

November 19, 2003



Logistics

Defense Logistics Agency Cost to
Maintain Inactive National Stock
Number Items
(D-2004-024)

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Acronyms

DIIP	Defense Inactive Item Program
DISA	Defense Information Systems Agency
DLA	Defense Logistics Agency
DLIS	Defense Logistics Information Service
DORRA	Defense Logistics Agency Office of Operations Research and Resource Analysis
DRMS	Defense Reutilization and Marketing Service
DSC	Defense Logistics Agency Supply Center
DSIO	Defense Logistics Agency System Integration Office
FLIS	Federal Logistics Information System
GPRA	Government Performance and Results Act
IG DoD	Inspector General of the Department of Defense
NSN	National Stock Number
SAMMS	Standard Automated Materiel Management System



INSPECTOR GENERAL
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November 19, 2003

MEMORANDUM FOR DIRECTOR, DEFENSE LOGISTICS AGENCY

SUBJECT: Report on Defense Logistics Agency Cost to Maintain Inactive National Stock Number Items (Report No. D-2004-024)

We are providing this report for review and comment. We considered management comments on a draft of this report when preparing the final report.

DoD Directive 7650.3 requires that all issues be resolved promptly. The Defense Logistics Agency generally concurred with the recommendations. However, we do not agree that the Defense Logistics Agency cost study should be approved and disseminated before all costs identified in the audit are included. Therefore, we request additional comments on Recommendations 1. and 2. Management comments should be provided by January 20, 2004.

If possible, please provide management comments in electronic format (Adobe Acrobat file only) to Audls@dodig.osd.mil. Copies of management comments must contain the actual signature of the authorizing official. We cannot accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, they must be sent over the classified SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to Mr. Tilghman A. Schraden at (703) 604-9186 (DSN 664-9186) or Mr. John W. Henry at (215) 737-5421, ext. 226 (DSN 444-5421, ext. 226). See Appendix D for the report distribution. The team members are listed inside the back cover.

By direction of the Deputy Inspector General for Auditing:

A handwritten signature in black ink that reads "Shelton Young".

Shelton R. Young
Director, Readiness and
Logistics Support Directorate

Office of the Inspector General of the Department of Defense

Report No. D-2004-024

November 19, 2003

(Project No. D2003LD-0011)

Defense Logistics Agency Cost to Maintain Inactive National Stock Number Items

Executive Summary

Who Should Read This Report and Why? DoD personnel who are involved in materiel management should read this report. This report addresses the cost incurred by the Defense Logistics Agency (DLA) to maintain inactive national stock number items in the DLA supply system.

Background. The Defense Inactive Item Program, established in 1965, provides for the systematic elimination of inactive national stock number items from the DLA supply system. A 1999 DLA cost study addressed the cost avoidance associated with eliminating items from the DLA supply system, but it did not isolate specific costs associated with maintaining inactive national stock numbers. In FY 2002, DLA authorized the DLA Office of Operations Research and Resource Analysis (DORRA) to conduct a study addressing the cost of maintaining inactive national stock numbers. In July 2002, DORRA published a draft report, "Cost of a DLA Maintained Inactive National Stock Number," which concluded that the average annual cost to maintain an inactive national stock number item in inventory was \$1.53 and to maintain an item that was not stocked in inventory was \$0.97. In FY 2001, there were about 4.1 million national stock number items that were managed by DLA and, as of May 2001, about 1.4 million of those national stock number items were potentially inactive.

Results. The July 2002 DORRA draft cost study did not accurately identify the cost for maintaining inactive national stock number items in the DLA supply system. For instance, of \$1.9 billion identified in the DLA pricing model, \$409.8 million was inappropriately excluded from consideration in the cost calculation. As a result, the average annual cost for maintaining an inactive item of \$1.53 for a stocked national stock number item and of \$0.97 for a non-stocked national stock number item were understated and cannot be used as a basis to accurately determine the cost-effectiveness of the Defense Inactive Item Program or any other DLA or DoD program. Before the 2002 DORRA draft cost study is applied to DLA programs, DLA should reevaluate the costs that were excluded from the study, as well as the methodology used to compute and apply those costs. (See the Finding section of the report for the detailed recommendations.)

Management Comments and Audit Response. DLA generally concurred with the recommendations but disagreed with our conclusion that all applicable costs were not included in the 2002 DORRA draft cost study. DLA nonconcurred with the overhead and other expense costs that we included in the audit report as well as with labor requirements and computer storage costs. DLA plans to finalize and disseminate the 2002 DORRA draft cost study after reevaluating certain costs identified as issues in the audit report. We do not agree that the 2002 DORRA draft cost study should be approved

and disseminated for use before all additional costs identified in the audit are included in the study. Without those additional costs, the 2002 DORRA draft cost study is not a reasonable estimate of the cost to manage inactive items and should not be used as a basis for management decisions. We request that the Director, Defense Logistics Agency provide additional comments by January 20, 2004. See the Finding section of the report for a discussion of management comments, Appendix C for a discussion of management comments on the finding, and the Management Comments section of the report for the complete text of the comments.

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Background

Materiel Management. Defense Logistics Agency (DLA) supply centers (DSCs) are assigned the primary responsibility for materiel management for national stock number (NSN) items used either by a particular Service or by DoD as a whole. Materiel management responsibilities include cataloging, computing materiel requirements, directing procurement of materiel, distribution management, and directing materiel disposal actions. There were about 4.1 million NSNs that were managed by DLA and, as of May 2001, about 1.4 million of those NSNs were potentially inactive.

DoD Inventory Reduction Plan. The then Assistant Secretary of Defense (Production and Logistics) implemented the DoD Inventory Reduction Plan in May 1990 to improve the functional policies, processes, and incentives that compose inventory management to attain greater material support effectiveness, significant budget savings, and major reductions in DoD inventories. Two specific objectives of the DoD Inventory Reduction Plan were to reduce quantities of materiel stocked and to reduce the number of items in the DoD supply system. The Plan instituted a 10-point program to achieve its objectives. One point in the 10-point program emphasized item standardization and materiel quality by aggressively pursuing elimination of inactive items and focusing on the minimization of item duplication. The Defense Inactive Item Program (DIIP) and the DLA item reduction program supported DoD Components in achieving the objectives of the DoD Inventory Reduction Plan.

Defense Inactive Item Program. The DIIP was established in 1965 to systematically eliminate inactive NSNs from the DoD supply system. DoD Manual 4140.32-M, "Defense Inactive Item Program," August 1992, states that items no longer needed to support the mission of registered users in DoD organizations, other Federal agencies, or the International Logistics Program needlessly consume cataloging and supply system files, machine time, personnel resources, and warehouse space with serious effect on the total supply system. DoD managers at every level are expected to place serious and continual emphasis on the purging of unneeded items from the materiel inventory and active catalog files. The manual requires DoD organizations to consider those items having no demand for 5 years or more for inclusion in the DIIP.

Item Reduction Program. The DLA item reduction program provides for the elimination of duplicate or similar NSNs from the DoD supply system. DoD Manual 4120.24-M, "Defense Standardization Program (DSP)," March 9, 2000, provides policies and procedures to achieve standardization objectives for the item reduction program. All NSNs with the appropriate item standardization code may be included in the item reduction program. NSNs are assigned item standardization codes that indicate whether items have potential for item reduction studies.

DLA Guidance. DLA Manual 4140.2, “Supply Operations Manual,” July 1, 1999, provides policy, uniform guidance, and procedures for DSCs to systematically review and eliminate inactive NSNs from the DLA supply system. An item is considered for elimination if the NSN has had no demand for 5 years and there are no current or future requirements anticipated by any registered user or the integrated materiel manager of the NSN.

Prior DLA Cost Study. In September 1999, the DLA Office of Operations Research and Resource Analysis (DORRA) published a study that provided cost data in support of item reduction studies. The study included cost avoidance data for eliminating an existing NSN from the DLA supply system. The 1999 DLA cost study concluded that it cost \$400 to maintain an NSN with inventory in the DLA supply system (stocked NSN) and \$200 to maintain an NSN with no inventory (non-stocked NSN). Table 1 shows the results of the study.

