
| 5935 | 00 910 9280 | 92        | 8          | 25         | 245.91      | 3          | 3           |
| 5935 | 00 911 9871 | 93        | 414        | 37         | 2.98        | 331        | 0           |
| 5935 | 00 912 1432 | 93        | 83         | 31         | 4.56        | 84         | 0           |
| 5935 | 00 912 1436 | 93        | 414        | 1010       | 1.39        | 306        | 0           |
| 5935 | 00 912 1498 | 93        | 219        | 515        | 1.81        | 176        | 0           |
| 5935 | 00 912 6393 | 95        | 43         | 100        | 40.57       | 67         | 10          |
| 5935 | 00 912 7813 | 95        | 25         | 100        | 26.71       | 38         | 5           |
| 5935 | 00 913 7613 | 92        | 9          | 25         | 324.74      | 10         | 6           |
| 5935 | 00 916 0413 | 95        | 115        | 251        | 27.4        | 100        | 18          |
| 5935 | 00 916 0514 | 92        | 29         | 16         | 298.99      | 36         | 20          |
| 5935 | 00 916 0641 | 92        | 40         | 10         | 396.23      | 0          | 7           |
| 5935 | 00 917 3325 | 95        | 4          | 100        | 59.15       | 0          | 4           |
| 5935 | 00 919 0562 | 96        | 206        | 500        | 31.6        | 174        | 14          |
| 5935 | 00 923 4874 | 92        | 7          | 25         | 284.49      | 29         | 8           |
| 5935 | 00 937 7371 | 93        | 8          | 50         | 6.17        | 5          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 330              | 1          | 0                   | 330        | 0                    | 58                | 272                 | 24574.88                | 16465.17                   |
| 29               | 1          | 0                   | 29         | 0                    | 8                 | 21                  | 10615.25                | 7112.218                   |
| 385              | 0.4        | 252                 | 133        | 193                  | 99                | 93                  | 9702                    | 6500.34                    |
| 109              | 0.4        | 61                  | 48         | 41                   | 33                | 35                  | 4086                    | 2737.62                    |
| 224              | 0.2        | 202                 | 22         | 139                  | 79                | 6                   | 21232.8                 | 14225.98                   |
| 34               | 1          | 0                   | 34         | 0                    | 8                 | 26                  | 1913                    | 1281.71                    |
| 220              | 0.3        | 350                 | -130       | 235                  | 165               | -180                | 5950                    | 3986.5                     |
| 139              | 0.3        | 70                  | 69         | 47                   | 33                | 59                  | 4476                    | 2998.92                    |
| 303              | 0.7        | 147                 | 156        | 106                  | 135               | 62                  | 104140                  | 69773.8                    |
| 36               | 0.7        | 14                  | 22         | 11                   | 10                | 15                  | 4293.6                  | 2876.712                   |
| 2303             | 0.3        | 1774                | 529        | 1196                 | 825               | 282                 | 89625                   | 60048.75                   |
| 32               | 1          | 0                   | 32         | 0                    | 8                 | 24                  | 3551                    | 2379.17                    |
| 508              | 0.3        | 557                 | -49        | 442                  | 165               | -99                 | 4740                    | 3175.8                     |
| 110              | 0.4        | 66                  | 44         | 46                   | 33                | 31                  | 2809                    | 1882.03                    |
| 97               | 0.4        | 60                  | 37         | 40                   | 33                | 24                  | 3699                    | 2478.33                    |
| 504              | 0.3        | 360                 | 144        | 244                  | 165               | 95                  | 4075                    | 2730.25                    |
| 280              | 0.4        | 179                 | 101        | 139                  | 67                | 74                  | 5332.81                 | 3572.983                   |
| 107              | 0.4        | 67                  | 40         | 47                   | 33                | 27                  | 3808                    | 2551.36                    |
| 98               | 0.4        | 65                  | 33         | 45                   | 33                | 20                  | 3846                    | 2576.82                    |
| 105              | 0.4        | 61                  | 44         | 41                   | 33                | 31                  | 5368                    | 3596.56                    |
| 152              | 0.4        | 91                  | 61         | 71                   | 33                | 48                  | 1895                    | 1269.65                    |
| 188              | 0.4        | 115                 | 73         | 83                   | 54                | 51                  | 5228.32                 | 3502.974                   |
| 114              | 0.4        | 77                  | 37         | 58                   | 33                | 23                  | 5566                    | 3729.22                    |
| 105              | 0.4        | 62                  | 43         | 43                   | 33                | 29                  | 3816                    | 2556.72                    |
| 127              | 0.4        | 76                  | 51         | 56                   | 33                | 38                  | 1992                    | 1334.64                    |
| 124              | 0.4        | 72                  | 52         | 52                   | 33                | 39                  | 2349                    | 1573.83                    |
| 260              | 0.4        | 145                 | 115        | 109                  | 60                | 91                  | 4624.62                 | 3098.495                   |
| 685              | 0.7        | 332                 | 353        | 248                  | 281               | 156                 | 61242.5                 | 41032.47                   |
| 33               | 0.7        | 10                  | 23         | 7                    | 8                 | 18                  | 6147.75                 | 4118.993                   |
| 120              | 0.6        | 180                 | -60        | 176                  | 12                | -68                 | 110.26                  | 73.8742                    |
| 30               | 0.6        | 46                  | -16        | 42                   | 10                | -22                 | 141.36                  | 94.7112                    |
| 1118             | 0.6        | 570                 | 548        | 436                  | 333               | 349                 | 1403.9                  | 940.613                    |
| 558              | 0.6        | 294                 | 264        | 226                  | 170               | 162                 | 932.15                  | 624.5405                   |
| 86               | 0.4        | 86                  | 0          | 66                   | 33                | -13                 | 4057                    | 2718.19                    |
| 92               | 0.4        | 75                  | 17         | 55                   | 33                | 4                   | 2671                    | 1789.57                    |
| 30               | 0.7        | 10                  | 20         | 8                    | 8                 | 14                  | 8118.5                  | 5439.395                   |
| 284              | 0.4        | 220                 | 64         | 170                  | 83                | 31                  | 6877.4                  | 4607.858                   |
| 29               | 0.7        | 14                  | 15         | 12                   | 5                 | 12                  | 4783.84                 | 3205.173                   |
| 57               | 0.7        | 15                  | 42         | 14                   | 3                 | 40                  | 3962.3                  | 2654.741                   |
| 108              | 0.4        | 62                  | 46         | 43                   | 33                | 32                  | 5915                    | 3963.05                    |
| 546              | 0.3        | 494                 | 52         | 379                  | 165               | 2                   | 15800                   | 10586                      |
| 11               | 0.7        | 10                  | 1          | 7                    | 8                 | -4                  | 7112.25                 | 4765.208                   |
| 53               | 0.6        | 23                  | 30         | 17                   | 17                | 19                  | 308.5                   | 206.695                    |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5935 | 00 | 938 | 7299 | 95        | 11         | 100        | 27.56       | 8          | 0           |
| 5935 | 00 | 946 | 1272 | 96        | 28         | 500        | 7.6         | 42         | 3           |
| 5935 | 00 | 947 | 2925 | 95        | 48         | 500        | 18.5        | 487        | 115         |
| 5935 | 00 | 951 | 2154 | 87        | 158        | 100        | 230.5       | 176        | 26          |
| 5935 | 00 | 952 | 2204 | 95        | 152        | 100        | 37.51       | 30         | 13          |
| 5935 | 00 | 954 | 3147 | 96        | 19         | 500        | 13          | 5          | 7           |
| 5935 | 00 | 954 | 7895 | 95        | 23         | 100        | 19.65       | 7          | 10          |
| 5935 | 00 | 954 | 7896 | 95        | 5          | 100        | 29.84       | 9          | 0           |
| 5935 | 00 | 954 | 9050 | 95        | 37         | 196        | 21.81       | 154        | 44          |
| 5935 | 00 | 954 | 9064 | 95        | 18         | 100        | 22.14       | 3          | 5           |
| 5935 | 00 | 954 | 9072 | 95        | 53         | 254        | 28.44       | 87         | 11          |
| 5935 | 00 | 954 | 9076 | 95        | 45         | 100        | 25.16       | 26         | 7           |
| 5935 | 00 | 956 | 4983 | 92        | 20         | 40         | 176.44      | 1          | 11          |
| 5935 | 00 | 956 | 8340 | 99        | 28         | 144        | 95.54       | 30         | 22          |
| 5935 | 00 | 956 | 8341 | 99        | 63         | 113        | 81.6        | 63         | 15          |
| 5935 | 00 | 957 | 8473 | 95        | 109        | 100        | 20.75       | 45         | 10          |
| 5935 | 00 | 957 | 8480 | 95        | 72         | 100        | 31.64       | 14         | 9           |
| 5935 | 00 | 958 | 7507 | 95        | 182        | 622        | 43.39       | 120        | 61          |
| 5935 | 00 | 959 | 8561 | 95        | 36         | 100        | 56.12       | 22         | 8           |
| 5935 | 00 | 962 | 0221 | 96        | 26         | 500        | 15.9        | 2          | 3           |
| 5935 | 00 | 967 | 1272 | 92        | 224        | 350        | 194.34      | 34         | 82          |
| 5935 | 00 | 967 | 1273 | 88        | 751        | 800        | 154.27      | 473        | 39          |
| 5935 | 00 | 967 | 1279 | 87        | 481        | 108        | 181.58      | 78         | 14          |
| 5935 | 00 | 967 | 1288 | 92        | 52         | 1325       | 18.03       | 123        | 30          |
| 5935 | 00 | 967 | 1291 | 92        | 85         | 500        | 174.38      | 80         | 22          |
| 5935 | 00 | 967 | 1295 | 92        | 166        | 550        | 186.19      | 123        | 48          |
| 5935 | 00 | 967 | 1308 | 92        | 84         | 250        | 309.85      | 165        | 26          |
| 5935 | 00 | 967 | 1310 | 92        | 54         | 400        | 349.77      | 84         | 7           |
| 5935 | 00 | 967 | 1311 | 87        | 41         | 375        | 346.86      | 88         | 0           |
| 5935 | 00 | 968 | 6929 | 87        | 212        | 145        | 3.01        | 182        | 54          |
| 5935 | 00 | 972 | 3151 | 92        | 315        | 2000       | 76.27       | 1169       | 201         |
| 5935 | 00 | 974 | 5683 | 92        | 1039       | 350        | 5.76        | 1011       | 0           |
| 5935 | 00 | 974 | 5684 | 92        | 99         | 1625       | 136.52      | 380        | 47          |
| 5935 | 00 | 974 | 5685 | 92        | 871        | 1425       | 149.55      | 494        | 33          |
| 5935 | 00 | 974 | 6929 | 95        | 23         | 100        | 13.05       | 8          | 0           |
| 5935 | 00 | 976 | 0023 | 92        | 546        | 1700       | 148.57      | 443        | 45          |
| 5935 | 00 | 976 | 4811 | 95        | 38         | 121        | 26.93       | 10         | 12          |
| 5935 | 00 | 977 | 5821 | 92        | 11         | 30         | 223.28      | 2          | 2           |
| 5935 | 00 | 983 | 5978 | 95        | 5          | 311        | 17.44       | 3          | 2           |
| 5935 | 00 | 983 | 8873 | 87        | 25         | 50         | 183.93      | 40         | 10          |
| 5935 | 00 | 988 | 5945 | 95        | 99         | 235        | 23.95       | 49         | 17          |
| 5935 | 00 | 989 | 0900 | 95        | 12         | 100        | 41.03       | 110        | 9           |
| 5935 | 00 | 989 | 5998 | 92        | 128        | 675        | 94.27       | 398        | 106         |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 103              | 0.4        | 67                  | 36         | 47                   | 33                | 23                  | 2756                    | 1846.52                    |
| 489              | 0.3        | 370                 | 119        | 254                  | 165               | 70                  | 3800                    | 2546                       |
| 176              | 0.4        | 329                 | -153       | 230                  | 165               | -219                | 9250                    | 6197.5                     |
| 108              | 1          | 0                   | 108        | 0                    | 33                | 75                  | 23050                   | 15443.5                    |
| 235              | 0.4        | 151                 | 84         | 131                  | 33                | 71                  | 3751                    | 2513.17                    |
| 521              | 0.3        | 363                 | 158        | 248                  | 165               | 108                 | 6500                    | 4355                       |
| 126              | 0.4        | 74                  | 52         | 54                   | 33                | 39                  | 1965                    | 1316.55                    |
| 96               | 0.4        | 63                  | 33         | 43                   | 33                | 20                  | 2984                    | 1999.28                    |
| 123              | 0.4        | 140                 | -17        | 101                  | 65                | -43                 | 4274.76                 | 2864.089                   |
| 120              | 0.4        | 71                  | 49         | 51                   | 33                | 36                  | 2214                    | 1483.38                    |
| 231              | 0.4        | 184                 | 47         | 134                  | 84                | 13                  | 7223.76                 | 4839.919                   |
| 126              | 0.4        | 87                  | 39         | 67                   | 33                | 26                  | 2516                    | 1685.72                    |
| 70               | 0.7        | 18                  | 52         | 14                   | 13                | 43                  | 7057.6                  | 4728.592                   |
| 164              | 0.3        | 120                 | 44         | 87                   | 48                | 29                  | 13757.76                | 9217.699                   |
| 128              | 0.3        | 123                 | 5          | 97                   | 37                | -6                  | 9220.8                  | 6177.936                   |
| 174              | 0.4        | 125                 | 49         | 106                  | 33                | 35                  | 2075                    | 1390.25                    |
| 167              | 0.4        | 103                 | 64         | 83                   | 33                | 51                  | 3164                    | 2119.88                    |
| 745              | 0.4        | 482                 | 263        | 359                  | 205               | 181                 | 26988.58                | 18082.35                   |
| 122              | 0.4        | 82                  | 40         | 62                   | 33                | 27                  | 5612                    | 3760.04                    |
| 527              | 0.4        | 316                 | 211        | 217                  | 165               | 145                 | 7950                    | 5326.5                     |
| 622              | 0.7        | 172                 | 450        | 138                  | 116               | 368                 | 68019                   | 45572.73                   |
| 1117             | 1          | 0                   | 1117       | 0                    | 264               | 853                 | 123416                  | 82688.72                   |
| 525              | 1          | 0                   | 525        | 0                    | 36                | 489                 | 19610.64                | 13139.13                   |
