# INVENTORY MANAGEMENT OF SPARE AND REPAIR PARTS FOR CUTTERS AND SMALL BOATS

*United States Coast Guard*
*Engineering Logistics Center*

*Report Number: MH-2002-091*
*Date Issued: May 7, 2002*

# Memorandum

**U.S. Department of Transportation**
Office of the Secretary of Transportation
Office of Inspector General

Subject: ACTION: Report on Audit of Inventory Management of Spare and Repair Parts for Cutters and Small Boats, United States Coast Guard MH-2002-091

Date: May 7, 2002

From: Alexis M. Stefani
Assistant Inspector General for Auditing

Reply to Attn. of: JA-40

To: Commandant
United States Coast Guard

This report presents the results of our audit of the United States Coast Guard's (Coast Guard) management of the spare and repairable parts inventory for cutters and small boats. Our objectives were to determine whether the Coast Guard adequately (1) planned the development, implementation, and operation of a centralized system for cutter and small boat spare and repair parts; and (2) justified its decision to construct a parts warehouse at Curtis Bay, Maryland. We focused our audit work on evaluating Coast Guard's justification for the parts warehouse, analyzing inventory items and parts activity, and reviewing prior Coast Guard studies on inventory management.

A draft of this report was provided to Coast Guard on November 26, 2001. In its initial response to the draft report dated December 21, 2001, Coast Guard non-concurred with three of four recommendations. We met with Coast Guard officials on January 23, January 29, and February 1, 2002, to discuss the draft report findings and clarify the intent of the recommendations. As a result of these meetings, we agreed on revised wording for the recommendations that addressed the issues raised in the report as well as Coast Guard's concerns. We also consolidated the original recommendations into three. In its amended response to the draft report, dated March 4, 2002, Coast Guard concurred with the recommendations.

Coast Guard agreed with the recommendation to implement a more comprehensive plan that provides a more systematic review of consumable and repairable parts that could be transferred to the Defense Logistics Agency or other Government agencies. Coast Guard did not provide a target date for completing this action. Coast Guard also agreed with the recommendation to dispose of

unneeded inventory items but did not provide a date for when the disposal would be completed.

Coast Guard agreed with our recommendation to reconsider the need for and the size of the proposed warehouse based on the results of transferring inventory items to the Defense Logistics Agency or other Government agencies and disposing of unneeded inventory. However, Coast Guard's response included a reevaluation concluding that the warehouse was needed and appropriately sized. Coast Guard's reevaluation is nonresponsive to the recommendation because it was performed before the systematic review and identification of items for transfer and disposal were completed. The warehouse decision should be deferred until Coast Guard completes the review and knows which and how many parts need to be warehoused.

In accordance with U.S. Department of Transportation Order 8000.1C, we request that within 30 days, Coast Guard provide an estimated date for completing action on the first two recommendations. We are also requesting that Coast Guard identify corrective action that is responsive to our recommendation to reevaluate the warehouse, a target date for completing the reevaluation, and an estimate of any funds put to better use as a result of this action.

We appreciate cooperation of the Coast Guard's representatives during this review. If you have any questions concerning the report, please call me at (202) 366-1992 or Thomas J. Howard, Deputy Assistant Inspector General for Maritime and Highway Safety Programs, at (202) 366-5630.

Attachment

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# Executive Summary

## *Audit of Engineering Logistics Center's Inventory Management of Spare and Repair Parts for Cutters and Small Boats United States Coast Guard*

**MH-2002-091** **May 7, 2002**

## INTRODUCTION

This report presents the results of our audit of the United States Coast Guard's (Coast Guard) management of the spare and repairable parts inventory for cutters and small boats. Our objectives were to determine whether the Coast Guard adequately (1) planned the development, implementation, and operation of a centralized system for cutter and small boat spare and repair parts; and (2) justified its decision to construct a parts warehouse at Curtis Bay, Maryland. We focused our audit work on evaluating Coast Guard's justification for the parts warehouse, analyzing inventory items and parts activity, and reviewing prior Coast Guard studies on inventory management. Additional information on our scope and methodology can be found in the Exhibit A.