Table 1. Cost of Maintaining NSNs

<u>Category</u>	<u>Cost</u>
Average annual cost to maintain a stocked NSN	\$ 400
Average annual cost to maintain a non-stocked NSN	200
Average cost to delete a stocked or non-stocked NSN	57
Remaining life-cycle cost avoided by eliminating a stocked NSN	1,495
Remaining life-cycle cost avoided by eliminating a non-stocked NSN	747

The 1999 DLA cost study applied to active and inactive NSNs and did not isolate specific costs associated with maintaining an inactive item in the DLA supply system.

Prior Audit Reports. During the last 3 years, the Inspector General of the Department of Defense (IG DoD) issued a series of reports addressing various aspects of the DIIP, including the management of inactive NSN items. In May 2001, the IG DoD issued Report No. D-2001-131, “Items Excluded From the Defense Logistics Agency Defense Inactive Item Program,” which estimated that DLA could avoid costs of approximately \$61.2 million by deleting inactive NSNs from its supply files. The \$61.2 million was computed using cost data in the 1999 DLA cost study and inactive NSNs identified in Report No. D-2001-131. Although DLA had initially agreed with the IG DoD application of the 1999 cost study data in a prior audit report, in August 2001, DLA amended its comments related to our use of the cost study and stated that the study should not be used as a basis to determine cost avoidance associated with retaining inactive NSNs. Consequently, DLA authorized DORRA to conduct a new study addressing the cost of maintaining inactive NSNs. In July 2002, DORRA published a draft report, “Cost of a DLA Maintained Inactive National Stock Number,” which concluded that the average annual cost to maintain an inactive NSN was \$1.53 for a stocked NSN and \$0.97 for a non-stocked NSN.

Objectives

Our overall audit objective was to evaluate the cost incurred by DLA to manage inactive NSN items. Specifically, the audit determined whether the costs and methodology in the July 2002 DORRA draft cost study provided a valid basis to compute and report the cost of maintaining inactive NSN items. See Appendix A for a discussion of the scope and methodology. See Appendix B for prior coverage related to the objectives.

Defense Logistics Agency Cost Study

The July 2002 DORRA draft cost study did not accurately identify the cost for maintaining inactive NSN items in the DLA supply system. The cost study was inaccurate because applicable overhead and other expense categories were excluded from the study's calculations; the study underestimated item manager functions and costs associated with inactive NSNs; the study's assumptions were not fully supported, verified, or validated; and the study's methodologies were inconsistent with commercial and DLA practices. As a result, the average annual cost for maintaining an inactive NSN of \$1.53 for a stocked NSN and \$0.97 for a non-stocked NSN cited in the July 2002 DORRA draft cost study were understated and cannot be used as a basis to accurately determine the cost-effectiveness of the DIIP or any other DLA or DoD program.

The July 2002 DORRA Draft Cost Study

Study Purpose and Methodology. The July 2002 DORRA draft cost study was to determine the annual cost for maintaining an inactive NSN (both stocked and non-stocked). The scope of work indicated that the study used FY 2001 data and a marginal, or incremental, methodology. Incremental methodology is designed to measure the cost of maintaining one more unit, or a relatively small number of units, in an existing system. The study further stated that the incremental approach is not appropriate for a large number of units, which could cause overhead structural changes, such as changes in facility space, computer capacity, supervisors, and clerical staff. About 1.4 million NSNs that DLA managed in FY 2001 were potentially inactive as of May 2001.

Maintenance Cost Definitions. The July 2002 draft cost study defined operational maintenance costs as those direct, indirect, and overhead costs that are incurred by DLA organizational units to maintain existing NSNs in the DLA supply system. The study stated that the primary functions involving inactive NSNs that incur direct costs are item manager reviews performed at DSCs and specific tasks associated with inactive NSNs that are performed at storage depots. Direct and indirect costs for the maintenance of inactive NSNs are any NSN labor and non-labor costs that vary in direct proportion to the number of NSNs. Overhead costs are any constant costs--costs that do not vary in proportion to the number of NSNs--such as facility space and computer capacity. NSN maintenance costs are determined by dividing the averages of direct, indirect, and overhead costs by the number of NSNs processed to yield a per-unit cost. The July 2002 draft cost study evaluated three NSN maintenance cost categories: annual supply center cost, computer storage cost, and depot storage cost.

Cost Categories

The July 2002 DORRA draft cost study did not accurately identify the cost for maintaining inactive NSN items in the DLA supply system. The cost study was

inaccurate because it did not include all applicable overhead and other expense categories associated with maintaining inactive NSNs. Five overhead and expense categories, totaling approximately \$409.8 million, identified in the DLA FY 2003 pricing model were inappropriately excluded from consideration in the computation of the average annual cost for maintaining inactive NSNs.

DLA Pricing Model. Five overhead and other expense categories in the DLA FY 2003 pricing model used for calculating cost recovery rates were not applied to inactive NSNs in the July 2002 DORRA draft cost study. Each year DLA develops a pricing model for computing cost recovery rates that it charges customers to recoup operating expenses when selling items. The rate is calculated as a percentage of acquisition cost that is added to the acquisition price of an NSN item to establish the price of an item paid by a DLA customer. The pricing model includes DLA overhead costs and other expenses that are allocated to NSNs in determining the cost recovery rate.

The July 2002 DORRA draft cost study attempted to identify inactive NSNs and isolate the costs specifically associated with maintaining an inactive NSN. However, DORRA did not identify an appropriate portion of the overhead and other expense categories used to develop its cost recovery rate that would be attributable to inactive NSNs. Although DLA only recoups expenses in the sale of an item, inactive NSNs also incur expenses allocated to the active NSNs sold. That is to say, if the inactive NSNs were deleted from the supply system, some portion of the overhead and other expense categories should also be reduced and the cost recovery rate charged to customers should likewise be less. DLA did not consider those costs because it used the incremental methodology in the cost model. More than 34 percent (1.4 million of 4.1 million) of the NSNs managed by DLA are potentially inactive; therefore, the incremental approach appears to be an inappropriate methodology.

The DLA FY 2003 pricing model had a breakout of nine categories of direct, indirect, and overhead costs, totaling about \$1.9 billion, that were allocated to the DSCs or selected DLA-managed commodities. Of the nine categories, five overhead and other expense categories were not considered in the development of the July 2002 DORRA draft cost study. Those categories were DLA overhead expense, DSC overhead expense, Defense Reutilization and Marketing Service (DRMS) expense, DLA System Integration Office (DSIO) expense, and obsolete item expense (replacement costs for disposals equal to disposed items' acquisition value). Overhead and other expense categories should be allocated to all NSNs managed by DLA, whether they are active or inactive. Table 2 shows the overhead and other expense categories and associated costs that were not considered in the DORRA draft cost study.

**Table 2. DLA FY 2003 Pricing Model Categories
Excluded From the Draft Cost Study**
(in millions)

<u>Category</u>	<u>Cost</u>
DLA overhead expense	\$158.5
DSC overhead expense	176.6
DRMS expense	33.4
DSIO expense	11.6
Obsolete item expense	<u>29.7</u>
Total	\$409.8

Consistent with the DORRA methodology in identifying costs in other overhead and expense categories, we calculated only those costs applicable to the DSCs that manage general and industrial-type items. For example, the DSC overhead expense of \$176.6 million included only the expenses allocated to DSC Richmond, DSC Columbus, and DSC Philadelphia for managing general and industrial-type items. Expenses associated with other commodities--subsistence, medical, clothing--and energy-related costs were excluded.

NSN Maintenance Cost Categories. The analysis of NSN maintenance cost categories in preparing the July 2002 DORRA draft cost study underestimated item manager functions and costs associated with inactive NSNs; did not fully support, verify, or validate assumptions; excluded some applicable costs; and used inconsistent methodologies. The July 2002 DORRA draft cost study identified three maintenance cost categories for its analysis. The study indicated that direct inactive NSN maintenance costs were generated in three organizational areas: the DSCs, which perform specific NSN maintenance functions for inactive NSNs; the computer system used by the Defense Logistics Information Service (DLIS), which manages and distributes logistics information and performs cataloging functions, as well as general support computer systems; and the depots, which store the physical inventory and perform specific tasks applicable to NSNs with inventory in the depots. Table 3 shows the cost of stocked and non-stocked inactive NSNs in each of the three maintenance cost categories.