| 1284             | 0.7        | 413                 | 871        | 282                  | 437               | 565                 | 23889.75                | 16006.13                   |
| 527              | 0.7        | 176                 | 351        | 126                  | 165               | 236                 | 87190                   | 58417.3                    |
| 641              | 0.7        | 215                 | 426        | 160                  | 182               | 299                 | 102404.5                | 68611.01                   |
| 195              | 0.7        | 100                 | 95         | 75                   | 83                | 37                  | 77462.5                 | 51899.88                   |
| 377              | 0.7        | 136                 | 241        | 97                   | 132               | 148                 | 139908                  | 93738.36                   |
| 328              | 1          | 0                   | 328        | 0                    | 124               | 204                 | 130072.5                | 87148.58                   |
| 229              | 1          | 0                   | 229        | 0                    | 48                | 181                 | 436.45                  | 292.4215                   |
| 1347             | 0.7        | 695                 | 652        | 497                  | 660               | 190                 | 152540                  | 102201.8                   |
| 378              | 0.7        | 417                 | -39        | 382                  | 116               | -120                | 2016                    | 1350.72                    |
| 1391             | 0.7        | 517                 | 874        | 356                  | 536               | 499                 | 221845                  | 148636.2                   |
| 1835             | 0.7        | 689                 | 1146       | 548                  | 470               | 817                 | 213108.8                | 142782.9                   |
| 115              | 0.4        | 74                  | 41         | 54                   | 33                | 28                  | 1305                    | 874.35                     |
| 1848             | 0.7        | 674                 | 1174       | 506                  | 561               | 781                 | 252569                  | 169221.2                   |
| 161              | 0.4        | 95                  | 66         | 71                   | 40                | 50                  | 3258.53                 | 2183.215                   |
| 41               | 0.7        | 12                  | 29         | 9                    | 10                | 22                  | 6698.4                  | 4487.928                   |
| 315              | 0.4        | 190                 | 125        | 128                  | 103               | 84                  | 5423.84                 | 3633.973                   |
| 45               | 1          | 0                   | 45         | 0                    | 17                | 28                  | 9196.5                  | 6161.655                   |
| 302              | 0.4        | 200                 | 102        | 154                  | 78                | 70                  | 5628.25                 | 3770.928                   |
| 11               | 0.4        | 67                  | -56        | 47                   | 33                | -69                 | 4103                    | 2749.01                    |
| 511              | 0.7        | 241                 | 270        | 174                  | 223               | 114                 | 63632.25                | 42633.61                   |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5935 | 00 | 999 | 7223 | 92        | 107        | 235        | 140.94      | 82         | 34          |
| 5935 | 01 | 006 | 8183 | 96        | 6          | 500        | 17.8        | 7          | 0           |
| 5935 | 01 | 006 | 8212 | 96        | 382        | 500        | 12.35       | 239        | 0           |
| 5935 | 01 | 008 | 2898 | 90        | 1299       | 3899       | 0.14        | 4392       | 386         |
| 5935 | 01 | 011 | 7666 | 96        | 7          | 500        | 13.48       | 3          | 0           |
| 5935 | 01 | 016 | 3813 | 96        | 69         | 500        | 21.55       | 5          | 10          |
| 5935 | 01 | 017 | 3697 | 87        | 285        | 100        | 135.22      | 497        | 127         |
| 5935 | 01 | 025 | 9086 | 96        | 367        | 1070       | 26.12       | 109        | 9           |
| 5935 | 01 | 029 | 2518 | 95        | 4          | 100        | 14.28       | 12         | 0           |
| 5935 | 01 | 030 | 6991 | 95        | 4          | 100        | 14.74       | 0          | 0           |
| 5935 | 01 | 037 | 6493 | 96        | 51         | 500        | 6.9         | 26         | 0           |
| 5935 | 01 | 038 | 6473 | 95        | 7          | 100        | 18.44       | 4          | 0           |
| 5935 | 01 | 044 | 4436 | 90        | 910        | 730        | 1.09        | 1189       | 0           |
| 5935 | 01 | 044 | 8588 | 90        | 172        | 506        | 0.55        | 132        | 0           |
| 5935 | 01 | 045 | 2926 | 90        | 400        | 876        | 0.26        | 429        | 0           |
| 5935 | 01 | 045 | 4830 | 90        | 172        | 323        | 0.39        | 136        | 0           |
| 5935 | 01 | 064 | 4721 | 95        | 114        | 100        | 20.91       | 21         | 0           |
| 5935 | 01 | 065 | 8357 | 95        | 3          | 100        | 25.94       | 0          | 0           |
| 5935 | 01 | 072 | 3866 | 90        | 157        | 929        | 0.21        | 1086       | 0           |
| 5935 | 01 | 074 | 8607 | 96        | 39         | 500        | 8.7         | 49         | 1           |
| 5935 | 01 | 077 | 7173 | 96        | 5          | 500        | 22.13       | 5          | 0           |
| 5935 | 01 | 079 | 7333 | 95        | 16         | 100        | 35.2        | 3          | 0           |
| 5935 | 01 | 079 | 7383 | 95        | 2          | 100        | 59.55       | 7          | 0           |
| 5935 | 01 | 079 | 8948 | 96        | 229        | 500        | 11.08       | 287        | 39          |
| 5935 | 01 | 081 | 3860 | 96        | 23         | 500        | 7.37        | 33         | 0           |
| 5935 | 01 | 082 | 8806 | 96        | 19         | 500        | 7.37        | 37         | 0           |
| 5935 | 01 | 084 | 5790 | 96        | 12         | 500        | 4.02        | 5          | 0           |
| 5935 | 01 | 086 | 6228 | 96        | 13         | 500        | 7.4         | 1          | 0           |
| 5935 | 01 | 086 | 8444 | 96        | 27         | 500        | 9.48        | 30         | 0           |
| 5935 | 01 | 089 | 1419 | 96        | 16         | 500        | 6.9         | 12         | 0           |
| 5935 | 01 | 089 | 1420 | 96        | 49         | 500        | 16.93       | 48         | 4           |
| 5935 | 01 | 091 | 1846 | 95        | 0          | 100        | 34.88       | 100        | 118         |
| 5935 | 01 | 094 | 3684 | 95        | 3          | 100        | 82.21       | 6          | 0           |
| 5935 | 01 | 103 | 4797 | 95        | 0          | 100        | 16.45       | 0          | 0           |
| 5935 | 01 | 105 | 7922 | 96        | 29         | 500        | 11.65       | 0          | 0           |
| 5935 | 01 | 112 | 5449 | 95        | 5          | 100        | 17.57       | 0          | 0           |
| 5935 | 01 | 122 | 7526 | 96        | 21         | 500        | 20.55       | 139        | 2           |
| 5935 | 01 | 134 | 1247 | 95        | 6          | 100        | 119.81      | 1          | 0           |
| 5935 | 01 | 136 | 1973 | 96        | 6          | 500        | 14.63       | 0          | 0           |
| 5935 | 01 | 147 | 9432 | 95        | 4          | 100        | 87.75       | 3          | 0           |
| 5935 | 01 | 157 | 9555 | 95        | 48         | 100        | 120.7       | 22         | 1           |
| 5950 | 00 | 052 | 4343 | 94        | 1093       | 106        | 18.77       | 1229       | 54          |
| 5950 | 00 | 234 | 0545 | 97        | 4          | 176        | 4.85        | 0          | 0           |
| 5950 | 00 | 443 | 9516 | 97        | 6          | 35         | 24.25       | 4          | 6           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 294              | 0.7        | 103                 | 191        | 79                   | 78                | 137                 | 33120.9                 | 22191                      |
| 499              | 0.3        | 354                 | 145        | 239                  | 165               | 95                  | 8900                    | 5963                       |
| 643              | 0.3        | 617                 | 26         | 502                  | 165               | -24                 | 6175                    | 4137.25                    |
| 1192             | 0.9        | 520                 | 672        | 391                  | 1287              | -486                | 545.86                  | 365.7262                   |
| 504              | 0.3        | 355                 | 149        | 239                  | 165               | 100                 | 6740                    | 4515.8                     |
| 574              | 0.3        | 398                 | 176        | 283                  | 165               | 126                 | 10775                   | 7219.25                    |
| 15               | 1          | 0                   | 15         | 0                    | 33                | -18                 | 13522                   | 9059.74                    |
| 1337             | 0.3        | 1006                | 331        | 759                  | 353               | 225                 | 27948.4                 | 18725.43                   |
| 92               | 0.4        | 62                  | 30         | 43                   | 33                | 16                  | 1428                    | 956.76                     |
| 104              | 0.4        | 62                  | 42         | 43                   | 33                | 28                  | 1474                    | 987.58                     |
| 525              | 0.3        | 386                 | 139        | 270                  | 165               | 90                  | 3450                    | 2311.5                     |
| 103              | 0.4        | 64                  | 39         | 44                   | 33                | 26                  | 1844                    | 1235.48                    |
| 451              | 0.9        | 164                 | 287        | 140                  | 241               | 70                  | 795.7                   | 533.119                    |
| 546              | 0.9        | 68                  | 478        | 51                   | 167               | 328                 | 278.3                   | 186.461                    |
| 847              | 0.9        | 128                 | 719        | 99                   | 289               | 459                 | 227.76                  | 152.5992                   |
| 359              | 0.9        | 50                  | 309        | 39                   | 107               | 213                 | 125.97                  | 84.3999                    |
| 193              | 0.4        | 128                 | 65         | 109                  | 33                | 51                  | 2091                    | 1400.97                    |
| 103              | 0.4        | 62                  | 41         | 42                   | 33                | 28                  | 2594                    | 1737.98                    |
| 0                | 0.9        | 109                 | -109       | 78                   | 307               | -385                | 195.09                  | 130.7103                   |
| 491              | 0.3        | 377                 | 114        | 262                  | 165               | 64                  | 4350                    | 2914.5                     |
| 500              | 0.3        | 354                 | 146        | 238                  | 165               | 97                  | 11065                   | 7413.55                    |
| 113              | 0.4        | 70                  | 43         | 50                   | 33                | 30                  | 3520                    | 2358.4                     |
| 95               | 0.4        | 61                  | 34         | 41                   | 33                | 21                  | 5955                    | 3989.85                    |
| 481              | 0.3        | 510                 | -29        | 395                  | 165               | -79                 | 5540                    | 3711.8                     |
| 490              | 0.3        | 366                 | 124        | 251                  | 165               | 74                  | 3685                    | 2468.95                    |
| 482              | 0.3        | 363                 | 119        | 248                  | 165               | 69                  | 3685                    | 2468.95                    |
| 507              | 0.3        | 358                 | 149        | 243                  | 165               | 99                  | 2010                    | 1346.7                     |
| 512              | 0.3        | 359                 | 153        | 244                  | 165               | 103                 | 3700                    | 2479                       |
| 497              | 0.3        | 369                 | 128        | 253                  | 165               | 79                  | 4740                    | 3175.8                     |
| 504              | 0.3        | 361                 | 143        | 246                  | 165               | 93                  | 3450                    | 2311.5                     |
| 505              | 0.3        | 384                 | 121        | 269                  | 165               | 71                  | 8465                    | 5671.55                    |
| 118              | 0.4        | 60                  | 58         | 40                   | 33                | 45                  | 3488                    | 2336.96                    |
| 97               | 0.4        | 62                  | 35         | 42                   | 33                | 22                  | 8221                    | 5508.07                    |
| 100              | 0.4        | 60                  | 40         | 40                   | 33                | 27                  | 1645                    | 1102.15                    |
| 529              | 0.3        | 370                 | 159        | 255                  | 165               | 109                 | 5825                    | 3902.75                    |
| 105              | 0.4        | 63                  | 42         | 43                   | 33                | 29                  | 1757                    | 1177.19                    |
| 384              | 0.3        | 365                 | 19         | 249                  | 165               | -30                 | 10275                   | 6884.25                    |
| 105              | 0.4        | 64                  | 41         | 44                   | 33                | 28                  | 11981                   | 8027.27                    |
| 506              | 0.3        | 354                 | 152        | 239                  | 165               | 102                 | 7315                    | 4901.05                    |
| 101              | 0.4        | 62                  | 39         | 43                   | 33                | 25                  | 8775                    | 5879.25                    |
| 127              | 0.4        | 89                  | 38         | 69                   | 33                | 25                  | 12070                   | 8086.9                     |
| 24               | 0.5        | 600                 | -576       | 582                  | 35                | -593                | 1989.62                 | 1333.045                   |
| 180              | 0.2        | 144                 | 36         | 98                   | 58                | 24                  | 853.6                   | 571.912                    |
| 43               | 0.2        | 33                  | 10         | 24                   | 12                | 7                   | 848.75                  | 568.6625                   |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5950 | 00 | 462 | 1773 | 94        | 5          | 44         | 495.56      | 5          | 4           |
| 5950 | 00 | 624 | 1989 | 95        | 849        | 7312       | 9.71        | 1297       | 388         |
| 5950 | 00 | 624 | 1990 | 95        | 3622       | 16417      | 7.87        | 6447       | 699         |
| 5950 | 00 | 780 | 7417 | 95        | 6          | 53         | 223.6       | 0          | 1           |
| 5950 | 00 | 983 | 7611 | 95        | 8          | 65         | 247.52      | 9          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>@.67 | Red<br>LOT<br>Qty | (.67)<br>Sht<br>Lng | .67 Red<br>LOT<br>Value | .67 Red<br>Extend<br>Value |
|------------------|------------|---------------------|------------|----------------------|-------------------|---------------------|-------------------------|----------------------------|
| 48               | 0.3        | 34                  | 14         | 24                   | 15                | 9                   | 21804.64                | 14609.11                   |
| 7252             | 0.4        | 4897                | 2355       | 3449                 | 2413              | 1390                | 70999.52                | 47569.68                   |
| 14291            | 0.4        | 12023               | 2268       | 8773                 | 5418              | 100                 | 129201.8                | 86565.2                    |
| 60               | 0.4        | 35                  | 25         | 25                   | 17                | 18                  | 11850.8                 | 7940.036                   |
| 64               | 0.4        | 44                  | 20         | 31                   | 21                | 12                  | 16088.8                 | 10779.5                    |

Savings 2,073,842.00

Appendix C: Diminished Manufacturing Source  
Life-of-Type Spreadsheet  