**Table 3. July 2002 DORRA Draft Cost Study
Cost of Stocked and Non-Stocked Inactive NSNs**

<u>Cost Category of Stocked Inactive NSN</u>	<u>Average NSN Cost</u>	<u>Cost Category of Non-Stocked Inactive NSNs</u>	<u>Average NSN Cost</u>
Annual supply center cost	\$0.17	Annual supply center cost	\$0.17
Computer storage cost	0.80	Computer storage cost	0.80
Depot storage cost	<u>0.56</u>	Depot storage cost	<u>0</u>
Total	\$1.53	Total	\$0.97

Annual Supply Center Cost. DORRA needed additional data analysis in the category of annual supply center cost for a more accurate and complete cost study. In the analysis of annual supply center cost, DORRA assumed that the only cost in the category was for the involvement of item managers who perform a manual review of inactive NSNs for the DIIP. To determine that cost, DORRA reviewed the computer system-generated DIIP candidates for FY 2001 (836,487 NSNs for all DSCs) for NSNs that were managed by DSC Richmond and, from those NSNs, determined the NSNs that were eligible for review. NSNs that were specifically coded for exclusion by the Services or had been reviewed within a 2-year period were ineligible and were excluded from the list of computer system-generated candidates. The percentage of NSNs that were determined to be eligible for review at DSC Richmond was used to calculate total inactive NSNs eligible for review at all DSCs. Subject matter experts at DSC Richmond estimated that 10 percent of the eligible NSNs required a manual review by an item manager. Using data from a DLA work measurement study, DORRA estimated the amount of time that it takes an item manager to review an NSN (6 minutes) and estimated the average pay grade of item managers (GS-9, step 5). Table 4 shows the DORRA calculation of the total annual supply center cost for an item manager to review NSNs for the DIIP.

**Table 4. July 2002 DORRA Draft Cost Study
Calculation of Total Annual Supply Center Cost**

Total inactive NSNs		836,487
Percentage of items eligible for review	x	<u>.62</u>
Total inactive items eligible for review		518,622
Percentage requiring item manager review	x	<u>.10</u>
Total items requiring item manager review		51,862
Time spent reviewing an item (in minutes)	x	<u>6</u>
Total number of minutes		311,172
Hours (total minutes divided by 60)		5,186
Hourly rate (GS-9, step 5)	x	<u>\$ 27.44</u>
Total Cost to Review Inactive NSNs		\$142,304

The average annual supply center cost per NSN was calculated by dividing the total cost to review inactive NSNs (\$142,304) by the total number of inactive NSNs (836,487), which equals \$0.17.

Item Manager Responsibilities. The average annual supply center cost was inaccurate because the category did not include all item manager functions related to inactive NSNs. The category narrowly defined the responsibilities of item managers to the manual review of a small percentage of inactive NSNs eligible for the DIIP. DORRA asserted that the management of NSNs has changed significantly over the past 15 years with the evolution of computer technology. Therefore, item managers are only involved with inactive NSNs to perform a few manual reviews each year on NSNs eligible for the DIIP, which require a minimal amount of time. DLA Manual 4140.2, volume 2, describes at least seven areas in addition to inactive item review for the DIIP that should require some amount of time by the item manager to manage inactive items. Included among the responsibilities are inventory accounting and adjustments, physical inventory, processing disposal transactions, and the weapon system support program. We believe DORRA needed a more thorough analysis of the item manager function to ensure all responsibilities and associated costs were included in the category.

Total Inactive NSNs. The total direct labor cost for reviewing an NSN was inaccurate because it underestimated the total number of inactive NSNs that were managed at the DSCs. To identify inactive NSNs in the Standard Automated Materiel Management System (SAMMS) database, the DORRA study used the DIIP criteria--the NSN had to have been in the supply system for 7 years, experienced no demand in the past 5 years, and been managed by the DSC for at least 2 years. The DORRA study identified 836,487 inactive NSNs based on that criteria. However, the database contained about 1.3 million additional NSNs that included items for which the "date of last demand" computer field was blank or was filled with zeros. Those additional NSNs should have also been evaluated against the criteria for inactive NSNs. Because no date was entered, NSNs had either had no demand for the item or the NSN was new to the DLA supply system, such as NSNs transferred from the Military Departments. The NSNs new to the DLA supply system do not meet the criterion of being managed by a DSC for 2 years and, thus, should be excluded from the inactive NSN total. To eliminate those NSNs that were newly assigned or were recently transferred, we included only the NSNs that DLA had managed for more than 7 years and had no demand date entered in the file. Applying that criteria, an additional 434,722 NSNs should have been considered inactive and included in calculating the average annual supply center cost in the DORRA draft cost study.

Assumptions. The assumptions used by DORRA to determine the average annual supply center cost were unsupported, unverified, or not validated. Although DORRA collected and analyzed data from an array of sources, the data and analysis were limited in scope, arbitrary, or outdated and, therefore, were unreliable. For example, to establish the percentage of NSNs that were eligible for DIIP review, DORRA identified the number of computer system-generated candidates for the DIIP at DSC Richmond. Of that number, DORRA estimated that 62 percent of the records were eligible for review. However, DORRA did not determine or estimate the percentage of items eligible for review at DSC

Columbus or DSC Philadelphia. DORRA assumed the percentage was the same at all DSCs without any verification or validation. Additionally, DORRA determined the number of NSNs eligible for review that actually required a review by an item manager by simply asking subject matter experts at DSC Richmond for their best estimate. DORRA did not solicit input from supply centers other than DSC Richmond nor did it collect and use any historical or other data that were verified or validated to establish the 10 percent estimate used in the calculation. In an attempt to determine the validity of the total items requiring an item manager review, we reviewed a September 30, 2001, DIIP progress report on weapon system-related NSNs for the three DSCs. We determined that 93,400 NSNs had been reported by registered users for elimination. Before deleting them, DLA item managers would have needed to review those NSNs. The 93,400 NSNs that we determined required an item manager review was 80 percent greater than the 51,862 NSNs estimated in the July 2002 draft cost study.

Item Review Time. The 6 minutes used by DORRA as the time spent by an item manager to review an item to determine whether the NSN should be included in the DIIP was outdated because it was established from a 1988 DLA work measurement study, “Special Purpose Data for Processing Standard Supply Control Study--Less Procurement and Item Manager Request.” We did not evaluate the DLA work measurement study for this audit. However, prior audits noted that repair depots are required to revalidate work measurement standards every 2 years, which appears to be a reasonable review period. DORRA did not update and revalidate the standard in the 1988 work measurement study.

Grade and Hourly Rate for Item Review. Using the hourly rate for a GS-9, step 5 to calculate the cost for time an item manager spends to review an inactive NSN appeared to be slightly understated. According to human resources personnel at DLA, there were 694 inventory management specialists ranging from GS-5 through GS-14, with an average grade of GS-10, step 5, at the three DSCs in May 2003. DoD 7000.14-R, “Financial Management Regulation,” 1998, established the billing rate for civilian personnel fringe benefits at 32.3 percent of the base GS rate. Using those average rates, the time of an item manager (inventory management specialist) would be valued at \$30.39 an hour, as compared to the \$27.44 an hour for a GS-9, step 5 used in the July 2002 DORRA draft cost study.

Computer Storage Cost. The July 2002 DORRA draft cost study did not include all applicable costs for computer operations. For computer storage costs, DORRA calculated two separate costs, those associated with the Federal Logistics Information System (FLIS) managed by the DLIS and those associated with SAMMS. DLIS, a subordinate command of DLA, manages the logistics data for cataloged items (NSNs) in the FLIS that are used by DLA and the Services; SAMMS is a DLA legacy materiel management system used throughout DLA. The DORRA draft cost study concluded that the FLIS annual average computer storage cost was \$0.19 and the SAMMS portion was \$0.61, for a total computer storage cost of \$0.80. The computations, however, did not include all computer-related costs.

DORRA calculated the FLIS cost by dividing the annual FLIS computer costs that it determined were applicable to inactive NSNs (\$2.7 million) by the total number of NSNs registered in the FLIS (14,561,114*). The \$2.7 million used in the study included the annual cost for the central processing unit, input and output devices, disk megabyte days, and tape megabyte days. However, those costs are only 5.4 percent of the total annual DLIS expense (\$50.3 million) that DLA used in the computation of the FY 2003 cost recovery rates. The primary function of DLIS is cataloging NSNs in the FLIS. With all cost accounts considered, the total average annual DLIS cost per NSN would be \$3.45 (\$50.3 million/14.6 million NSNs). Additionally, the study excluded about \$9.4 million (81 percent) of the total SAMMS cost (\$11.6 million). If all costs were included for SAMMS, the total average annual SAMMS cost per NSN would be \$2.83 (\$11.6 million/4.1 million NSNs). The methodology for billing DLIS customers for computer storage is to allocate its total operating costs over all active and inactive NSNs in the FLIS. If the computer storage costs for FLIS and SAMMS were calculated consistent with DLIS methodology, the average annual computer storage cost for DLIS and SAMMS would equal \$6.28 per NSN (\$3.45 plus \$2.83).

Depot Storage Cost. DORRA needed additional data analysis in the category of depot storage cost for a more accurate and complete cost study. To determine depot storage costs for the cost analysis, DORRA identified the total number of NSNs that had inventory stored in DLA depots. From those NSNs, DORRA determined the number of inactive NSNs. DORRA then identified the operating costs for depots and prorated those costs to the inactive NSNs. DORRA assumed that only a small percentage (5 percent) of inactive NSNs required some direct labor for maintenance of the items in storage and adjusted the operating costs accordingly. Table 5 shows the DORRA draft cost study calculation of the total cost for inactive NSNs that had inventory stored in a DLA depot.

**Table 5. July 2002 DORRA Draft Cost Study
Calculation of Depot Storage Cost**

Total NSNs stored in depots	2,264,135
Total inactive NSNs stored in depots	352,592
Total depot operating costs	\$25,373,038
Percentage of inactive NSNs stored in depots	x .155
Operating cost for inactive NSNs stored in depots	\$ 3,932,821
Percentage of inactive NSNs that require labor	<u>x .05</u>
Total cost for inactive NSNs stored in depots	\$ 196,641

The average annual depot storage cost per NSN was calculated by dividing the total cost to store inactive NSNs (\$196,641) by the total number of inactive NSNs (352,592), which equals \$0.56.

Completeness and Methodology. The July 2002 DORRA draft cost study calculation for depot storage cost was based on incomplete data and a methodology inconsistent with commercial practices. Of the 434,722 inactive NSNs that DORRA omitted in its calculation of the average annual supply center

* The 14,561,114 includes both active and inactive NSNs cataloged in the FLIS system for FY 2001.

cost, we identified 69,307 additional NSNs that had inventory in storage depots throughout DLA. Consequently, the number of NSNs used in the cost study, 352,592, was understated by as many as 69,307 NSNs. Including the additional NSNs in the calculation would have increased the total number of inactive NSNs with inventory stored in depots to 421,899 and the percentage of stored NSNs that were inactive to 18.6 percent.

Depot Operating Cost for Inactive NSNs. In determining operating costs of inactive NSNs stored in depots, DORRA excluded 97 percent of the total operating costs for storage depots, or 128 of 132 storage cost accounts, totaling about \$771 million (about \$796 million total annual depot operating costs in FY 2002 minus about \$25 million for the four cost accounts DORRA included in the study). The four cost accounts that were included in the study were stock readiness inspection, care of materiel in storage, rewarehousing, and physical inventory operations. Although we did not review all cost accounts, we did identify at least four additional accounts that should have been considered in determining total operating costs. Those additional cost accounts that we considered applicable, but that DORRA excluded, were administrative operations; support for warehouse operations; and packing, preservation, repackaging, marking; and cleanup operations. A more complete representation of the cost accounts for depot operating costs would have significantly increased the total depot storage costs for inactive NSNs.

Labor Requirements. For the study’s labor calculation, DORRA assumed that only 5 percent of inactive NSNs with inventory stored in depots would require some form of labor to maintain the items. DORRA subject matter experts stated that the 5 percent was an estimate but they did not provide any data analysis or documentation to support the validity of that assumption. In calculating depot storage cost, DORRA applied the estimated percentage of inactive NSNs that would require direct labor (5 percent) to the total depot operating cost for inactive NSNs (\$3,932,821) to determine the total cost for inactive NSNs with inventory stored in depots (\$196,641). We disagree with that methodology and believe DORRA should not have computed direct labor cost. To determine the average annual depot storage cost per NSN, DORRA should have divided the depot operating cost for inactive NSNs by the total number of inactive NSNs. Table 6 shows the audit calculation of the storage cost for inactive NSNs with inventory stored in depots. Our calculation also includes the 69,307 NSNs with inventory that were among the inactive NSNs without a date of last demand that DORRA omitted from its calculation.

Table 6. Audit Calculation of Depot Storage Cost

Total NSNs stored in depots	2,264,135
Total inactive NSNs stored in depots	421,899
Total depot operating costs	\$87,700,000
Percentage of inactive NSNs stored in depots	x <u> .186</u>
Total cost for inactive NSNs stored in depots	\$16,312,200

The audit-adjusted average annual depot storage cost would be calculated by dividing the total cost to store inactive NSNs (\$16,312,200) by the total number of inactive NSNs (421,899), which equals \$38.66, as compared to the July 2002 DORRA draft cost study calculation of \$0.56.

Commercial Methods. The method used in the July 2002 DORRA draft cost study to compute depot storage cost was inconsistent with the methodology that DLA implemented for FY 2003 for computing and billing storage costs to its customers. For FY 2003, DLA implemented a new method for computing depot storage cost, referred to as the net landed cost approach. The net landed cost approach was implemented by DLA because the methodology is consistent with commercial practices and it requires detailed billing information be provided to the customers that are storing materiel in the DLA depots. The storage rate for customers is calculated using the cubic feet of items in storage. For FY 2003, the DLA portion of the total storage cost was \$87.7 million. That \$87.7 million was for all NSNs with inventory in storage and did not differentiate between costs for active and inactive NSNs. The net landed cost approach is consistent with the DoD policy to implement better business practices. Therefore, we believe DORRA should revisit the method it used to calculate the depot storage cost for inactive NSNs in the study and use the net landed cost approach for computing and allocating those costs over active and inactive NSNs. Applying the net landed cost approach to the 2,264,135 NSNs stored in depots identified in the July 2002 DORRA draft cost study would result in an average annual storage cost of \$38.73 per NSN ($\$87.7 \text{ million} / 2,264,135$), as compared to the study calculation of \$0.56.

Application of the July 2002 DORRA Cost Study

Application of the information in the July 2002 DORRA draft cost study could have an adverse effect on the continued operation of the DIIP. In FY 2002, DLA proposed to the Office of the Deputy Under Secretary of Defense (Logistics and Materiel Readiness) interim policy for DoD and DLA that would impose a moratorium on the DIIP. DLA stated in its proposal that the moratorium was necessary because eliminating inactive NSNs through the DIIP process was having an inadvertent detrimental impact on readiness and because the DIIP was no longer cost-effective. In discussions with DLA officials, they stated that the DIIP was outdated. They also stated that DLA and the Air Force had experienced serious problems caused by NSNs being inappropriately deleted through the DIIP process, requiring the NSNs to be restored at a significant expense to DLA. DLA also noted that it was more costly to delete an inactive NSN from the inventory and management system (\$57 per NSN according to the 1999 DLA cost study) than it was to keep the NSN in the inventory (\$1.53 per NSN according to the July 2002 DORRA draft cost study).

DLA stated in its proposal for a moratorium on the DIIP that other programs, including the DLA item reduction program, were better for eliminating inactive NSNs. However, the cost model used by the item reduction program to calculate the cost avoidance from eliminating inactive NSNs was inconsistent with the July 2002 DORRA draft cost study. For FY 2001 through FY 2002, DSC Philadelphia

reported that eliminating NSNs as a result of the item reduction program could result in a \$2.8 million potential cost avoidance. DLA applied \$1,495 (the life-cycle cost to eliminate a stocked NSN in the 1999 DLA cost study) to the inactive NSNs that were candidates for elimination to calculate the \$2.8 million. We selectively identified 233 NSNs from the FY 2001 item reduction program that were candidates for elimination from the DLA supply system at DSC Philadelphia. When we compared the 233 NSNs with the DIIP, we found that 100 of the NSNs had also been included in the DIIP, suggesting they were inactive and could have been eliminated through the DIIP. If those 100 NSNs were eliminated because they were inactive and not required, the cost avoidance calculated for the item reduction program would be \$149,500, as compared to a cost avoidance of \$153 for the DIIP. However, because the July 2002 DORRA draft cost study was inaccurate, its average annual cost of \$1.53 for a stocked NSN and \$0.97 for a non-stocked NSN cannot be used as a basis to accurately determine the cost-effectiveness of the DIIP or any other DLA or DoD program.