For 50% Buy

| NSN              | LOT | Beg | LOT | Cont   | Dem | Cred |
|------------------|-----|-----|-----|--------|-----|------|
|                  | Yr  | O/H | Qty | U/P    | Qty | Ret  |
| 5925 00 007 3962 | 94  | 4   | 5   | 651.89 | 0   | 0    |
| 5925 00 051 4889 | 94  | 42  | 20  | 113.95 | 4   | 0    |
| 5925 00 051 4892 | 94  | 262 | 20  | 319.28 | 46  | 12   |
| 5925 00 052 1743 | 94  | 10  | 10  | 213.95 | 7   | 1    |
| 5925 00 054 0100 | 94  | 21  | 40  | 193.6  | 20  | 2    |
| 5925 00 055 9360 | 94  | 15  | 50  | 374.12 | 12  | 5    |
| 5925 00 055 9371 | 94  | 17  | 54  | 61.48  | 43  | 1    |
| 5925 00 055 9373 | 94  | 13  | 10  | 319.2  | 11  | 3    |
| 5925 00 055 9374 | 94  | 4   | 5   | 436.77 | 8   | 0    |
| 5925 00 062 3354 | 97  | 5   | 4   | 377.5  | 6   | 2    |
| 5925 00 067 3359 | 94  | 7   | 10  | 649.22 | 1   | 1    |
| 5925 00 069 5343 | 94  | 15  | 15  | 231.38 | 3   | 5    |
| 5925 00 081 7593 | 94  | 12  | 50  | 559.58 | 5   | 6    |
| 5925 00 088 9602 | 94  | 53  | 135 | 171.22 | 59  | 7    |
| 5925 00 161 9147 | 94  | 15  | 25  | 559.58 | 19  | 1    |
| 5925 00 163 3658 | 94  | 7   | 8   | 60.95  | 2   | 0    |
| 5925 00 165 8539 | 94  | 7   | 5   | 232.72 | 0   | 1    |
| 5925 00 201 2244 | 93  | 6   | 34  | 49.11  | 12  | 0    |
| 5925 00 236 5094 | 94  | 5   | 5   | 651.89 | 0   | 0    |
| 5925 00 253 5137 | 94  | 26  | 50  | 200.23 | 21  | 13   |
| 5925 00 256 1218 | 94  | 6   | 55  | 355.01 | 12  | 7    |
| 5925 00 361 8836 | 94  | 8   | 5   | 436.77 | 0   | 0    |
| 5925 00 404 7431 | 94  | 13  | 154 | 500.02 | 24  | 0    |
| 5925 00 406 6398 | 94  | 0   | 7   | 20.45  | 1   | 0    |
| 5925 00 455 8584 | 94  | 2   | 25  | 193.6  | 6   | 0    |
| 5925 00 456 0651 | 94  | 18  | 40  | 92.75  | 10  | 8    |
| 5925 00 477 9644 | 94  | 35  | 40  | 193.6  | 15  | 13   |
| 5925 00 489 1537 | 94  | 60  | 45  | 202.82 | 49  | 10   |
| 5925 00 502 0979 | 94  | 49  | 55  | 193.6  | 0   | 11   |
| 5925 00 502 1947 | 94  | 16  | 5   | 210.45 | 9   | 0    |
| 5925 00 521 8208 | 94  | 88  | 45  | 202.82 | 132 | 0    |
| 5925 00 612 7159 | 94  | 10  | 39  | 172.25 | 7   | 3    |
| 5925 00 627 0974 | 94  | 22  | 135 | 525.2  | 12  | 9    |
| 5925 00 628 7795 | 88  | 1   | 90  | 120.89 | 95  | 38   |
| 5925 00 655 1229 | 94  | 0   | 6   | 610.14 | 8   | 3    |
| 5925 00 677 6593 | 94  | 46  | 70  | 186.22 | 21  | 4    |
| 5925 00 690 1728 | 94  | 7   | 14  | 60.95  | 1   | 1    |
| 5925 00 691 0019 | 94  | 41  | 155 | 474.04 | 39  | 0    |
| 5925 00 703 3589 | 94  | 192 | 516 | 27.85  | 559 | 292  |
| 5925 00 704 2295 | 94  | 0   | 131 | 356.71 | 12  | 47   |
| 5925 00 723 4910 | 94  | 35  | 70  | 212.5  | 28  | 11   |
| 5925 00 723 4912 | 94  | 17  | 30  | 223.12 | 13  | 5    |
| 5925 00 758 7955 | 94  | 14  | 10  | 434.09 | 6   | 7    |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 9                | 0.5        | 5                   | 4          | 3                      | 3                 | 3                 | 3259.45                | 1629.725                  |
| 58               | 0.5        | 31                  | 27         | 26                     | 10                | 22                | 2279                   | 1139.5                    |
| 248              | 0.5        | 141                 | 107        | 136                    | 10                | 102               | 6385.6                 | 3192.8                    |
| 14               | 0.5        | 10                  | 4          | 8                      | 5                 | 2                 | 2139.5                 | 1069.75                   |
| 43               | 0.5        | 31                  | 12         | 21                     | 20                | 2                 | 7744                   | 3872                      |
| 58               | 0.5        | 33                  | 25         | 20                     | 25                | 13                | 18706                  | 9353                      |
| 29               | 0.5        | 36                  | -7         | 22                     | 27                | -20               | 3319.92                | 1659.96                   |
| 15               | 0.5        | 12                  | 3          | 9                      | 5                 | 1                 | 3192                   | 1596                      |
| 1                | 0.5        | 5                   | -4         | 3                      | 3                 | -5                | 2183.85                | 1091.925                  |
| 5                | 0.2        | 7                   | -2         | 6                      | 2                 | -3                | 1510                   | 755                       |
| 17               | 0.5        | 9                   | 8          | 6                      | 5                 | 6                 | 6492.2                 | 3246.1                    |
| 32               | 0.5        | 15                  | 17         | 11                     | 8                 | 13                | 3470.7                 | 1735.35                   |
| 63               | 0.5        | 31                  | 32         | 19                     | 25                | 19                | 27979                  | 13989.5                   |
| 136              | 0.5        | 94                  | 42         | 60                     | 68                | 8                 | 23114.7                | 11557.35                  |
| 22               | 0.5        | 20                  | 2          | 14                     | 13                | -5                | 13989.5                | 6994.75                   |
| 13               | 0.5        | 8                   | 5          | 6                      | 4                 | 3                 | 487.6                  | 243.8                     |
| 13               | 0.5        | 6                   | 7          | 5                      | 3                 | 5                 | 1163.6                 | 581.8                     |
| 28               | 0.6        | 16                  | 12         | 9                      | 17                | 2                 | 1669.74                | 834.87                    |
| 10               | 0.5        | 5                   | 5          | 4                      | 3                 | 3                 | 3259.45                | 1629.725                  |
| 68               | 0.5        | 38                  | 30         | 26                     | 25                | 17                | 10011.5                | 5005.75                   |
| 56               | 0.5        | 31                  | 25         | 17                     | 28                | 11                | 19525.55               | 9762.775                  |
| 13               | 0.5        | 7                   | 6          | 5                      | 3                 | 5                 | 2183.85                | 1091.925                  |
| 143              | 0.5        | 84                  | 59         | 45                     | 77                | 21                | 77003.08               | 38501.54                  |
| 6                | 0.5        | 4                   | 2          | 2                      | 4                 | 0                 | 143.15                 | 71.575                    |
| 21               | 0.5        | 14                  | 7          | 7                      | 13                | 1                 | 4840                   | 2420                      |
| 56               | 0.5        | 29                  | 27         | 19                     | 20                | 17                | 3710                   | 1855                      |
| 73               | 0.5        | 38                  | 35         | 28                     | 20                | 25                | 7744                   | 3872                      |
| 66               | 0.5        | 53                  | 13         | 41                     | 23                | 2                 | 9126.9                 | 4563.45                   |
| 115              | 0.5        | 52                  | 63         | 38                     | 28                | 49                | 10648                  | 5324                      |
| 12               | 0.5        | 11                  | 1          | 9                      | 3                 | 0                 | 1052.25                | 526.125                   |
| 1                | 0.5        | 67                  | -66        | 55                     | 23                | -77               | 9126.9                 | 4563.45                   |
| 45               | 0.5        | 25                  | 20         | 15                     | 20                | 10                | 6717.75                | 3358.875                  |
| 154              | 0.5        | 79                  | 75         | 45                     | 68                | 41                | 70902                  | 35451                     |
| 34               | 1          | 0                   | 34         | 0                      | 45                | -11               | 10880.1                | 5440.05                   |
| 1                | 0.5        | 3                   | -2         | 2                      | 3                 | -4                | 3660.84                | 1830.42                   |
| 99               | 0.5        | 58                  | 41         | 41                     | 35                | 23                | 13035.4                | 6517.7                    |
| 21               | 0.5        | 11                  | 10         | 7                      | 7                 | 7                 | 853.3                  | 426.65                    |
| 157              | 0.5        | 98                  | 59         | 59                     | 78                | 20                | 73476.2                | 36738.1                   |
| 441              | 0.5        | 354                 | 87         | 225                    | 258               | -42               | 14370.6                | 7185.3                    |
| 166              | 0.5        | 66                  | 100        | 33                     | 66                | 67                | 46729.01               | 23364.5                   |
| 88               | 0.5        | 53                  | 35         | 35                     | 35                | 18                | 14875                  | 7437.5                    |
| 39               | 0.5        | 24                  | 15         | 16                     | 15                | 8                 | 6693.6                 | 3346.8                    |
| 25               | 0.5        | 12                  | 13         | 10                     | 5                 | 10                | 4340.9                 | 2170.45                   |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 763 4103 | 94        | 8          | 10         | 215.02      | 6          | 2           |
| 5925 00 763 6985 | 94        | 5          | 25         | 186.59      | 8          | 7           |
| 5925 00 782 0113 | 94        | 489        | 600        | 135.51      | 1009       | 52          |
| 5925 00 785 7882 | 94        | 0          | 33         | 32.95       | 28         | 0           |
| 5925 00 809 5627 | 94        | 220        | 61         | 223.12      | 280        | 0           |
| 5925 00 816 5263 | 94        | 19         | 5          | 464.43      | 0          | 0           |
| 5925 00 821 8602 | 94        | 136        | 90         | 191.79      | 0          | 0           |
| 5925 00 826 8813 | 94        | 23         | 20         | 209.45      | 26         | 0           |
| 5925 00 828 9725 | 94        | 0          | 5          | 651.89      | 0          | 0           |
| 5925 00 835 2059 | 94        | 38         | 55         | 563.9       | 14         | 0           |
| 5925 00 837 6203 | 94        | 5          | 10         | 222.5       | 0          | 0           |
| 5925 00 837 6637 | 94        | 18         | 10         | 649.22      | 1          | 0           |
| 5925 00 838 2648 | 94        | 12         | 50         | 70.87       | 10         | 0           |
| 5925 00 839 3889 | 94        | 0          | 23         | 174.78      | 3          | 0           |
| 5925 00 848 7917 | 95        | 130        | 100        | 495.65      | 230        | 3           |
| 5925 00 849 2763 | 94        | 144        | 1127       | 353.11      | 578        | 48          |
| 5925 00 849 2765 | 94        | 12         | 20         | 162.5       | 9          | 0           |
| 5925 00 849 2766 | 94        | 4          | 5          | 651.89      | 0          | 0           |
| 5925 00 849 2767 | 94        | 3          | 23         | 60.95       | 0          | 0           |
| 5925 00 850 8145 | 94        | 70         | 5          | 70.87       | 9          | 0           |
| 5925 00 850 8146 | 94        | 80         | 35         | 193.6       | 8          | 4           |
| 5925 00 853 1995 | 94        | 40         | 15         | 221.97      | 0          | 4           |
| 5925 00 877 8066 | 94        | 15         | 89         | 60.95       | 33         | 16          |
| 5925 00 879 0971 | 94        | 0          | 337        | 110.4       | 438        | 165         |
| 5925 00 879 5108 | 94        | 45         | 40         | 569.22      | 6          | 4           |
| 5925 00 883 7656 | 94        | 34         | 40         | 60.38       | 12         | 0           |
| 5925 00 883 7657 | 94        | 11         | 55         | 193.6       | 7          | 0           |
| 5925 00 883 7660 | 94        | 22         | 5          | 60.95       | 16         | 2           |
| 5925 00 883 7670 | 94        | 23         | 28         | 60.95       | 7          | 3           |
| 5925 00 883 7673 | 94        | 8          | 5          | 70.87       | 0          | 0           |
| 5925 00 892 9932 | 94        | 14         | 30         | 379.86      | 17         | 0           |
| 5925 00 897 0644 | 94        | 62         | 195        | 169.62      | 51         | 11          |
| 5925 00 900 5934 | 94        | 0          | 100        | 20.41       | 77         | 0           |
| 5925 00 903 1640 | 94        | 5          | 5          | 225.18      | 0          | 0           |
| 5925 00 916 0367 | 94        | 6          | 20         | 177.55      | 1          | 0           |
| 5925 00 920 6437 | 94        | 7          | 20         | 230.31      | 32         | 7           |
| 5925 00 923 4152 | 94        | 0          | 8          | 604.25      | 8          | 0           |
| 5925 00 925 7840 | 94        | 5          | 30         | 559.58      | 3          | 0           |
| 5925 00 929 7272 | 94        | 1          | 5          | 225.18      | 3          | 2           |
| 5925 00 931 0315 | 94        | 6          | 20         | 403.2       | 2          | 3           |
| 5925 00 934 2842 | 94        | 1          | 15         | 689.56      | 18         | 2           |
| 5925 00 940 3003 | 94        | 68         | 85         | 202.82      | 39         | 10          |
| 5925 00 945 3426 | 94        | 13         | 5          | 651.89      | 0          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 14               | 0.5        | 9                   | 5          | 7                      | 5                 | 2                 | 2150.2                 | 1075.1                    |
| 29               | 0.5        | 15                  | 14         | 9                      | 13                | 7                 | 4664.75                | 2332.375                  |
| 132              | 0.5        | 545                 | -413       | 395                    | 300               | -563              | 81306                  | 40653                     |
| 5                | 0.5        | 17                  | -12        | 8                      | 17                | -20               | 1087.35                | 543.675                   |
| 1                | 0.5        | 141                 | -140       | 125                    | 31                | -155              | 13610.32               | 6805.16                   |
| 24               | 0.5        | 12                  | 12         | 11                     | 3                 | 10                | 2322.15                | 1161.075                  |
| 226              | 0.5        | 113                 | 113        | 91                     | 45                | 90                | 17261.1                | 8630.55                   |
| 17               | 0.5        | 22                  | -5         | 17                     | 10                | -10               | 4189                   | 2094.5                    |
| 5                | 0.5        | 3                   | 2          | 1                      | 3                 | 1                 | 3259.45                | 1629.725                  |
| 79               | 0.5        | 47                  | 32         | 33                     | 28                | 18                | 31014.5                | 15507.25                  |
| 15               | 0.5        | 8                   | 7          | 5                      | 5                 | 5                 | 2225                   | 1112.5                    |
| 27               | 0.5        | 14                  | 13         | 12                     | 5                 | 10                | 6492.2                 | 3246.1                    |
| 52               | 0.5        | 31                  | 21         | 19                     | 25                | 8                 | 3543.5                 | 1771.75                   |
| 36               | 0.5        | 12                  | 24         | 6                      | 12                | 18                | 4019.94                | 2009.97                   |
| 3                | 0.4        | 138                 | -135       | 108                    | 50                | -155              | 49565                  | 24782.5                   |
| 741              | 0.5        | 636                 | 105        | 354                    | 564               | -177              | 397955                 | 198977.5                  |
| 23               | 0.5        | 16                  | 7          | 11                     | 10                | 2                 | 3250                   | 1625                      |
| 9                | 0.5        | 5                   | 4          | 3                      | 3                 | 3                 | 3259.45                | 1629.725                  |