If properly operated, the DIIP would not adversely affect readiness and should be cost-effective. Our prior audits established that DIIP policy and procedures were not being followed, resulting in either unneeded NSNs not being deleted from the supply files or NSNs that supported active weapon systems being deleted. In IG DoD Report No. D-2002-149, "Defense Logistics Agency Managed Items Supporting Air Force Weapon Systems," September 18, 2002, we reported that DLA deleted NSNs that had to be restored because DLA and the Air Force were not following DIIP policy. We also reported that the automated system needed to be fully implemented to ensure registered users responded to revalidation requests. Both DLA and the Air Force concurred with recommendations to alleviate the problems, which would allow the DIIP to operate properly.

DoD Manual 4140.32-M states that the objective of the DIIP is to eliminate unneeded NSNs because they needlessly consume warehouse space, personnel resources, and machine time with adverse effect on the total supply operation. Consistent with that DoD policy, the DIIP played a vital role in achieving the goals established by DoD in response to the DoD Inventory Reduction Plan and the Government Performance and Results Act (GPRA) to reduce the DoD supply inventory. The GPRA goal was to reduce the DoD supply inventory from about \$107 billion in FY 1990 to about \$56 billion in FY 2000. However, DLA personnel stated that advances in technology had minimized the cost of maintaining inactive NSNs and that the DIIP may no longer be a cost-effective program for inventory reductions. We believe that the DIIP continues to be an important program that will prevent DoD supply inventories from again reaching FY 1990 levels and that conclusions reached in the July 2002 DORRA draft cost study wrongfully appear to support the DLA assertion that the DIIP may not be cost-effective. We agree that the cost of maintaining data in a computer may have been reduced over the last decade. However, our analysis of the July 2002 DORRA draft cost study indicates that the draft study excludes or misrepresents many cost categories and understates the cost to retain and maintain inactive NSNs. Therefore, the July 2002 DORRA draft cost study is not an accurate basis for determining the cost-effectiveness of the DIIP. Of the 4.1 million NSNs that DLA managed in FY 2001, about 1.4 million (approximately 34 percent) were potentially inactive as of May 2001. For that reason, we believe that the DIIP, or

some form of the DIIP, needs to play a role in the overall management and control of inactive NSNs and of the total DoD supply inventory.

Management Comments on the Finding and Audit Response

A discussion of DLA comments on the finding is in Appendix C. Based on DLA comments, we modified the report to more accurately reflect the number of potentially inactive NSNs.

Recommendations, Management Comments, and Audit Response

We recommend that the Director, Defense Logistics Agency:

1. Reevaluate the cost categories for determining the average annual cost for maintaining an inactive national stock number item in the Defense Logistics Agency supply system and recalculate the average annual cost consistent with other pricing and cost methodologies.

DLA Comments. DLA partially concurred, stating that DORRA will revise the 2002 draft cost study based on comments that were made in the audit report with which it concurred.

Audit Response. DLA comments were not fully responsive. DLA agreed to incorporate only those costs we identified in the audit with which it concurred. DLA maintains that certain overhead expenses, labor costs, and computer storage costs should be excluded from the 2002 DORRA draft cost study. The DLA rationale for not including those specific costs are in its comments on the finding and are discussed in Appendix C. We disagree with the DLA rationale for not including the additional costs and request that DLA provide additional comments in response to the final report.

2. Discontinue application of the draft Defense Logistics Agency Office of Operations Research and Resource Analysis report, “Cost of a DLA Maintained Inactive National Stock Number,” July 2002, to any authorized programs of DoD or the Defense Logistics Agency until all applicable cost categories are fully evaluated and the applicable costs of those relevant categories are incorporated into the cost study.

DLA Comments. DLA concurred, stating that when DORRA finalizes the cost study by incorporating DLA-determined recalculated costs, the study will then be officially disseminated.

Audit Response. Although DLA concurred with the recommendation, its proposed actions are not fully responsive. DLA did not agree to incorporate additional costs that were identified in the audit in the final DORRA cost study report. Unless all the costs are included in the final study, we believe that the 2002 DORRA draft cost study will not provide a reasonable basis to estimate the cost of managing inactive items. We request that DLA reconsider its position and provide additional comments in response to the final report.

Appendix A. Scope and Methodology

We evaluated the July 2002 DORRA draft cost study. In assessing its applications and implications, we reviewed prior audit reports, the September 1999 DLA cost study, the DIIP, and the DLA item reduction program. To evaluate the process DORRA used for developing the cost model, to determine the reasonableness of the DORRA cost factors, and to establish the reliability of source data, we reviewed supporting documents for the period September 1988 through May 2003. We also reviewed DLA FY 2002 budget submissions, financial statements, supply records, management data files, DIIP progress reports, cost models, and DLA work measurement studies. Additionally, we reviewed Government and commercial Internet sites for studies and reports relating to the cost of maintaining or managing inactive or obsolete materiel. Further, we reviewed DoD and DLA policies and procedures related to the DIIP, DoD financial management regulations, and DLA guidance on the item reduction program.

We interviewed financial and supply management personnel at DLA headquarters and DSCs Columbus, Philadelphia, and Richmond. We also contacted DORRA, DLA item managers, and personnel from DLIS, the Office of the Under Secretary of Defense (Comptroller)/Chief Financial Officer, the Office of the Deputy Under Secretary of Defense (Logistics and Materiel Readiness), and the Office of the Federal Supply Service in the General Services Administration.

We performed this audit from November 2002 through June 2003 in accordance with generally accepted government auditing standards. We did not review management controls related to the audit objective because the scope of the audit was limited to the review of the July 2002 DORRA draft cost study. The scope of the audit was further limited to evaluating and verifying the costs included in the draft study.

We reviewed several cost models to evaluate the consistency of the methodology that DORRA used in developing the cost categories and average rates for inactive NSNs in the July 2002 draft cost study. We compared the methodologies in the July 2002 draft cost study with those in the September 1999 DLA cost study, the DLA pricing model for FY 2003 cost recovery rates, the FY 2003 DLA item reduction program, and the DLA FY 2003 customer storage cost rates. We also considered the General Services Administration rate for computer storage in our analysis.

Use of Computer-Processed Data. We relied on computer-processed data from the Defense Business Management System, the DLA Integrated Data Bank, the FLIS, and SAMMS that were provided by DLA to evaluate the July 2002 DORRA draft cost study. We did not perform a formal reliability assessment of the computer-processed data. To the extent that we reviewed the data, we did not find errors that would preclude use of the data to meet the audit objectives or that would change the conclusions in this report.

General Accounting Office High-Risk Area. The General Accounting Office has identified several high-risk areas in DoD. This report provides coverage of the DoD Inventory Management high-risk area.

Appendix B. Prior Coverage

During the past 5 years, the Inspector General of the Department of Defense (IG DoD) and the Air Force Inspection Agency have issued eight reports discussing obsolete and inactive NSNs. Unrestricted IG DoD reports can be accessed over the Internet at <http://www.dodig.osd.mil/audit/reports>.

IG DoD

IG DoD Report No. D-2002-149, "Defense Logistics Agency Managed Items Supporting Air Force Weapon Systems," September 18, 2002

IG DoD Report No. D-2002-131, "Terminal Items Managed by the Defense Logistics Agency for the Navy," July 22, 2002

IG DoD Report No. D-2002-060, "Management of Terminal Items at the Defense Logistics Agency," March 13, 2002

IG DoD Report No. D-2001-187, "Defense Logistics Agency Items Supporting Obsolete Army Weapon Systems," September 27, 2001

IG DoD Report No. D-2001-131, "Items Excluded From the Defense Logistics Agency Defense Inactive Item Program," May 31, 2001

IG DoD Report No. D-2001-035, "Management of Potentially Inactive Items at the Defense Logistics Agency," January 24, 2001

IG DoD Report No. D-2000-185, "Allegations to the Defense Hotline Concerning Management of Obsolete Repairable Items," September 7, 2000

Air Force

Air Force Inspection Agency Report No. PN 00-502, "Purging Aircraft Major-End Items," September 19, 2000

Appendix C. Summary of DLA Comments on the Finding and Audit Response

DLA General Comments. DLA took exception with our overall conclusion that all applicable costs were not included in the 2002 DORRA draft cost study. DLA stated that inactive items incur no additional labor costs because there are no procurement actions and no movement of stock. In addition, DLA stated that eliminating inactive items would have little impact on the cost of storing data. Also, NSNs with on-hand inventory require only a very small amount of depot work. Eliminating inactive NSNs results in such a small amount of work reduction, DLA stated, that virtually no overhead costs would be reduced. The exception to this is if there were significant amounts of materiel in storage that could be eliminated and whole depots could be closed.