| 26               | 0.5        | 13                  | 13         | 7                      | 12                | 7                 | 1401.85                | 700.925                   |
| 66               | 0.5        | 38                  | 28         | 36                     | 3                 | 27                | 354.35                 | 177.175                   |
| 111              | 0.5        | 58                  | 53         | 49                     | 18                | 44                | 6776                   | 3388                      |
| 59               | 0.5        | 28                  | 31         | 24                     | 8                 | 27                | 3329.55                | 1664.775                  |
| 87               | 0.5        | 52                  | 35         | 30                     | 45                | 12                | 5424.55                | 2712.275                  |
| 64               | 0.5        | 169                 | -105       | 84                     | 169               | -189              | 37204.8                | 18602.4                   |
| 83               | 0.5        | 43                  | 40         | 33                     | 20                | 30                | 22768.8                | 11384.4                   |
| 62               | 0.5        | 37                  | 25         | 27                     | 20                | 15                | 2415.2                 | 1207.6                    |
| 59               | 0.5        | 33                  | 26         | 19                     | 28                | 12                | 10648                  | 5324                      |
| 13               | 0.5        | 14                  | -1         | 12                     | 3                 | -2                | 304.75                 | 152.375                   |
| 47               | 0.5        | 26                  | 21         | 19                     | 14                | 14                | 1706.6                 | 853.3                     |
| 13               | 0.5        | 7                   | 6          | 5                      | 3                 | 5                 | 354.35                 | 177.175                   |
| 27               | 0.5        | 22                  | 5          | 15                     | 15                | -3                | 11395.8                | 5697.9                    |
| 217              | 0.5        | 129                 | 88         | 80                     | 98                | 39                | 33075.9                | 16537.95                  |
| 23               | 0.5        | 50                  | -27        | 25                     | 50                | -52               | 2041                   | 1020.5                    |
| 10               | 0.5        | 5                   | 5          | 4                      | 3                 | 3                 | 1125.9                 | 562.95                    |
| 25               | 0.5        | 13                  | 12         | 8                      | 10                | 7                 | 3551                   | 1775.5                    |
| 2                | 0.5        | 14                  | -12        | 9                      | 10                | -17               | 4606.2                 | 2303.1                    |
| 0                | 0.5        | 4                   | -4         | 2                      | 4                 | -6                | 4834                   | 2417                      |
| 32               | 0.5        | 18                  | 14         | 10                     | 15                | 7                 | 16787.4                | 8393.7                    |
| 5                | 0.5        | 3                   | 2          | 2                      | 3                 | 0                 | 1125.9                 | 562.95                    |
| 27               | 0.5        | 13                  | 14         | 8                      | 10                | 9                 | 8064                   | 4032                      |
| 0                | 0.5        | 8                   | -8         | 4                      | 8                 | -12               | 10343.4                | 5171.7                    |
| 124              | 0.5        | 77                  | 47         | 55                     | 43                | 26                | 17239.7                | 8619.85                   |
| 18               | 0.5        | 9                   | 9          | 8                      | 3                 | 7                 | 3259.45                | 1629.725                  |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5925 00 946 7775 | 94        | 32         | 45         | 187.14      | 36         | 7           |
| 5925 00 950 2467 | 94        | 6          | 18         | 177.55      | 5          | 0           |
| 5925 00 964 3981 | 94        | 75         | 155        | 499.29      | 42         | 20          |
| 5925 00 981 2150 | 94        | 18         | 3          | 112.5       | 10         | 2           |
| 5925 00 985 0908 | 94        | 9          | 30         | 606.14      | 0          | 3           |
| 5925 00 990 2739 | 94        | 0          | 8          | 167.5       | 0          | 0           |
| 5925 01 004 2475 | 94        | 9          | 15         | 226.25      | 2          | 0           |
| 5925 01 023 5398 | 94        | 6          | 5          | 225.18      | 0          | 0           |
| 5925 01 032 1122 | 94        | 225        | 18         | 138.63      | 253        | 27          |
| 5925 01 093 4379 | 95        | 23         | 2          | 207.46      | 16         | 1           |
| 5925 01 130 5343 | 94        | 0          | 45         | 180.94      | 59         | 17          |
| 5925 01 159 7595 | 94        | 43         | 100        | 169.75      | 74         | 3           |
| 5935 00 014 6472 | 95        | 21         | 189        | 51.65       | 71         | 1           |
| 5935 00 054 6559 | 95        | 574        | 371        | 27.8        | 439        | 78          |
| 5935 00 055 7939 | 95        | 43         | 117        | 23.82       | 7          | 0           |
| 5935 00 056 9694 | 95        | 0          | 3          | 8.53        | 2          | 0           |
| 5935 00 057 0308 | 95        | 8          | 257        | 82.25       | 0          | 4           |
| 5935 00 057 5830 | 95        | 45         | 50         | 156.78      | 28         | 20          |
| 5935 00 062 1142 | 95        | 39         | 79         | 35.95       | 23         | 1           |
| 5935 00 065 9803 | 97        | 0          | 29         | 14.84       | 9          | 17          |
| 5935 00 067 4688 | 92        | 217        | 392        | 140.41      | 187        | 46          |
| 5935 00 067 4695 | 92        | 63         | 296        | 152.51      | 73         | 40          |
| 5935 00 069 5500 | 95        | 10         | 108        | 31.57       | 13         | 3           |
| 5935 00 069 5502 | 95        | 20         | 100        | 23.79       | 26         | 0           |
| 5935 00 069 5510 | 95        | 14         | 153        | 24.84       | 17         | 5           |
| 5935 00 078 9337 | 95        | 19         | 222        | 96.27       | 26         | 1           |
| 5935 00 080 7586 | 95        | 0          | 156        | 9.44        | 189        | 33          |
| 5935 00 081 7211 | 92        | 145        | 100        | 112.01      | 181        | 12          |
| 5935 00 083 5050 | 92        | 243        | 813        | 59.1        | 474        | 121         |
| 5935 00 087 8550 | 95        | 0          | 73         | 18.57       | 4          | 0           |
| 5935 00 087 8552 | 95        | 35         | 121        | 18.16       | 16         | 0           |
| 5935 00 088 8108 | 95        | 61         | 100        | 40.32       | 24         | 0           |
| 5935 00 088 8650 | 95        | 80         | 170        | 33.99       | 64         | 15          |
| 5935 00 089 2893 | 95        | 93         | 311        | 31.9        | 42         | 1           |
| 5935 00 089 6611 | 95        | 12         | 225        | 28.67       | 23         | 8           |
| 5935 00 089 6978 | 95        | 118        | 100        | 33.27       | 2          | 5           |
| 5935 00 089 8868 | 96        | 453        | 500        | 21.1        | 358        | 978         |
| 5935 00 103 7374 | 87        | 204        | 50         | 244.82      | 264        | 31          |
| 5935 00 106 6100 | 93        | 107        | 110        | 2.54        | 102        | 0           |
| 5935 00 119 3192 | 92        | 8          | 10         | 307.4       | 8          | 2           |
| 5935 00 119 3201 | 92        | 28         | 10         | 310.55      | 11         | 23          |
| 5935 00 138 1454 | 96        | 15         | 500        | 22.4        | 90         | 11          |
| 5935 00 160 3332 | 96        | 64         | 500        | 27.9        | 49         | 3           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 48               | 0.5        | 39                  | 9          | 27                     | 23                | -2                | 8421.3                 | 4210.65                   |
| 19               | 0.5        | 12                  | 7          | 8                      | 9                 | 2                 | 3195.9                 | 1597.95                   |
| 208              | 0.5        | 115                 | 93         | 76                     | 78                | 54                | 77389.95               | 38694.97                  |
| 13               | 0.5        | 11                  | 2          | 10                     | 2                 | 1                 | 337.5                  | 168.75                    |
| 42               | 0.5        | 20                  | 22         | 12                     | 15                | 15                | 18184.2                | 9092.1                    |
| 8                | 0.5        | 4                   | 4          | 2                      | 4                 | 2                 | 1340                   | 670                       |
| 22               | 0.5        | 12                  | 10         | 8                      | 8                 | 6                 | 3393.75                | 1696.875                  |
| 11               | 0.5        | 6                   | 5          | 4                      | 3                 | 4                 | 1125.9                 | 562.95                    |
| 17               | 0.5        | 122                 | -105       | 117                    | 9                 | -109              | 2495.34                | 1247.67                   |
| 10               | 0.4        | 15                  | -5         | 14                     | 1                 | -5                | 414.92                 | 207.46                    |
| 3                | 0.5        | 23                  | -20        | 11                     | 23                | -31               | 8142.3                 | 4071.15                   |
| 72               | 0.5        | 72                  | 0          | 47                     | 50                | -25               | 16975                  | 8487.5                    |
| 140              | 0.4        | 126                 | 14         | 70                     | 94                | -24               | 9761.85                | 4880.925                  |
| 584              | 0.4        | 567                 | 17         | 455                    | 186               | -57               | 10313.8                | 5156.9                    |
| 153              | 0.4        | 96                  | 57         | 61                     | 59                | 33                | 2786.94                | 1393.47                   |
| 1                | 0.6        | 2                   | -1         | 1                      | 2                 | -2                | 25.59                  | 12.795                    |
| 269              | 0.4        | 159                 | 110        | 82                     | 129               | 58                | 21138.25               | 10569.13                  |
| 87               | 0.4        | 57                  | 30         | 42                     | 25                | 20                | 7839                   | 3919.5                    |
| 96               | 0.4        | 71                  | 25         | 47                     | 40                | 9                 | 2840.05                | 1420.025                  |
| 37               | 0.2        | 23                  | 14         | 11                     | 15                | 11                | 430.36                 | 215.18                    |
| 468              | 0.7        | 183                 | 285        | 124                    | 196               | 148               | 55040.72               | 27520.36                  |
| 326              | 0.7        | 108                 | 218        | 63                     | 148               | 115               | 45142.96               | 22571.48                  |
| 108              | 0.4        | 71                  | 37         | 38                     | 54                | 16                | 3409.56                | 1704.78                   |
| 94               | 0.4        | 72                  | 22         | 42                     | 50                | 2                 | 2379                   | 1189.5                    |
| 155              | 0.4        | 100                 | 55         | 54                     | 77                | 24                | 3800.52                | 1900.26                   |
| 216              | 0.4        | 145                 | 71         | 78                     | 111               | 27                | 21371.94               | 10685.97                  |
| 0                | 0.4        | 94                  | -94        | 47                     | 78                | -125              | 1472.64                | 736.32                    |
| 76               | 0.7        | 4                   | 72         | 59                     | 50                | -33               | 11201                  | 5600.5                    |
| 703              | 0.7        | 317                 | 386        | 195                    | 407               | 101               | 48048.3                | 24024.15                  |
| 69               | 0.4        | 44                  | 25         | 22                     | 37                | 10                | 1355.61                | 677.805                   |
| 140              | 0.4        | 94                  | 46         | 57                     | 61                | 22                | 2197.36                | 1098.68                   |
| 137              | 0.4        | 97                  | 40         | 67                     | 50                | 20                | 4032                   | 2016                      |
| 201              | 0.4        | 150                 | 51         | 99                     | 85                | 17                | 5778.3                 | 2889.15                   |
| 363              | 0.4        | 242                 | 121        | 149                    | 156               | 58                | 9920.9                 | 4960.45                   |
| 222              | 0.4        | 142                 | 80         | 74                     | 113               | 35                | 6450.75                | 3225.375                  |
| 221              | 0.4        | 131                 | 90         | 101                    | 50                | 70                | 3327                   | 1663.5                    |
| 1573             | 0.3        | 667                 | 906        | 492                    | 250               | 831               | 10550                  | 5275                      |
| 21               | 1          | 0                   | 21         | 0                      | 25                | -4                | 12241                  | 6120.5                    |
| 115              | 0.6        | 87                  | 28         | 65                     | 55                | -5                | 279.4                  | 139.7                     |
| 12               | 0.7        | 5                   | 7          | 4                      | 5                 | 3                 | 3074                   | 1537                      |
| 50               | 0.7        | 11                  | 39         | 10                     | 5                 | 35                | 3105.5                 | 1552.75                   |
| 436              | 0.3        | 361                 | 75         | 186                    | 250               | 0                 | 11200                  | 5600                      |
| 518              | 0.3        | 395                 | 123        | 220                    | 250               | 48                | 13950                  | 6975                      |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 163 3334 | 96        | 146        | 500        | 62.1        | 38         | 8           |
| 5935 00 173 7277 | 87        | 716        | 275        | 71.49       | 955        | 37          |
| 5935 00 184 7368 | 92        | 29         | 111        | 183.57      | 74         | 42          |
| 5935 00 189 6245 | 93        | 1427       | 10838      | 1.43        | 3734       | 1096        |
| 5935 00 227 7094 | 92        | 82         | 250        | 160.87      | 80         | 16          |
| 5935 00 235 8525 | 87        | 275        | 25         | 160.96      | 323        | 35          |
| 5935 00 250 0905 | 87        | 30         | 118        | 113.5       | 166        | 136         |
| 5935 00 259 3318 | 93        | 430        | 1921       | 1.99        | 1747       | 115         |
| 5935 00 259 6044 | 87        | 97         | 200        | 15.78       | 268        | 76          |
| 5935 00 274 1986 | 96        | 0          | 172        | 42.05       | 2          | 5           |
| 5935 00 328 3755 | 95        | 25         | 500        | 9.31        | 129        | 40          |
| 5935 00 333 7508 | 96        | 14         | 100        | 333.22      | 27         | 0           |
| 5935 00 365 9400 | 95        | 7          | 100        | 118.88      | 15         | 0           |
| 5935 00 396 6852 | 95        | 45         | 244        | 15.89       | 24         | 0           |
| 5935 00 412 1219 | 93        | 5          | 50         | 2.18        | 22         | 0           |
| 5935 00 439 0551 | 92        | 30         | 96         | 170         | 13         | 6           |
| 5935 00 450 5139 | 96        | 0          | 485        | 20.1        | 35         | 2           |