DLA also stated that overhead costs used in the pricing of NSNs should not have been used in the IG DoD analysis. Inactive NSNs by definition do not have sales. Pricing, on the other hand, is related to sales. What is appropriate for recouping costs in sales is not necessarily appropriate for determining the costs related to savings if inactive NSNs are eliminated.

Audit Response. We agree that, under most circumstances, inactive NSNs do not require the same labor-intensive efforts or procurement and other actions that are required for active NSNs. We also agree that sale prices for items include more costs than the cost for maintaining inactive items. However, as stated by DLA, financial management regulations require that sales by DLA recoup all costs. Because inactive items have no sales, all of the costs of managing inactive items must be included in the items that are sold. The fundamental difference between the DLA and IG positions is in identifying those costs that should be fairly allocated to active and inactive NSNs. To illustrate the apparent inequity in the DLA system, we attempted to compare the cost recovery rate on the sale of inactive NSNs that were maintained with no demand for more than 5 years to the average cost to maintain those inactive NSNs as calculated by DLA. We determined that approximately 320,852 (23 percent) of the 1.4 million potentially inactive NSNs in the audit may be required by customers occasionally or intermittently. Those NSNs that are requisitioned occasionally had not experienced a demand within 5 years and should be candidates for review under the DIIP. We reviewed the cost recovery rates for those inactive NSNs sold at DSC Richmond and determined that the overhead categories that DLA excludes when figuring the cost of maintaining inactive items are included in the cost recovery rate of the inactive items that are sold. We further determined that for those types of inactive items that are sold, 12 different cost recovery rates were applied to the sale, ranging from 19 percent to 60.5 percent, with the rate for the majority of the items set at about 51 percent. Simply stated, if the cost to maintain an inactive NSN excludes overhead cost and is estimated at \$1.53 for a stocked item, it would appear that DLA customers were charged unfairly for intermittently-required NSNs that are inactive and are sold after 5 years. Stated

another way, if there are no overhead and certain other expense costs for managing inactive items, why are the overhead and other expense costs included in the cost recovery rate for inactive items that are sold to customers; it appears to be an inconsistent methodology.

We disagree with DLA that eliminating inactive NSNs would result in such a small amount of work reduction that no overhead costs would be reduced. Our analysis showed that of the 1.4 million potentially inactive items identified in May 2001, 403,532¹ had stock stored in DLA depots with an inventory value in excess of \$729 million. The 403,532 inactive items with stock on hand represent about 10 percent of all items managed by DLA, both stocked and non-stocked items, or about 17.5 percent of the total NSNs (2.3 million) with stock on hand. A conservative extrapolation would indicate that total storage capacity within DLA could be reduced, which should result in a significant reduction in overhead and other expense costs. Therefore, we continue to believe that overhead and certain other expense categories should be included in the cost model for inactive items because they are significant and the methodology is consistent with the DLA cost recovery rates applied to inactive items that are sold to customers.

DLA Comments on the Report’s Background and DIIP Sections. DLA stated that the NSNs with a zero-filled or blank “date of last requisition” field may have been provisioned and the user’s original date is later than originally forecast because of delays in fielding equipment. DLA did not concur with our analysis that certain overhead and other expense categories should have been included in the cost of maintaining an inactive NSN. DLA stated that the DORRA study’s marginal analysis was correct because no operational expenses were expended on inactive NSNs. Because no acquisition costs are expended on inactive NSNs, a percentage of the overhead and other expense categories should not be applied to them.

Audit Response. DLA states that zero-filled or blank date of last requisition fields indicated that those NSNs may have been initially provisioned, but DLA provided no evidence or data to support that supposition. Whether an item is initially provisioned or not is a moot point because provisioning of an NSN is not germane to the identification of inactive items for the DIIP process. If an item with a zero-filled or blank date of last requisition field were included in the DIIP, the user (generally a Military Component) would need to verify that no requirement exists before any action was taken by DLA to remove the item from the supply system. Consequently, if DLA were managing an item for 7 or more years and the date of last requisition field was zero-filled or blank, it appears to be a logical default that the item fits the definition of an inactive item and should be included in the DIIP process.

In the draft report, we included all inactive items with a blank or zero-filled date of last requisition field in our summary analysis. Although DLA could not verify the number of inactive NSNs that qualified as a provisioned item, we changed the

¹ The 403,532 is 18,367 less than the total number of inactive NSNs (421,899) identified in Table 6. “Audit Calculation of Depot Storage Cost” because the date of the database used in the DORRA cost study represented a different timeframe.

number of potentially inactive items to include only those that had been managed by DLA for 7 or more years. Using this criteria, we calculated the number of potentially inactive items to be 1.4 million instead of 2.1 million NSNs.

Regarding the use of marginal costs, the Office of Management and Budget, Statement of Federal Financial Accounting Standards Number 4, dated July 31, 1995, states that program costs include direct costs, indirect costs, and non-production costs associated with a program. Program costs include the full costs of the program outputs, which consist of the direct costs and indirect costs (all other costs that can be directly traced, assigned on a cause and effect basis, or reasonably allocated to the program outputs). We believe that some portion of the overhead and other expense costs can be reasonably allocated to the 320,852 inactive items that may be occasionally required.

DLA Comments on Annual Supply Center Cost. DLA stated that the annual supply center cost for maintaining an inactive item is actually a cost to cancel an inactive item, further stating that if the DIIP were canceled, all of the costs associated with item manager functions would not apply. Conversely, DLA concurred, or partially concurred, that all item manager functions were not included; that certain assumptions were unsupported, unverified, and not validated; that item review times were outdated; and that grades and hourly rates of the item managers were understated. DLA planned to have DORRA further evaluate those cost categories.

Audit Response. We consider DLA comments to be responsive; however, we believe that item manager costs include more than those associated with canceling inactive items.

DLA Comments on the Computer Storage Costs. DLA nonconcurred with the annual DLIS operating costs that we used in calculating computer storage costs. In addition, DLA stated that the DLIS costs used in the DORRA study represented the portion of costs charged to DLIS by the Defense Information Systems Agency (DISA). Furthermore, there are many functions or programs within DLIS that do not relate to the management of inactive NSNs. To take the total operating budget and divide it by the total number of NSNs is an inaccurate portrayal of DLIS costs to have those NSNs remain in FLIS. The computer costs for FLIS management are split equally among DLA, the Army, the Navy, and the Air Force. The computer costs of other on-line services are allocated according to the usage of the customers for those services.

Audit Response. The total operating expense for DLIS in FY 2002 was \$126.4 million. The DLA pricing model, which is used as a tool for computing DLA cost recovery rates, showed that \$50.3 million in DLIS expenses were allocated among the three DLA supply centers. The DORRA cost study determined that \$2.7 million of the annual FLIS computer costs were applicable to inactive NSNs and calculated the computer storage costs by dividing the \$2.7 million by 14,561,114, the total number of NSNs registered in the FLIS. We believe the \$2.7 million used in the DORRA cost study for computer storage capacity does not represent the complete cost of maintaining NSNs in the DLIS cataloging system. The \$2.7 million represents only the DISA charges for computer storage. Furthermore, the DORRA draft cost study calculated the

computer storage cost using all of the NSNs registered in the FLIS--both active and inactive. DLIS manages a number of files and must regularly update information in the FLIS, such as cross-referencing commercial part numbers to NSNs, adjusting prices, adjusting contractor and government entity codes, and generally maintaining numerous other data elements in the FLIS. The costs of those actions are not covered in the DISA charge nor differentiated by active and inactive items. Because the \$50.3 million is the cost recovery for DLIS operations, whose prime mission is maintaining the cataloging database, it appears more reasonable to calculate expenses based on \$50.3 million rather than the \$2.7 million used in the cost study.

DLA Comments on the Depot Storage Cost. DLA introduced a new method (net landed cost) in FY 2003 to estimate and charge its customers for storing secondary items. Unlike the previous method, the new method allows DLA to calculate the cost of secondary inventory items on a per item basis. DLA further stated that although the cost of items in excess of the requirements objective can be estimated, savings would be negligible unless the bases where DLA depots are located are closed. This is because the cost of providing base infrastructure, such as fire protection, physical security, road maintenance, water, and sewage, is apportioned to all customers on an installation. Closing a few depots does not significantly reduce base infrastructure costs and only changes the allocation of those costs among base customers. DoD savings could be achieved if the entire installation is closed. The net landed cost accounting basis makes cost estimates based on the cubic measurement of the item, not the warehouse. The DLA storage cost projection for FY 2003 was \$87.5 million [sic]². That cost projection was based on the total cubic feet of items that are stored in DLA depots. There were 352,592 inactive DLA-managed items stored in the various DLA depots. DLA calculated the total of the 352,592 inactive NSNs to be 631,087 cubic feet. The approximate storage cost would amount to \$2.1 million. The unburdened, or unfunded, amount would be approximately 25 percent, or \$0.53 million.

Audit Response. We disagree with some of the fundamental assumptions that DLA used to calculate depot storage cost. DLA stated that closing a few depots would not significantly reduce DoD infrastructure costs. However, closing depots could reduce overall costs for DLA, which could eventually reduce overall costs for DoD. We believe the methodology DLA used to compute the depot storage cost is skewed in favor of the DLA position. DLA stated that the \$87.5 million was a projection of the FY 2003 storage cost, and the total of the 352,592 inactive NSNs was 631,087 cubic feet. Using the DLA covered storage cost of \$3.36 per cubic foot, the approximate storage cost was \$2.1 million. The 25 percent unburdened amount appears subjective and contrary to the earlier DLA position that storage costs were based on item volume not value. The methodology used by DLA to compute depot storage cost assumed that inactive NSNs did not require the same amount of labor as active NSNs. However, dormant stock incurs costs that could be significant, such as depot space with requisite charges for operating the depot, periodic inspections, inventory of items, and rewarehousing actions. DLA provided no data to support its position that inactive NSNs incur only 25 percent of the cost of maintaining an active item in storage.

² The correct depot cost projection for FY 2003 was \$87.7 million.

Appendix D. Report Distribution

Office of the Secretary of Defense

Under Secretary of Defense for Acquisition, Technology, and Logistics
Deputy Under Secretary of Defense (Logistics and Materiel Readiness)
Under Secretary of Defense (Comptroller)/Chief Financial Officer
Deputy Chief Financial Officer
Deputy Comptroller (Program/Budget)

Department of the Army

Auditor General, Department of the Army

Department of the Navy

Naval Inspector General
Auditor General, Department of the Navy

Department of the Air Force

Auditor General, Department of the Air Force

Unified Command

Inspector General, U.S. Joint Forces Command

Other Defense Organizations

Director, Defense Logistics Agency

Non-Defense Federal Organization

Office of Management and Budget

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
House Committee on Appropriations

Congressional Committees and Subcommittees, Chairman and Ranking Minority Member (cont'd)

House Subcommittee on Defense, Committee on Appropriations

House Committee on Armed Services

House Committee on Government Reform

House Subcommittee on Government Efficiency and Financial Management, Committee on Government Reform

House Subcommittee on National Security, Emerging Threats, and International Relations, Committee on Government Reform

House Subcommittee on Technology, Information Policy, Intergovernmental Relations, and the Census, Committee on Government Reform

Defense Logistics Agency Comments



DEFENSE LOGISTICS AGENCY
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FORT BELVOIR, VIRGINIA 22060-6221

IN REPLY
REFER TO J-33

MEMORANDUM FOR ASSISTANT INSPECTOR GENERAL FOR AUDITING
DEPARTMENT OF DEFENSE

SUBJECT: Draft of a Proposed Audit Report – Defense Logistics Agency Cost to
Maintain Inactive National Stock Numbers (Project No. D2003LD-
0011), dated June 6, 2003

Comments on the finding and recommendations of the subject draft report are attached.

The point of contact for this is Mr. Brian Schutsky, J-3341, 703-767-2657.


HAWTHORNE L. PROCTOR
Major General, USA
Director
Logistics Operations

Attachment
DLA Comments

**SUBJECT: Draft of a Proposed Report – Defense Logistics Agency Cost to Maintain 1
Inactive National Stock Numbers, Project No. 2003LD-0011, dated June 6, 2003**

General Comments

The Defense Logistics Agency (DLA) position on inactive National Stock Numbers (NSNs), i.e., no demand/requisitions for five years, is a simple one. These items incur no additional labor costs because there is no procurement action and no movement of the stock. The DLA Office of Operations Research and Resource Analysis (DORRA) was tasked to determine that cost, to evaluate the effectiveness of the Defense Inactive Item Program (DIIP) and to provide a more accurate cost avoidance figure than published in previous Department of Defense (DOD) Inspector General (IG) reports regarding inactive and terminal NSNs in the supply system.

The DLA agreed to form a partnership with the DOD-IG so that a consensus would be reached on a figure that could be realistically used to determine the actual cost avoidance of eliminating inactive NSNs from the supply system.

The draft report states that if the inactive NSNs were deleted from the supply system, some portion of the overhead and other expense categories should also be reduced and the cost recovery rate charged to customers should likewise be less. This is true if the net reduction of the direct expense that would be reduced by eliminating inactive NSNs and the resulting additional cost of reinstating these items into the system is large enough to have a significant impact.

The draft report further states that "Because over 51 percent (2.1 million of 4.1 million) of the NSNs managed by DLA are inactive and could be affected by DIIP, the incremental approach appears to be the inappropriate methodology for this cost model." The IG seems to be theorizing that because such a large percent of our NSNs are inactive, they therefore must be causing a lot of work. The data does not support this theory. Eliminating inactive items would have little impact on the cost of storing data. Eliminating these items would result in no reductions in contracting, cataloging or comptroller workload and an extremely small amount of inventory manager workload reduction and on NSNs with inventory a very small amount of depot workload reductions. Eliminating inactive NSNs results in such a small amount of work reduction, that virtually no overhead savings would be reduced. The exception to this is if there were significant amounts of material in storage that could be eliminated and whole depots could be closed. Therefore, we have calculated Depot savings below using Net Landed Cost Storage rates which include overhead.

The draft report also points to DLA's use of overhead costs in the pricing of NSNs implying that because of this they should also be part of this analysis. This audit concerns inactive NSNs – which by definition do not have sales. Pricing, on the other hand, is related to sales. While all costs must be recovered in sales, costs which would not be saved by eliminating inactive NSNs should not be used to calculate the savings. Thus, what is appropriate for recouping costs in sales is not necessarily appropriate for determining the costs related to savings if inactive NSNs are eliminated.

SUBJECT: Draft of a Proposed Report – Defense Logistics Agency Cost to Maintain Inactive National Stock Numbers, Project No. 2003LD-0011, dated June 6, 2003 2

Leaving aside for the moment inactive NSNs with inventory, data indicates that the cost of canceling an NSN (\$57) with the inherent reviews by the using activities cost more than leaving the records in the system. It is more costly to reinstate the records (\$200) of NSNs mistakenly cancelled than it is to store the data in the computer system (\$0.19 in the Federal Logistics Information System (FLIS) and \$0.61 in the Standard Automated Materiel Management System (SAMMS).

BACKGROUND

Defense Inactive Item Program systematically selects NSNs for the Military Services/users to review to remove their user registration. Only NSNs coded with an Acquisition Advice Code of "D" (stocked) and "J" (non-stocked centrally procured) are selected and the date of last requisition field is more than five years ago. The NSNs with a zero-filled and blank "date of last requisition" field are not selected for the DIIP. These NSNs may have been provisioned and the users original date is later than originally forecast because of delays in fielding equipment. The commitment to customer service demands a conservative approach in eliminating NSNs or stock that may be required at a later date.

Prior DLA Cost Study. The DLA requested this study for the item reduction program which selects similar items and examines them for functionality. This DORRA study erroneously used average cost instead of marginal costs. This error led DLA to request the DORRA review of costs associated with inactive items.