| 5935 00 455 4678 | 92        | 29         | 55         | 206.77      | 23         | 19          |
| 5935 00 455 9595 | 95        | 2          | 100        | 22.15       | 0          | 0           |
| 5935 00 472 0288 | 92        | 3          | 50         | 15.04       | 36         | 0           |
| 5935 00 476 6315 | 92        | 76         | 775        | 2.08        | 111        | 0           |
| 5935 00 487 5789 | 96        | 69         | 174        | 210         | 154        | 11          |
| 5935 00 497 5688 | 95        | 40         | 500        | 12.77       | 93         | 6           |
| 5935 00 497 9198 | 92        | 196        | 617        | 9.53        | 175        | 209         |
| 5935 00 497 9200 | 92        | 108        | 1000       | 3.31        | 300        | 7           |
| 5935 00 497 9202 | 92        | 479        | 1436       | 2.12        | 253        | 39          |
| 5935 00 497 9203 | 92        | 1628       | 6411       | 2.17        | 4033       | 242         |
| 5935 00 497 9204 | 92        | 324        | 1093       | 1.92        | 272        | 5           |
| 5935 00 498 5639 | 92        | 148        | 1849       | 8.86        | 168        | 35          |
| 5935 00 498 5641 | 92        | 156        | 344        | 5.48        | 285        | 0           |
| 5935 00 498 5642 | 92        | 196        | 365        | 3.03        | 424        | 124         |
| 5935 00 501 0948 | 96        | 30         | 500        | 15.53       | 24         | 5           |
| 5935 00 503 9885 | 96        | 31         | 500        | 22.35       | 15         | 0           |
| 5935 00 520 5235 | 93        | 12         | 10         | 6.45        | 1          | 0           |
| 5935 00 523 9462 | 87        | 313        | 250        | 67.31       | 416        | 1           |
| 5935 00 557 2514 | 89        | 9          | 613        | 147.54      | 20         | 5           |
| 5935 00 578 9329 | 93        | 863        | 10         | 37.49       | 335        | 78          |
| 5935 00 603 7706 | 93        | 35         | 110        | 23.1        | 39         | 2           |
| 5935 00 603 7707 | 93        | 138        | 262        | 10.93       | 157        | 9           |
| 5935 00 605 6714 | 96        | 10         | 500        | 18.28       | 4          | 0           |
| 5935 00 615 3637 | 95        | 17         | 100        | 22.62       | 17         | 9           |
| 5935 00 628 6513 | 96        | 27         | 103        | 95.1        | 39         | 3           |
| 5935 00 631 4156 | 97        | 17         | 98         | 1021.57     | 56         | 14          |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 616              | 0.3        | 452                 | 164        | 277                    | 250               | 89                | 31050                  | 15525                     |
| 73               | 1          | 0                   | 73         | 0                      | 138               | -65               | 19659.75               | 9829.875                  |
| 108              | 0.7        | 42                  | 66         | 25                     | 56                | 27                | 20376.27               | 10188.14                  |
| 9627             | 0.6        | 4906                | 4721       | 2738                   | 5419              | 1470              | 15498.34               | 7749.17                   |
| 268              | 0.7        | 100                 | 168        | 62                     | 125               | 81                | 40217.5                | 20108.75                  |
| 12               | 1          | 0                   | 12         | 0                      | 13                | -1                | 4024                   | 2012                      |
| 118              | 1          | 0                   | 118        | 0                      | 59                | 59                | 13393                  | 6696.5                    |
| 719              | 0.6        | 940                 | -221       | 556                    | 961               | -798              | 3822.79                | 1911.395                  |
| 105              | 1          | 0                   | 105        | 0                      | 100               | 5                 | 3156                   | 1578                      |
| 175              | 0.3        | 120                 | 55         | 60                     | 86                | 29                | 7232.6                 | 3616.3                    |
| 436              | 0.4        | 315                 | 121        | 165                    | 250               | 21                | 4655                   | 2327.5                    |
| 87               | 0.3        | 80                  | 7          | 45                     | 50                | -8                | 33322                  | 16661                     |
| 92               | 0.4        | 64                  | 28         | 34                     | 50                | 8                 | 11888                  | 5944                      |
| 265              | 0.4        | 173                 | 92         | 100                    | 122               | 43                | 3877.16                | 1938.58                   |
| 33               | 0.6        | 22                  | 11         | 12                     | 25                | -4                | 109                    | 54.5                      |
| 119              | 0.7        | 38                  | 81         | 23                     | 48                | 48                | 16320                  | 8160                      |
| 452              | 0.3        | 340                 | 112        | 169                    | 243               | 40                | 9748.5                 | 4874.25                   |
| 80               | 0.7        | 25                  | 55         | 17                     | 28                | 35                | 11372.35               | 5686.175                  |
| 102              | 0.4        | 61                  | 41         | 31                     | 50                | 21                | 2215                   | 1107.5                    |
| 17               | 0.7        | 16                  | 1          | 8                      | 25                | -16               | 752                    | 376                       |
| 740              | 0.7        | 255                 | 485        | 139                    | 388               | 213               | 1612                   | 806                       |
| 100              | 0.3        | 170                 | -70        | 109                    | 87                | -96               | 36540                  | 18270                     |
| 453              | 0.4        | 324                 | 129        | 174                    | 250               | 29                | 6385                   | 3192.5                    |
| 847              | 0.7        | 244                 | 603        | 151                    | 309               | 387               | 5880.01                | 2940.005                  |
| 815              | 0.7        | 332                 | 483        | 182                    | 500               | 133               | 3310                   | 1655                      |
| 1701             | 0.7        | 575                 | 1126       | 359                    | 718               | 624               | 3044.32                | 1522.16                   |
| 4248             | 0.7        | 2412                | 1836       | 1450                   | 3206              | -408              | 13911.87               | 6955.935                  |
| 1150             | 0.7        | 425                 | 725        | 261                    | 547               | 342               | 2098.56                | 1049.28                   |
| 1864             | 0.7        | 599                 | 1265       | 322                    | 925               | 617               | 16382.14               | 8191.07                   |
| 215              | 0.7        | 150                 | 65         | 98                     | 172               | -55               | 1885.12                | 942.56                    |
| 261              | 0.7        | 168                 | 93         | 113                    | 183               | -35               | 1105.95                | 552.975                   |
| 511              | 0.3        | 371                 | 140        | 196                    | 250               | 65                | 7765                   | 3882.5                    |
| 516              | 0.3        | 372                 | 144        | 197                    | 250               | 69                | 11175                  | 5587.5                    |
| 21               | 0.6        | 9                   | 12         | 7                      | 5                 | 9                 | 64.5                   | 32.25                     |
| 148              | 1          | 0                   | 148        | 0                      | 125               | 23                | 16827.5                | 8413.75                   |
| 607              | 1          | 0                   | 607        | 0                      | 307               | 300               | 90442.02               | 45221.01                  |
| 616              | 0.6        | 349                 | 267        | 347                    | 5                 | 264               | 374.9                  | 187.45                    |
| 108              | 0.6        | 58                  | 50         | 36                     | 55                | 17                | 2541                   | 1270.5                    |
| 252              | 0.6        | 160                 | 92         | 108                    | 131               | 13                | 2863.66                | 1431.83                   |
| 506              | 0.3        | 357                 | 149        | 182                    | 250               | 74                | 9140                   | 4570                      |
| 109              | 0.4        | 70                  | 39         | 40                     | 50                | 19                | 2262                   | 1131                      |
| 94               | 0.3        | 91                  | 3          | 55                     | 52                | -13               | 9795.3                 | 4897.65                   |
| 73               | 0.2        | 92                  | -19        | 53                     | 49                | -29               | 100113.9               | 50056.93                  |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 660 5590 | 93        | 630        | 4110       | 2.34        | 1998       | 490         |
| 5935 00 660 5846 | 92        | 1547       | 2809       | 68.36       | 2542       | 378         |
| 5935 00 660 5854 | 93        | 0          | 15         | 5.05        | 12         | 2           |
| 5935 00 660 5855 | 92        | 722        | 1402       | 81.11       | 1245       | 281         |
| 5935 00 670 0033 | 95        | 231        | 1104       | 35.07       | 334        | 29          |
| 5935 00 679 0479 | 93        | 0          | 63         | 1.72        | 6          | 0           |
| 5935 00 683 1402 | 93        | 227        | 210        | 5.25        | 389        | 30          |
| 5935 00 683 2312 | 92        | 11         | 9          | 158.77      | 19         | 13          |
| 5935 00 683 5102 | 95        | 0          | 100        | 26.5        | 56         | 0           |
| 5935 00 687 1122 | 95        | 138        | 357        | 90.02       | 274        | 11          |
| 5935 00 689 4662 | 92        | 1          | 50         | 215.05      | 26         | 25          |
| 5935 00 704 6020 | 87        | 41         | 35         | 277.47      | 16         | 0           |
| 5935 00 705 9887 | 95        | 1          | 100        | 34.84       | 19         | 0           |
| 5935 00 726 4204 | 92        | 51         | 240        | 181.97      | 288        | 45          |
| 5935 00 730 4145 | 95        | 7          | 113        | 18.04       | 9          | 0           |
| 5935 00 755 6213 | 95        | 182        | 316        | 42.28       | 288        | 8           |
| 5935 00 761 3235 | 95        | 0          | 100        | 74.13       | 97         | 2           |
| 5935 00 761 4344 | 92        | 35         | 50         | 317.68      | 12         | 0           |
| 5935 00 767 5154 | 95        | 59         | 100        | 32.97       | 21         | 19          |
| 5935 00 769 5490 | 95        | 20         | 100        | 80.06       | 1          | 1           |
| 5935 00 781 3036 | 95        | 0          | 100        | 18.88       | 5          | 0           |
| 5935 00 787 3534 | 95        | 47         | 156        | 17.33       | 36         | 8           |
| 5935 00 791 5476 | 95        | 3          | 100        | 119.81      | 1          | 0           |
| 5935 00 799 3054 | 95        | 74         | 500        | 12.17       | 153        | 2           |
| 5935 00 804 2942 | 95        | 16         | 100        | 57.06       | 1          | 0           |
| 5935 00 804 2957 | 95        | 31         | 100        | 48.84       | 0          | 52          |
| 5935 00 805 3463 | 95        | 64         | 158        | 59.47       | 41         | 9           |
| 5935 00 805 3946 | 95        | 20         | 188        | 167.43      | 25         | 5           |
| 5935 00 805 4664 | 95        | 93         | 328        | 50.08       | 142        | 18          |
| 5935 00 806 7509 | 92        | 698        | 1400       | 78.81       | 1343       | 263         |
| 5935 00 807 9629 | 95        | 171        | 511        | 89.55       | 187        | 42          |
| 5935 00 811 8635 | 92        | 315        | 786        | 98.9        | 585        | 236         |
| 5935 00 812 2554 | 87        | 66         | 100        | 92.44       | 134        | 28          |
| 5935 00 813 0030 | 95        | 45         | 500        | 9.8         | 38         | 3           |
| 5935 00 814 5798 | 95        | 169        | 100        | 43.82       | 115        | 7           |
| 5935 00 814 5814 | 95        | 74         | 100        | 47.48       | 16         | 36          |
| 5935 00 814 5815 | 95        | 78         | 113        | 40.46       | 16         | 12          |
| 5935 00 820 9501 | 92        | 76         | 1100       | 55.02       | 346        | 56          |
| 5935 00 823 0295 | 95        | 192        | 323        | 32.47       | 144        | 30          |
| 5935 00 827 5022 | 96        | 0          | 500        | 18.96       | 613        | 127         |
| 5935 00 836 9653 | 95        | 14         | 100        | 34.72       | 0          | 0           |
| 5935 00 838 2762 | 87        | 338        | 57         | 196.56      | 273        | 122         |
| 5935 00 842 1374 | 95        | 7          | 100        | 28.1        | 1          | 0           |
| 5935 00 842 1376 | 95        | 72         | 100        | 72.56       | 3          | 2           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 3232             | 0.6        | 1896                | 1336       | 1074                   | 2055              | 103               | 9617.4                 | 4808.7                    |
| 2192             | 0.7        | 1307                | 885        | 885                    | 1405              | -98               | 192023.2               | 96011.62                  |
| 5                | 0.6        | 6                   | -1         | 3                      | 8                 | -6                | 75.75                  | 37.875                    |
| 1160             | 0.7        | 637                 | 523        | 427                    | 701               | 32                | 113716.2               | 56858.11                  |
| 1030             | 0.4        | 801                 | 229        | 470                    | 552               | 8                 | 38717.28               | 19358.64                  |
| 57               | 0.6        | 25                  | 32         | 12                     | 32                | 13                | 108.36                 | 54.18                     |
| 78               | 0.6        | 175                 | -97        | 133                    | 105               | -160              | 1102.5                 | 551.25                    |
| 14               | 0.7        | 6                   | 8          | 5                      | 5                 | 4                 | 1428.93                | 714.465                   |
| 44               | 0.4        | 60                  | -16        | 30                     | 50                | -36               | 2650                   | 1325                      |
| 232              | 0.4        | 297                 | -65        | 190                    | 179               | -137              | 32137.14               | 16068.57                  |
| 50               | 0.7        | 15                  | 35         | 8                      | 25                | 17                | 10752.5                | 5376.25                   |
| 60               | 1          | 0                   | 60         | 0                      | 18                | 42                | 9711.45                | 4855.725                  |
| 82               | 0.4        | 61                  | 21         | 31                     | 50                | 1                 | 3484                   | 1742                      |
| 48               | 0.7        | 87                  | -39        | 51                     | 120               | -123              | 43672.8                | 21836.4                   |
| 111              | 0.4        | 72                  | 39         | 38                     | 57                | 16                | 2038.52                | 1019.26                   |
| 218              | 0.4        | 299                 | -81        | 204                    | 158               | -144              | 13360.48               | 6680.24                   |
| 5                | 0.4        | 60                  | -55        | 30                     | 50                | -75               | 7413                   | 3706.5                    |
| 73               | 0.7        | 26                  | 47         | 18                     | 25                | 30                | 15884                  | 7942                      |
| 157              | 0.4        | 94                  | 63         | 65                     | 50                | 42                | 3297                   | 1648.5                    |