COST CATEGORIES

DLA Pricing Model. Nonconcur. Five applicable overheads and other expense categories total \$409.7 million that were not included but the draft report states they should have be included are:

1. Inventory Control Point (ICP) Operation Cost - **Subtotal Non-Labor Other** (minus Medical, Subsistence, and Clothing) – \$176.6M
2. Other DLA Cost – **Subtotal Corporate** (minus Medical, Subsistence, and Clothing) - \$158.5M
3. Subtotal DLA Systems Integration Office (DSIO) (minus Medical, Subsistence, and Clothing) - \$11.6M
4. Subtotal Defense Reutilization and Marketing Service (DRMS) (minus Medical, Subsistence, and Clothing) – \$33.4M
5. Subtotal Obsolescence Recovery (minus Medical, Subsistence, and Clothing) - \$29.7M

The draft report states that the above overhead and other expense categories should be allocated to all NSNs managed by DLA. We disagree and believe that the DORRA study's marginal analysis was correct because no operational expenses were expended on inactive NSNs. Since no acquisition costs are expended on inactive NSNs a percentage of the overhead and other expense categories should not be applied to them.

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The draft report changes the definition of an inactive item from the definition used for the DIIP, when calculating the 2.1 million items as inactive. (See Total Inactive NSNs)

The DLA Pricing Model requires the inclusion of projected sales and costs associated with DLA's products and services as prescribed by the Financial Management Regulation. All costs including overhead have to be recouped and thus must be in the Cost Recovery Rate and are correctly included in the DLA Pricing Model. Eliminating an extremely small amount of workload would not result in any significant overhead reductions. In addition, these cost savings would need to be weighted against the cost of reestablishing and repurchasing any deleted items.

Annual Supply Center Cost. Although DORRA included this as a cost for maintaining an inactive NSN, it is actually a cost to cancel an inactive item that is inherent with the DIIP. Without DIIP this cost would not apply.

Item Manager (IM) Responsibilities. Partially concur. The draft report stated the study did not include all of the IM functions related to inactive NSN items. There were seven areas in addition to inactive review that were not covered. Other IM Responsibilities: inventory and adjustments, physical inventory, processing disposal transactions, item closeout, and weapon system support program. Therefore, some additional amount of time by the item manager to manage inactive items may be appropriate to include. The DORRA will review these functions to evaluate their applicability to maintaining an inactive NSN.

Total Inactive NSNs. Nonconcur. The draft report overstates the number of inactive NSNs by redefining an inactive NSN. The draft report executive summary states that 2.1M NSNs are inactive. This is overstated by 1.3 million, of which 828,791 are not seven years old. The DORRA supplied database included 1.3 million NSNs for which the "date of last demand" was blank or zero filled. To eliminate those NSNs that were newly assigned or were recently transferred, the draft report included only the NSNs that DLA had managed for at least 7 years and had no demand date entered in the file. Applying that criteria, an additional 434,722 NSNs should have been considered inactive and included in calculating the average annual supply cost in the DORRA draft cost study.

Assumptions. Concur. Assumptions and methodologies used by DORRA to determine average annual supply center cost were unsupported, unverified, or not validated. Although the 62% is fair and reasonable to determine the number of inactive NSNs eligible for the DIIP cycle, DORRA will query the other DSCs.

Item Review Time. Concur. Item Review times were outdated because it was established from 1988 DLA work measurement study. Will recalculate with input from all DSCs.

Revised

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Grade and Hourly Rate for Item Review. Concur. Grades and Hourly Rate for Item Review used was understated. Will recalculate using \$30.39 instead of \$27.44.

Computer Storage Cost. Nonconcur. The Defense Logistics Information Service (DLIS) provided a cost to store an NSN at \$.19 each. This cost reflects the Defense Information System Agency (DISA) costs for an NSN to be stored in the FLIS database whether active or inactive. Inactive items do not incur any additional costs. The same methodology was used to calculate the data storage cost in SAMMS. The draft report indicated that the \$2.7M computer storage costs identified equates to 5.4% of the DLIS total annual operating costs of \$50.3M. The total operating costs are wrong. In addition, the draft report identifies that software support and overhead should have been considered. The \$2.7M in costs identified are the costs charged to DLIS by DISA. DISA determines their unit cost billing rates by including their software support and overhead. The draft report then takes the total operating costs divided by total NSNs to get the average annual DLIS cost to manage the inactive NSNs (\$3.45 each). There are many functions/programs within DLIS that do not relate to the management of inactive NSNs. To take the total operating budget and divide by total NSNs is an inaccurate portrayal of the costs encumbered by DLIS to have these NSNs remain in FLIS.

The draft report stated that the methodology for billing DLIS customers for computer storage is to allocate its total operating costs over all active and inactive NSNs in FLIS. This is wrong. The computer costs for FLIS management are split equally to DLA, Army, Air Force and Navy. The computer costs identified to other on-line services are allocated according to the usage of the customers for those systems.

Depot Storage Cost. Partially concur.

The DLA stores secondary inventory at its Defense Distribution Centers. The Army, Navy, Air Force and DLA's DSCs (hereafter referred to as customers) are responsible for managing the stored inventories. At the start of FY 2003, DLA introduced a new method (net landed cost) to estimate and charge its customers for the cost of storing secondary inventory items.

Unlike the previous method, the new method allows DLA to calculate the cost of secondary inventory items on a per item basis. Although costs of items in excess of the requirements objective can be estimated, few if any savings accrue to the DOD unless bases where DLA warehouses are located are closed. This is because the cost of providing base infrastructure such as fire protection, physical security, road maintenance, water and sewage, etc. is apportioned to all customers of an installation. Closing a few warehouses does not significantly reduce base infrastructure costs and only changes the allocation of those costs amongst base customers. ... DOD savings can be achieved if the entire installation is closed.

The net landed cost accounting basis makes cost estimates based upon the volume of the item, not the volume of the warehouse (A half-full warehouse is as expensive to operate as a full warehouse):

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* DLA first determined rates of storage based on facility type (covered facility, open facility, and specialized facility) and whether an item presented special concerns (hazardous material or classified items).

* DLA then compiled the volume of space occupied (cubic feet) for each NSN in the inventory.

DLA can estimate how much it would charge its customers to store a given quantity of an item. Value of the inventory does not provide a basis for estimating storage costs. The size of an item, and not its value, affected an item's storage cost. For example, an integrated computer circuit chip may cost thousands of dollars to purchase, but may cost almost nothing to store. Conversely, a big item, such as metal tubing, may cost only a few hundred dollars to purchase, but may have substantial storage costs.

Large storage cost savings are only realized when a facility is closed. Shutting down a warehouse on an existing facility does not reduce overall costs to DLA by the amount of operating the now closed facility. For this reason we will use Net Landed Cost as a starting point in calculating cost avoidance, however, some overhead obviously will not go away with the reduction of inactive NSNs and therefore should not be included in any calculations.

The \$87.5M was the DLA Storage cost projection for FY03. This was based on the total extended cube of the DLA items in storage. There were 352,592 inactive DLA items in the depot with a total cube of 631,087. The approximate storage cost would amount to \$2.1M. The unburdened amount would be approximately 25% of this amount or \$0.53M.

Labor Requirements. Nonconcur. Some labor requirements for ICP, Depots, and DLIS may have been understated in support of an inactive NSN item study. This has been addressed above.

Recommendation 1. Reevaluate the cost categories for determining the average annual cost for maintaining an inactive National Stock Number item in the Defense Logistics Agency supply system and recalculate the average annual cost consistent with other pricing and cost methodologies.

DLA Comments: Partially concur. DORRA will revise their report to based on comments with which we have concurred that were made in the IG report to calculate a fair cost of an inactive NSN.

Disposition:

(X) Action is ongoing. ECD: January 2004
() Action is considered complete.

Recommendation 2. Discontinue application of the draft DORRA report, "Cost of a DLA Maintained Inactive National Stock Number," July 2002, to any authorized programs of DOD or the Defense Logistics Agency until all applicable cost categories are fully evaluated and the

Should be
\$87.7
million

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applicable costs of those relevant categories are incorporated into the cost study. In addition, we have also discontinued the application of the prior DORRA report referred to in the IG report which has been erroneously used to calculate savings from eliminating inactive items.

DLA Comments: Concur. When DORRA finalizes the study it will then be officially disseminated.

Disposition:

(X) Action is ongoing. ECD: January 2004
() Action is considered complete.

Team Members

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