| 120              | 0.4        | 72                  | 48         | 42                     | 50                | 28                | 8006                   | 4003                      |
| 95               | 0.4        | 60                  | 35         | 30                     | 50                | 15                | 1888                   | 944                       |
| 175              | 0.4        | 122                 | 53         | 75                     | 78                | 22                | 2703.48                | 1351.74                   |
| 102              | 0.4        | 62                  | 40         | 32                     | 50                | 20                | 11981                  | 5990.5                    |
| 423              | 0.4        | 344                 | 79         | 194                    | 250               | -21               | 6085                   | 3042.5                    |
| 115              | 0.4        | 70                  | 45         | 40                     | 50                | 25                | 5706                   | 2853                      |
| 183              | 0.4        | 79                  | 104        | 49                     | 50                | 84                | 4884                   | 2442                      |
| 190              | 0.4        | 133                 | 57         | 86                     | 79                | 25                | 9396.26                | 4698.13                   |
| 188              | 0.4        | 125                 | 63         | 68                     | 94                | 26                | 31476.84               | 15738.42                  |
| 297              | 0.4        | 253                 | 44         | 154                    | 164               | -21               | 16426.24               | 8213.12                   |
| 1018             | 0.7        | 629                 | 389        | 419                    | 700               | -101              | 110334                 | 55167                     |
| 537              | 0.4        | 409                 | 128        | 256                    | 256               | 25                | 45760.05               | 22880.02                  |
| 752              | 0.7        | 330                 | 422        | 212                    | 393               | 147               | 77735.4                | 38867.7                   |
| 60               | 1          | 0                   | 60         | 0                      | 50                | 10                | 9244                   | 4622                      |
| 510              | 0.4        | 327                 | 183        | 177                    | 250               | 83                | 4900                   | 2450                      |
| 161              | 0.4        | 161                 | 0          | 131                    | 50                | -20               | 4382                   | 2191                      |
| 194              | 0.4        | 104                 | 90         | 74                     | 50                | 70                | 4748                   | 2374                      |
| 187              | 0.4        | 115                 | 72         | 80                     | 57                | 50                | 4571.98                | 2285.99                   |
| 886              | 0.7        | 353                 | 533        | 188                    | 550               | 148               | 60522                  | 30261                     |
| 401              | 0.4        | 309                 | 92         | 212                    | 162               | 27                | 10487.81               | 5243.905                  |
| 14               | 0.3        | 350                 | -336       | 175                    | 250               | -411              | 9480                   | 4740                      |
| 114              | 0.4        | 68                  | 46         | 38                     | 50                | 26                | 3472                   | 1736                      |
| 244              | 1          | 0                   | 244        | 0                      | 29                | 215               | 11203.92               | 5601.96                   |
| 106              | 0.4        | 64                  | 42         | 34                     | 50                | 22                | 2810                   | 1405                      |
| 171              | 0.4        | 103                 | 68         | 73                     | 50                | 48                | 7256                   | 3628                      |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 842 9045 | 87        | 409        | 176        | 139.63      | 411        | 156         |
| 5935 00 843 0144 | 87        | 25         | 25         | 424.61      | 24         | 3           |
| 5935 00 845 7508 | 95        | 120        | 300        | 32.34       | 35         | 0           |
| 5935 00 856 2872 | 95        | 2          | 100        | 40.86       | 4          | 11          |
| 5935 00 872 4730 | 97        | 13         | 240        | 88.47       | 34         | 5           |
| 5935 00 872 6853 | 87        | 47         | 25         | 76.52       | 41         | 3           |
| 5935 00 878 1603 | 96        | 0          | 500        | 11.9        | 280        | 0           |
| 5935 00 878 1604 | 96        | 0          | 100        | 44.76       | 36         | 75          |
| 5935 00 879 8440 | 92        | 80         | 410        | 254         | 215        | 28          |
| 5935 00 883 5868 | 92        | 15         | 30         | 143.12      | 10         | 1           |
| 5935 00 884 3427 | 96        | 34         | 2500       | 35.85       | 235        | 4           |
| 5935 00 886 9796 | 87        | 13         | 25         | 142.04      | 11         | 5           |
| 5935 00 888 3708 | 96        | 296        | 500        | 9.48        | 319        | 31          |
| 5935 00 897 4610 | 95        | 10         | 100        | 28.09       | 2          | 2           |
| 5935 00 900 0859 | 95        | 0          | 100        | 36.99       | 3          | 0           |
| 5935 00 900 1239 | 96        | 14         | 500        | 8.15        | 10         | 0           |
| 5935 00 900 1987 | 95        | 95         | 203        | 26.27       | 24         | 6           |
| 5935 00 900 1989 | 95        | 11         | 100        | 38.08       | 5          | 1           |
| 5935 00 900 1990 | 95        | 8          | 100        | 38.46       | 12         | 2           |
| 5935 00 900 1992 | 95        | 2          | 100        | 53.68       | 0          | 3           |
| 5935 00 900 1997 | 95        | 52         | 100        | 18.95       | 10         | 10          |
| 5935 00 900 2001 | 95        | 28         | 164        | 31.88       | 14         | 10          |
| 5935 00 900 2002 | 95        | 29         | 100        | 55.66       | 18         | 3           |
| 5935 00 900 2003 | 95        | 4          | 100        | 38.16       | 0          | 1           |
| 5935 00 900 2076 | 95        | 27         | 100        | 19.92       | 0          | 0           |
| 5935 00 901 5912 | 95        | 20         | 100        | 23.49       | 0          | 4           |
| 5935 00 905 6652 | 95        | 60         | 182        | 25.41       | 16         | 34          |
| 5935 00 905 9676 | 92        | 257        | 850        | 72.05       | 553        | 131         |
| 5935 00 910 9280 | 92        | 8          | 25         | 245.91      | 3          | 3           |
| 5935 00 911 9871 | 93        | 414        | 37         | 2.98        | 331        | 0           |
| 5935 00 912 1432 | 93        | 83         | 31         | 4.56        | 84         | 0           |
| 5935 00 912 1436 | 93        | 414        | 1010       | 1.39        | 306        | 0           |
| 5935 00 912 1498 | 93        | 219        | 515        | 1.81        | 176        | 0           |
| 5935 00 912 6393 | 95        | 43         | 100        | 40.57       | 67         | 10          |
| 5935 00 912 7813 | 95        | 25         | 100        | 26.71       | 38         | 5           |
| 5935 00 913 7613 | 92        | 9          | 25         | 324.74      | 10         | 6           |
| 5935 00 916 0413 | 95        | 115        | 251        | 27.4        | 100        | 18          |
| 5935 00 916 0514 | 92        | 29         | 16         | 298.99      | 36         | 20          |
| 5935 00 916 0641 | 92        | 40         | 10         | 396.23      | 0          | 7           |
| 5935 00 917 3325 | 95        | 4          | 100        | 59.15       | 0          | 4           |
| 5935 00 919 0562 | 96        | 206        | 500        | 31.6        | 174        | 14          |
| 5935 00 923 4874 | 92        | 7          | 25         | 284.49      | 29         | 8           |
| 5935 00 937 7371 | 93        | 8          | 50         | 6.17        | 5          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 330              | 1          | 0                   | 330        | 0                      | 88                | 242               | 24574.88               | 12287.44                  |
| 29               | 1          | 0                   | 29         | 0                      | 13                | 16                | 10615.25               | 5307.625                  |
| 385              | 0.4        | 252                 | 133        | 162                    | 150               | 73                | 9702                   | 4851                      |
| 109              | 0.4        | 61                  | 48         | 31                     | 50                | 28                | 4086                   | 2043                      |
| 224              | 0.2        | 202                 | 22         | 106                    | 120               | -2                | 21232.8                | 10616.4                   |
| 34               | 1          | 0                   | 34         | 0                      | 13                | 21                | 1913                   | 956.5                     |
| 220              | 0.3        | 350                 | -130       | 175                    | 250               | -205              | 5950                   | 2975                      |
| 139              | 0.3        | 70                  | 69         | 35                     | 50                | 54                | 4476                   | 2238                      |
| 303              | 0.7        | 147                 | 156        | 86                     | 205               | 12                | 104140                 | 52070                     |
| 36               | 0.7        | 14                  | 22         | 9                      | 15                | 12                | 4293.6                 | 2146.8                    |
| 2303             | 0.3        | 1774                | 529        | 899                    | 1250              | 154               | 89625                  | 44812.5                   |
| 32               | 1          | 0                   | 32         | 0                      | 13                | 19                | 3551                   | 1775.5                    |
| 508              | 0.3        | 557                 | -49        | 382                    | 250               | -124              | 4740                   | 2370                      |
| 110              | 0.4        | 66                  | 44         | 36                     | 50                | 24                | 2809                   | 1404.5                    |
| 97               | 0.4        | 60                  | 37         | 30                     | 50                | 17                | 3699                   | 1849.5                    |
| 504              | 0.3        | 360                 | 144        | 185                    | 250               | 69                | 4075                   | 2037.5                    |
| 280              | 0.4        | 179                 | 101        | 118                    | 102               | 60                | 5332.81                | 2666.405                  |
| 107              | 0.4        | 67                  | 40         | 37                     | 50                | 20                | 3808                   | 1904                      |
| 98               | 0.4        | 65                  | 33         | 35                     | 50                | 13                | 3846                   | 1923                      |
| 105              | 0.4        | 61                  | 44         | 31                     | 50                | 24                | 5368                   | 2684                      |
| 152              | 0.4        | 91                  | 61         | 61                     | 50                | 41                | 1895                   | 947.5                     |
| 188              | 0.4        | 115                 | 73         | 66                     | 82                | 40                | 5228.32                | 2614.16                   |
| 114              | 0.4        | 77                  | 37         | 47                     | 50                | 17                | 5566                   | 2783                      |
| 105              | 0.4        | 62                  | 43         | 32                     | 50                | 23                | 3816                   | 1908                      |
| 127              | 0.4        | 76                  | 51         | 46                     | 50                | 31                | 1992                   | 996                       |
| 124              | 0.4        | 72                  | 52         | 42                     | 50                | 32                | 2349                   | 1174.5                    |
| 260              | 0.4        | 145                 | 115        | 91                     | 91                | 78                | 4624.62                | 2312.31                   |
| 685              | 0.7        | 332                 | 353        | 205                    | 425               | 55                | 61242.5                | 30621.25                  |
| 33               | 0.7        | 10                  | 23         | 6                      | 13                | 14                | 6147.75                | 3073.875                  |
| 120              | 0.6        | 180                 | -60        | 173                    | 19                | -72               | 110.26                 | 55.13                     |
| 30               | 0.6        | 46                  | -16        | 39                     | 16                | -25               | 141.36                 | 70.68                     |
| 1118             | 0.6        | 570                 | 548        | 368                    | 505               | 245               | 1403.9                 | 701.95                    |
| 558              | 0.6        | 294                 | 264        | 190                    | 258               | 110               | 932.15                 | 466.075                   |
| 86               | 0.4        | 86                  | 0          | 56                     | 50                | -20               | 4057                   | 2028.5                    |
| 92               | 0.4        | 75                  | 17         | 45                     | 50                | -3                | 2671                   | 1335.5                    |
| 30               | 0.7        | 10                  | 20         | 6                      | 13                | 11                | 8118.5                 | 4059.25                   |
| 284              | 0.4        | 220                 | 64         | 144                    | 126               | 14                | 6877.4                 | 3438.7                    |
| 29               | 0.7        | 14                  | 15         | 11                     | 8                 | 10                | 4783.84                | 2391.92                   |
| 57               | 0.7        | 15                  | 42         | 14                     | 5                 | 38                | 3962.3                 | 1981.15                   |
| 108              | 0.4        | 62                  | 46         | 32                     | 50                | 26                | 5915                   | 2957.5                    |
| 546              | 0.3        | 494                 | 52         | 319                    | 250               | -23               | 15800                  | 7900                      |
| 11               | 0.7        | 10                  | 1          | 6                      | 13                | -8                | 7112.25                | 3556.125                  |
| 53               | 0.6        | 23                  | 30         | 13                     | 25                | 15                | 308.5                  | 154.25                    |

| NSN              | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------------------|-----------|------------|------------|-------------|------------|-------------|
| 5935 00 938 7299 | 95        | 11         | 100        | 27.56       | 8          | 0           |
| 5935 00 946 1272 | 96        | 28         | 500        | 7.6         | 42         | 3           |
| 5935 00 947 2925 | 95        | 48         | 500        | 18.5        | 487        | 115         |
| 5935 00 951 2154 | 87        | 158        | 100        | 230.5       | 176        | 26          |
| 5935 00 952 2204 | 95        | 152        | 100        | 37.51       | 30         | 13          |
| 5935 00 954 3147 | 96        | 19         | 500        | 13          | 5          | 7           |
| 5935 00 954 7895 | 95        | 23         | 100        | 19.65       | 7          | 10          |
| 5935 00 954 7896 | 95        | 5          | 100        | 29.84       | 9          | 0           |
| 5935 00 954 9050 | 95        | 37         | 196        | 21.81       | 154        | 44          |
| 5935 00 954 9064 | 95        | 18         | 100        | 22.14       | 3          | 5           |
| 5935 00 954 9072 | 95        | 53         | 254        | 28.44       | 87         | 11          |
| 5935 00 954 9076 | 95        | 45         | 100        | 25.16       | 26         | 7           |
| 5935 00 956 4983 | 92        | 20         | 40         | 176.44      | 1          | 11          |
| 5935 00 956 8340 | 99        | 28         | 144        | 95.54       | 30         | 22          |
| 5935 00 956 8341 | 99        | 63         | 113        | 81.6        | 63         | 15          |
| 5935 00 957 8473 | 95        | 109        | 100        | 20.75       | 45         | 10          |
| 5935 00 957 8480 | 95        | 72         | 100        | 31.64       | 14         | 9           |
| 5935 00 958 7507 | 95        | 182        | 622        | 43.39       | 120        | 61          |
| 5935 00 959 8561 | 95        | 36         | 100        | 56.12       | 22         | 8           |
| 5935 00 962 0221 | 96        | 26         | 500        | 15.9        | 2          | 3           |
| 5935 00 967 1272 | 92        | 224        | 350        | 194.34      | 34         | 82          |
| 5935 00 967 1273 | 88        | 751        | 800        | 154.27      | 473        | 39          |
| 5935 00 967 1279 | 87        | 481        | 108        | 181.58      | 78         | 14          |
| 5935 00 967 1288 | 92        | 52         | 1325       | 18.03       | 123        | 30          |
| 5935 00 967 1291 | 92        | 85         | 500        | 174.38      | 80         | 22          |
| 5935 00 967 1295 | 92        | 166        | 550        | 186.19      | 123        | 48          |
| 5935 00 967 1308 | 92        | 84         | 250        | 309.85      | 165        | 26          |
| 5935 00 967 1310 | 92        | 54         | 400        | 349.77      | 84         | 7           |
| 5935 00 967 1311 | 87        | 41         | 375        | 346.86      | 88         | 0           |
| 5935 00 968 6929 | 87        | 212        | 145        | 3.01        | 182        | 54          |
| 5935 00 972 3151 | 92        | 315        | 2000       | 76.27       | 1169       | 201         |
| 5935 00 974 5683 | 92        | 1039       | 350        | 5.76        | 1011       | 0           |
| 5935 00 974 5684 | 92        | 99         | 1625       | 136.52      | 380        | 47          |
| 5935 00 974 5685 | 92        | 871        | 1425       | 149.55      | 494        | 33          |
| 5935 00 974 6929 | 95        | 23         | 100        | 13.05       | 8          | 0           |
| 5935 00 976 0023 | 92        | 546        | 1700       | 148.57      | 443        | 45          |
| 5935 00 976 4811 | 95        | 38         | 121        | 26.93       | 10         | 12          |
| 5935 00 977 5821 | 92        | 11         | 30         | 223.28      | 2          | 2           |
| 5935 00 983 5978 | 95        | 5          | 311        | 17.44       | 3          | 2           |
| 5935 00 983 8873 | 87        | 25         | 50         | 183.93      | 40         | 10          |
| 5935 00 988 5945 | 95        | 99         | 235        | 23.95       | 49         | 17          |
| 5935 00 989 0900 | 95        | 12         | 100        | 41.03       | 110        | 9           |
| 5935 00 989 5998 | 92        | 128        | 675        | 94.27       | 398        | 106         |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 103              | 0.4        | 67                  | 36         | 37                     | 50                | 16                | 2756                   | 1378                      |
| 489              | 0.3        | 370                 | 119        | 195                    | 250               | 44                | 3800                   | 1900                      |
| 176              | 0.4        | 329                 | -153       | 179                    | 250               | -253              | 9250                   | 4625                      |
| 108              | 1          | 0                   | 108        | 0                      | 50                | 58                | 23050                  | 11525                     |
| 235              | 0.4        | 151                 | 84         | 121                    | 50                | 64                | 3751                   | 1875.5                    |
| 521              | 0.3        | 363                 | 158        | 188                    | 250               | 83                | 6500                   | 3250                      |
| 126              | 0.4        | 74                  | 52         | 44                     | 50                | 32                | 1965                   | 982.5                     |
| 96               | 0.4        | 63                  | 33         | 33                     | 50                | 13                | 2984                   | 1492                      |
| 123              | 0.4        | 140                 | -17        | 81                     | 98                | -56               | 4274.76                | 2137.38                   |
| 120              | 0.4        | 71                  | 49         | 41                     | 50                | 29                | 2214                   | 1107                      |
| 231              | 0.4        | 184                 | 47         | 108                    | 127               | -4                | 7223.76                | 3611.88                   |
| 126              | 0.4        | 87                  | 39         | 57                     | 50                | 19                | 2516                   | 1258                      |
| 70               | 0.7        | 18                  | 52         | 12                     | 20                | 38                | 7057.6                 | 3528.8                    |
| 164              | 0.3        | 120                 | 44         | 70                     | 72                | 22                | 13757.76               | 6878.88                   |
| 128              | 0.3        | 123                 | 5          | 83                     | 57                | -12               | 9220.8                 | 4610.4                    |
| 174              | 0.4        | 125                 | 49         | 95                     | 50                | 29                | 2075                   | 1037.5                    |
| 167              | 0.4        | 103                 | 64         | 73                     | 50                | 44                | 3164                   | 1582                      |
| 745              | 0.4        | 482                 | 263        | 296                    | 311               | 138               | 26988.58               | 13494.29                  |
| 122              | 0.4        | 82                  | 40         | 52                     | 50                | 20                | 5612                   | 2806                      |
| 527              | 0.4        | 316                 | 211        | 166                    | 250               | 111               | 7950                   | 3975                      |
| 622              | 0.7        | 172                 | 450        | 120                    | 175               | 327               | 68019                  | 34009.5                   |
| 1117             | 1          | 0                   | 1117       | 0                      | 400               | 717               | 123416                 | 61708                     |
| 525              | 1          | 0                   | 525        | 0                      | 54                | 471               | 19610.64               | 9805.32                   |
| 1284             | 0.7        | 413                 | 871        | 214                    | 663               | 407               | 23889.75               | 11944.88                  |
| 527              | 0.7        | 176                 | 351        | 101                    | 250               | 176               | 87190                  | 43595                     |
| 641              | 0.7        | 215                 | 426        | 132                    | 275               | 234               | 102404.5               | 51202.25                  |
| 195              | 0.7        | 100                 | 95         | 63                     | 125               | 7                 | 77462.5                | 38731.25                  |
| 377              | 0.7        | 136                 | 241        | 76                     | 200               | 101               | 139908                 | 69954                     |
| 328              | 1          | 0                   | 328        | 0                      | 188               | 140               | 130072.5               | 65036.25                  |
| 229              | 1          | 0                   | 229        | 0                      | 73                | 156               | 436.45                 | 218.225                   |
| 1347             | 0.7        | 695                 | 652        | 395                    | 1000              | -48               | 152540                 | 76270                     |
| 378              | 0.7        | 417                 | -39        | 364                    | 175               | -161              | 2016                   | 1008                      |
| 1391             | 0.7        | 517                 | 874        | 273                    | 813               | 305               | 221845                 | 110922.5                  |
| 1835             | 0.7        | 689                 | 1146       | 475                    | 713               | 647               | 213108.8               | 106554.4                  |
| 115              | 0.4        | 74                  | 41         | 44                     | 50                | 21                | 1305                   | 652.5                     |
| 1848             | 0.7        | 674                 | 1174       | 419                    | 850               | 579               | 252569                 | 126284.5                  |
| 161              | 0.4        | 95                  | 66         | 59                     | 61                | 41                | 3258.53                | 1629.265                  |
| 41               | 0.7        | 12                  | 29         | 8                      | 15                | 18                | 6698.4                 | 3349.2                    |
| 315              | 0.4        | 190                 | 125        | 96                     | 156               | 63                | 5423.84                | 2711.92                   |
| 45               | 1          | 0                   | 45         | 0                      | 25                | 20                | 9196.5                 | 4598.25                   |
| 302              | 0.4        | 200                 | 102        | 130                    | 118               | 54                | 5628.25                | 2814.125                  |
| 11               | 0.4        | 67                  | -56        | 37                     | 50                | -76               | 4103                   | 2051.5                    |
| 511              | 0.7        | 241                 | 270        | 140                    | 338               | 33                | 63632.25               | 31816.13                  |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5935 | 00 | 999 | 7223 | 92        | 107        | 235        | 140.94      | 82         | 34          |
| 5935 | 01 | 006 | 8183 | 96        | 6          | 500        | 17.8        | 7          | 0           |
| 5935 | 01 | 006 | 8212 | 96        | 382        | 500        | 12.35       | 239        | 0           |
| 5935 | 01 | 008 | 2898 | 90        | 1299       | 3899       | 0.14        | 4392       | 386         |
| 5935 | 01 | 011 | 7666 | 96        | 7          | 500        | 13.48       | 3          | 0           |
| 5935 | 01 | 016 | 3813 | 96        | 69         | 500        | 21.55       | 5          | 10          |
| 5935 | 01 | 017 | 3697 | 87        | 285        | 100        | 135.22      | 497        | 127         |
| 5935 | 01 | 025 | 9086 | 96        | 367        | 1070       | 26.12       | 109        | 9           |
| 5935 | 01 | 029 | 2518 | 95        | 4          | 100        | 14.28       | 12         | 0           |
| 5935 | 01 | 030 | 6991 | 95        | 4          | 100        | 14.74       | 0          | 0           |
| 5935 | 01 | 037 | 6493 | 96        | 51         | 500        | 6.9         | 26         | 0           |
| 5935 | 01 | 038 | 6473 | 95        | 7          | 100        | 18.44       | 4          | 0           |
| 5935 | 01 | 044 | 4436 | 90        | 910        | 730        | 1.09        | 1189       | 0           |
| 5935 | 01 | 044 | 8588 | 90        | 172        | 506        | 0.55        | 132        | 0           |
| 5935 | 01 | 045 | 2926 | 90        | 400        | 876        | 0.26        | 429        | 0           |
| 5935 | 01 | 045 | 4830 | 90        | 172        | 323        | 0.39        | 136        | 0           |
| 5935 | 01 | 064 | 4721 | 95        | 114        | 100        | 20.91       | 21         | 0           |
| 5935 | 01 | 065 | 8357 | 95        | 3          | 100        | 25.94       | 0          | 0           |
| 5935 | 01 | 072 | 3866 | 90        | 157        | 929        | 0.21        | 1086       | 0           |
| 5935 | 01 | 074 | 8607 | 96        | 39         | 500        | 8.7         | 49         | 1           |
| 5935 | 01 | 077 | 7173 | 96        | 5          | 500        | 22.13       | 5          | 0           |
| 5935 | 01 | 079 | 7333 | 95        | 16         | 100        | 35.2        | 3          | 0           |
| 5935 | 01 | 079 | 7383 | 95        | 2          | 100        | 59.55       | 7          | 0           |
| 5935 | 01 | 079 | 8948 | 96        | 229        | 500        | 11.08       | 287        | 39          |
| 5935 | 01 | 081 | 3860 | 96        | 23         | 500        | 7.37        | 33         | 0           |
| 5935 | 01 | 082 | 8806 | 96        | 19         | 500        | 7.37        | 37         | 0           |
| 5935 | 01 | 084 | 5790 | 96        | 12         | 500        | 4.02        | 5          | 0           |
| 5935 | 01 | 086 | 6228 | 96        | 13         | 500        | 7.4         | 1          | 0           |
| 5935 | 01 | 086 | 8444 | 96        | 27         | 500        | 9.48        | 30         | 0           |
| 5935 | 01 | 089 | 1419 | 96        | 16         | 500        | 6.9         | 12         | 0           |
| 5935 | 01 | 089 | 1420 | 96        | 49         | 500        | 16.93       | 48         | 4           |
| 5935 | 01 | 091 | 1846 | 95        | 0          | 100        | 34.88       | 100        | 118         |
| 5935 | 01 | 094 | 3684 | 95        | 3          | 100        | 82.21       | 6          | 0           |
| 5935 | 01 | 103 | 4797 | 95        | 0          | 100        | 16.45       | 0          | 0           |
| 5935 | 01 | 105 | 7922 | 96        | 29         | 500        | 11.65       | 0          | 0           |
| 5935 | 01 | 112 | 5449 | 95        | 5          | 100        | 17.57       | 0          | 0           |
| 5935 | 01 | 122 | 7526 | 96        | 21         | 500        | 20.55       | 139        | 2           |
| 5935 | 01 | 134 | 1247 | 95        | 6          | 100        | 119.81      | 1          | 0           |
| 5935 | 01 | 136 | 1973 | 96        | 6          | 500        | 14.63       | 0          | 0           |
| 5935 | 01 | 147 | 9432 | 95        | 4          | 100        | 87.75       | 3          | 0           |
| 5935 | 01 | 157 | 9555 | 95        | 48         | 100        | 120.7       | 22         | 1           |
| 5950 | 00 | 052 | 4343 | 94        | 1093       | 106        | 18.77       | 1229       | 54          |
| 5950 | 00 | 234 | 0545 | 97        | 4          | 176        | 4.85        | 0          | 0           |
| 5950 | 00 | 443 | 9516 | 97        | 6          | 35         | 24.25       | 4          | 6           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|------------------------|---------------------------|
| 294              | 0.7        | 103                 | 191        | 67                     | 118               | 109               | 33120.9                | 16560.45                  |
| 499              | 0.3        | 354                 | 145        | 179                    | 250               | 70                | 8900                   | 4450                      |
| 643              | 0.3        | 617                 | 26         | 442                    | 250               | -49               | 6175                   | 3087.5                    |
| 1192             | 0.9        | 520                 | 672        | 325                    | 1950              | -1083             | 545.86                 | 272.93                    |
| 504              | 0.3        | 355                 | 149        | 180                    | 250               | 74                | 6740                   | 3370                      |
| 574              | 0.3        | 398                 | 176        | 223                    | 250               | 101               | 10775                  | 5387.5                    |
| 15               | 1          | 0                   | 15         | 0                      | 50                | -35               | 13522                  | 6761                      |
| 1337             | 0.3        | 1006                | 331        | 631                    | 535               | 171               | 27948.4                | 13974.2                   |
| 92               | 0.4        | 62                  | 30         | 32                     | 50                | 10                | 1428                   | 714                       |
| 104              | 0.4        | 62                  | 42         | 32                     | 50                | 22                | 1474                   | 737                       |
| 525              | 0.3        | 386                 | 139        | 211                    | 250               | 64                | 3450                   | 1725                      |
| 103              | 0.4        | 64                  | 39         | 34                     | 50                | 19                | 1844                   | 922                       |
| 451              | 0.9        | 164                 | 287        | 128                    | 365               | -42               | 795.7                  | 397.85                    |
| 546              | 0.9        | 68                  | 478        | 43                     | 253               | 250               | 278.3                  | 139.15                    |
| 847              | 0.9        | 128                 | 719        | 84                     | 438               | 325               | 227.76                 | 113.88                    |
| 359              | 0.9        | 50                  | 309        | 33                     | 162               | 164               | 125.97                 | 62.985                    |
| 193              | 0.4        | 128                 | 65         | 98                     | 50                | 45                | 2091                   | 1045.5                    |
| 103              | 0.4        | 62                  | 41         | 32                     | 50                | 21                | 2594                   | 1297                      |
| 0                | 0.9        | 109                 | -109       | 62                     | 465               | -527              | 195.09                 | 97.545                    |
| 491              | 0.3        | 377                 | 114        | 202                    | 250               | 39                | 4350                   | 2175                      |
| 500              | 0.3        | 354                 | 146        | 179                    | 250               | 71                | 11065                  | 5532.5                    |
| 113              | 0.4        | 70                  | 43         | 40                     | 50                | 23                | 3520                   | 1760                      |
| 95               | 0.4        | 61                  | 34         | 31                     | 50                | 14                | 5955                   | 2977.5                    |
| 481              | 0.3        | 510                 | -29        | 335                    | 250               | -104              | 5540                   | 2770                      |
| 490              | 0.3        | 366                 | 124        | 191                    | 250               | 49                | 3685                   | 1842.5                    |
| 482              | 0.3        | 363                 | 119        | 188                    | 250               | 44                | 3685                   | 1842.5                    |
| 507              | 0.3        | 358                 | 149        | 183                    | 250               | 74                | 2010                   | 1005                      |
| 512              | 0.3        | 359                 | 153        | 184                    | 250               | 78                | 3700                   | 1850                      |
| 497              | 0.3        | 369                 | 128        | 194                    | 250               | 53                | 4740                   | 2370                      |
| 504              | 0.3        | 361                 | 143        | 186                    | 250               | 68                | 3450                   | 1725                      |
| 505              | 0.3        | 384                 | 121        | 209                    | 250               | 46                | 8465                   | 4232.5                    |
| 118              | 0.4        | 60                  | 58         | 30                     | 50                | 38                | 3488                   | 1744                      |
| 97               | 0.4        | 62                  | 35         | 32                     | 50                | 15                | 8221                   | 4110.5                    |
| 100              | 0.4        | 60                  | 40         | 30                     | 50                | 20                | 1645                   | 822.5                     |
| 529              | 0.3        | 370                 | 159        | 195                    | 250               | 84                | 5825                   | 2912.5                    |
| 105              | 0.4        | 63                  | 42         | 33                     | 50                | 22                | 1757                   | 878.5                     |
| 384              | 0.3        | 365                 | 19         | 190                    | 250               | -56               | 10275                  | 5137.5                    |
| 105              | 0.4        | 64                  | 41         | 34                     | 50                | 21                | 11981                  | 5990.5                    |
| 506              | 0.3        | 354                 | 152        | 179                    | 250               | 77                | 7315                   | 3657.5                    |
| 101              | 0.4        | 62                  | 39         | 32                     | 50                | 19                | 8775                   | 4387.5                    |
| 127              | 0.4        | 89                  | 38         | 59                     | 50                | 18                | 12070                  | 6035                      |
| 24               | 0.5        | 600                 | -576       | 573                    | 53                | -602              | 1989.62                | 994.81                    |
| 180              | 0.2        | 144                 | 36         | 74                     | 88                | 18                | 853.6                  | 426.8                     |
| 43               | 0.2        | 33                  | 10         | 18                     | 18                | 7                 | 848.75                 | 424.375                   |

| NSN  |    |     |      | LOT<br>Yr | Beg<br>O/H | LOT<br>Qty | Cont<br>U/P | Dem<br>Qty | Cred<br>Ret |
|------|----|-----|------|-----------|------------|------------|-------------|------------|-------------|
| 5950 | 00 | 462 | 1773 | 94        | 5          | 44         | 495.56      | 5          | 4           |
| 5950 | 00 | 624 | 1989 | 95        | 849        | 7312       | 9.71        | 1297       | 388         |
| 5950 | 00 | 624 | 1990 | 95        | 3622       | 16417      | 7.87        | 6447       | 699         |
| 5950 | 00 | 780 | 7417 | 95        | 6          | 53         | 223.6       | 0          | 1           |
| 5950 | 00 | 983 | 7611 | 95        | 8          | 65         | 247.52      | 9          | 0           |

| Dec<br>89<br>Bal | S/L<br>Fac | Dec89<br>Exp<br>O/H | Sht<br>Lng | Exp<br>Dec89<br>.5 Bal | Red<br>LOT<br>Qty | 0.5<br>Sht<br>Lng | .5 Red<br>LOT<br>Value  | 50% LB<br>Extend<br>Value |
|------------------|------------|---------------------|------------|------------------------|-------------------|-------------------|-------------------------|---------------------------|
| 48               | 0.3        | 34                  | 14         | 19                     | 22                | 7                 | 21804.64                | 10902.32                  |
| 7252             | 0.4        | 4897                | 2355       | 2703                   | 3656              | 893               | 70999.52                | 35499.76                  |
| 14291            | 0.4        | 12023               | 2268       | 7098                   | 8209              | -1016             | 129201.8                | 64600.9                   |
| 60               | 0.4        | 35                  | 25         | 19                     | 27                | 14                | 11850.8                 | 5925.4                    |
| 64               | 0.4        | 44                  | 20         | 24                     | 33                | 7                 | 16088.8                 | 8044.4                    |
|                  |            |                     |            |                        |                   |                   | Savings \$ 3,147,856.00 |                           |

## Bibliography

1. Armstrong, Jon S. Long-Range Forecasting: From Crystal Ball to Computer. New York, John Wiley & Sons 1981.
2. Brooks, Capt Michael E. An Investigation of Time Series Growth Curves as a Predictor of Diminishing Manufacturing Sources of Electronic Components. MS Thesis LSSR 98-81. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1981 (AD-A111375).
3. Capotosti, Capt David and Capt Eugene M. Curran. A Study of the Effects of Diminishing Manufacturing Sources on the Supportability of the AN/ASQ-38 Radar System. MS Thesis LSSR 24-81. School of Systems and Logistics, Air Force Institute of Technology, Wright-Patterson AFB OH, June 1981 (AD-A105185).
4. Corbett, Major James D. and others. The Relationship Between the Dollar Volume of Sales and Diminishing Manufacturing Sources for Selected Electronic Components: A Comparative Analysis. MS Thesis LSSR 17-78A. Graduate Education Division, School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, June 1980 (AD-A061339).
5. Correll, John T. "The Peace to End All Wars," Air Force Magazine, 6, January 1990.
6. Davies, John. "Aging Air Cargo Fleet Flying Toward Empty on Replacement Parts," Dayton Daily News, 2-F (8 October 1989).
7. Defense Electronic Supply Center. The DESC Diminishing Manufacturing Sources and Material Shortages Study Group: Study of the Influences of Technological Change and Diminishing Manufacture Sources on DOD Electronic Parts Support. Defense Electronic Supply Center, Dayton OH, 5 December 1979.
8. -----. Diminishing Manufacturing Sources and Material Shortages (DMDMS) Program. DESC Standard Operating Procedure. Dayton OH, 11 April 1986.
9. Dimitroff, Gail. "TQM Provides the Best Defense," Electronic Engineering Times, 58, 27 November 1989.

10. Directorate of Supply Operations, DMS Group Memorandum for Record on DMS Initiatives for Reduction of Stock Fund Expenditures. Defense Electronics Supply Center, Dayton OH, 5 April 1990.
11. Fisher, Christine E. and Walter F. Sheehan. The Life-of-Type Inventory Decision for Diminishing Manufacturing Sources Items: A Sensitivity Study. MS Thesis LSSR 78-82. School of Systems and Logistics, Air Force Institute of Technology (AU), Wright-Patterson AFB OH, September 1982 (AD-A122893).
12. Fluke, John. "DOD: Buy the Commercial Way," Electronic Engineering Times, 68-69, 27 November 1989.
13. Fox, Charles. "FPGA's Move Into the Military Spotlight," Electronic Engineering Times. 54, 27 November 1989.
14. Fullerton, Dave. "CALS- Acquisition by Computer," Electronic Engineering Times, 62-64, 27 November 1989.
15. Gardner, Everett S. Jr., and David G. Dannenbring, "User Optimal Policy Surfaces to Analyze Aggregate Inventory Tradeoffs", Management Science, Vol. 25, No. 8, 709-719, August 1979.
16. Ginovsky, John. "New AF Cuts, Command Overhauls Outlined," Air Force Times, 24: 3, 22 January 1990.
17. Levine, Arnold S. "DLA Beefs-up Demand Forecasting," Federal Computer Week, 7 (November 1989).
18. Makridakis, S. and others. Forecasting: Methods and Applications (Second Edition). New York: John Wiley and Sons, 1983.
19. Jackson, Tom. Inventory Management Specialist, Inventory Management Division B, Supply Branch B, Section 3. Personal Interview. Defense Electronics Supply Center, Dayton OH, 13 October 1989.
20. Martino, Joseph P. Technological Forecasting for Decision Making. New York: American Elsevier Publishing Company, Inc., 1972.
21. Merritt, Donald E. S. "Making Spares Available for Aging Military Equipment," Defense Management Journal, Vol 22, No.1, 24-29 (First Quarter 1986).

22. Nessler, James E. Chairman DMS Central Control Staff. Personal interview. Defense Electronics Supply Center, Dayton, OH, 13 October 1989.
23. Patterson, Brigadier General George K., USAF. "The Weak Link in Defense Logistics," Logistics Spectrum, 28-32, Winter 1978.
24. Skinner, Wickham and David C. D. Rogers, Manufacturing Policy in the Electronics Industry 3d ed. Homewood IL: Richard D. Irwin, Inc., 1968.
25. "The Global Network of United States Military Bases," The Defense Monitor 17: 1-8, 30 May 1989.
26. Tirado, Joseph "QML Could Streamline Production," Electronic Engineering Times, 49, 27 November 1989.
27. Thompson, Mark "Military Spent Unsparingly on Parts" Philadelphia Inquirer, 3-4, (March 1990).
28. Tucker, Isabel L. and others. "Diminished Manufacturing Sources Life-of-Type Requirements Forecasting" presentation to Supply Operations Directorate by DECS DMS Oversight Committee. DESC, Dayton OH (Jan 1989).

### Vita

Mr. James L. Brown was born on 25 February 1949 in Union City, Indiana. He graduated from Mississinewa Valley High School in rural Darke County, Ohio in 1967. He was enrolled at Ohio Northern University at Celina, Ohio and was a student there until entering the United States Marine Corps in 1969. After serving eighteen months in the Republic of Vietnam he returned to MCB, Camp Pendleton, California where he served at 1st Marine Division Headquarters G-3. Upon his release from active duty in 1973, Mr. Brown was enrolled at Wright State University Dayton, Ohio and was subsequently awarded a Bachelor of Science Degree in Business Finance in 1979. In 1980, Mr. Brown completed one year of a Master of Business Administration program before entering government service at the Defense Electronics Supply Center in Dayton, Ohio. His most recent assignment was as an Inventory Management Supervisor in the Supply Operations Directorate. His duties included supervising an inventory management section and serving as a subject matter expert (SME) in the field of inventory management. Mr. Brown was assigned to the Air Force Institute of Technology in May 1989 to pursue a masters degree in Logistics Management.

| REPORT DOCUMENTATION PAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             |                                                            | Form Approved<br>OMB No 0704-0188                                     |                                                    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------|
| <small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.</small>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             |                                                            |                                                                       |                                                    |
| 1. AGENCY USE ONLY (Leave blank)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                             | 2. REPORT DATE<br>September 1990                           |                                                                       | 3. REPORT TYPE AND DATES COVERED<br>Masters Thesis |
| 4. TITLE AND SUBTITLE<br>DIMINISHED MANUFACTURING SOURCE: A COMMON SENSE<br>APPROACH TO REQUIREMENTS DETERMINATION FOR<br>LIFE-OF-TYPE PROCUREMENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                             |                                                            | 5. FUNDING NUMBERS                                                    |                                                    |
| 6. AUTHOR(S)<br><br>James L. Brown                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                             |                                                            |                                                                       |                                                    |
| 7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)<br><br>Air Force Institute of Technology,<br>WPAFB, OH 45433-6583                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                             |                                                            | 8. PERFORMING ORGANIZATION<br>REPORT NUMBER<br><br>AFIT/GLM/LSM/90S-5 |                                                    |
| 9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                             |                                                            | 10. SPONSORING / MONITORING<br>AGENCY REPORT NUMBER                   |                                                    |
| 11. SUPPLEMENTARY NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             |                                                            |                                                                       |                                                    |
| 12a. DISTRIBUTION / AVAILABILITY STATEMENT<br><br>Approved for Public Release: distribution unlimited                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                             |                                                            | 12b. DISTRIBUTION CODE                                                |                                                    |
| 13. ABSTRACT (Maximum 200 words) > This thesis studied the reasons for over procurement in the case of long term support for Diminished Manufacturing Source (DMS) items of supply at the Defense Electronics Supply Center at Dayton, Ohio. A sample of 351 DMS items was selected for analysis. Fifteen percent of the items were deficient in stock primarily as a result of increased demands after the final LOT buy was made. Trend analysis reveals that 75% of DMS items experience declining demand rates both before and after the declaration of DMS. To test the effects of reducing LOT quantities, all past LOT buys were reduced by 10%, 33% and 50% and checked against past demands. New stocks were noted as a result of reductions in LOT buys. Since the forecasting of future demands is inaccurate, this study recommends a common sense approach of 10% reductions to demand based LOT buys for DMS items of supply. Additionally, the increased use of a 40-quarter demand forecast is encouraged to better identify those items with increasing demands. For those items already procured which experience increasing demands after the DMS final buy, a new effort is recommended to find new sources of supply. |                                                             |                                                            |                                                                       |                                                    |
| 14. SUBJECT TERMS<br>Military procurement, Requirements, Long-Term Support, Inventory control, Inventory Analysis, Sources, Electronic Equipment, . . .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                             |                                                            | 15. NUMBER OF PAGES<br>149                                            |                                                    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                             |                                                            | 16. PRICE CODE                                                        |                                                    |
| 17. SECURITY CLASSIFICATION<br>OF REPORT<br>Unclassified                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 18. SECURITY CLASSIFICATION<br>OF THIS PAGE<br>Unclassified | 19. SECURITY CLASSIFICATION<br>OF ABSTRACT<br>Unclassified | 20. LIMITATION OF ABSTRACT<br>Unlimited                               |                                                    |