Coast Guard's Engineering Logistics Center (the Center) manages Coast Guard's central inventory for cutters and small boat facilities. The Center provides the cutters and small boat facilities with approximately 10 percent of their needed parts, while the remaining 90 percent are supplied directly from the Federal Supply System[1] and commercial vendors. According to Coast Guard officials, the items under the Center's management are those it considers unique because they are not available from the Federal Supply System, are no longer manufactured, or have long lead-times to procure. During fiscal year (FY) 2002, Coast Guard plans to begin constructing a 133,000 square foot,[2] $12.6 million parts warehouse at the Coast Guard Yard in Curtis Bay, Maryland, to replace leased warehouse space.

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[1] The Federal Supply System is a network of Federal agencies including the Department of Defense; Departments of the Army, Navy, and Air Force; the Defense Logistics Agency; and the General Services Administration who procure, warehouse, and distribute parts and supplies throughout the Federal Government.

[2] This new warehouse for spare and repair parts will be added to existing warehouse space at Curtis Bay that primarily supports the Coast Guard Yard. This will bring the total available warehouse space at Curtis Bay to 216,000 square feet.

## RESULTS IN BRIEF

The Center is performing procurement, storage, and transportation functions for vessel parts that duplicate functions performed by the Defense Logistics Agency. The Defense Logistics Agency is a logistics support agency whose primary role is to provide supplies and services to U.S. military customers and other Federal agencies throughout the world. The Defense Logistics Agency is currently providing a significant number of parts to Coast Guard and has the capability to meet Coast Guard's needs for the functions currently performed by the Center. Previous Coast Guard studies show that transferring the Center's inventory management functions to the Defense Logistics Agency would result in a better use of funds and improved Coast Guard operations.

Coast Guard plans to begin constructing a new warehouse for inventory parts during FY 2002. However, Coast Guard's justification for the new warehouse did not consider whether a warehouse was needed or a smaller size warehouse was appropriate due to the transfer of additional inventory items to the Defense Logistics Agency or other Government agencies and the disposal of obsolete inventory items.

The low level of demand activity for items held by the Center does not justify its continued operation or the construction of a new warehouse as currently planned. For example, 59 percent of the Center's inventory items are inactive, meaning there were no requests from cutters or small boat facilities for these items over a 32-month period. An additional 28 percent of inventory items have low demand, meaning they have been requested by cutters or small boat facilities 4 or fewer times annually. The Defense Logistics Agency can warehouse these items and provide them directly to cutters and small boats. Similarly, the Defense Logistics Agency can procure and distribute the 13 percent of the inventory items that are requested more than 4 times per year. The majority of these items are administrative items such as Coast Guard paper forms and awards.

In commenting on a draft of this report, Coast Guard agreed to develop and implement a more comprehensive plan for evaluating all consumable and repairable items and identifying and transferring those items that should be managed or stored by the Defense Logistics Agency or other Government agencies. Coast Guard also agreed to dispose of unneeded inventory items. Although Coast Guard agreed to reevaluate the need for, and the size of, a new warehouse after the systematic review, identification, transfer and disposal actions were completed, Coast Guard's response stated the Assistant Commandant for Systems had reevaluated the warehouse and validated it as a sound business decision. The response noted that the Assistant Commandant for Systems directed the Center to move forward on the approved planning proposal for consolidation of Center warehousing at Curtis Bay. This direction is premature because the

systematic review and identification of items for transfer and disposal are not completed. The decision to proceed with the proposed warehouse should be deferred until Coast Guard knows its future inventory needs.

## Coast Guard Studies Have Identified the Center's Wholesale Inventory Operation as an Area That Could Be Improved by Outsourcing

In 1996 a Coast Guard contractor study recommended transferring management and storage of consumable items to the Defense Logistics Agency as a means of improving inventory management and reducing costs. The contractor estimated Coast Guard could save $7.3 million over the first 5 years after such a transfer. In July 2001, contractor personnel involved in the study told us that transferring consumable items to the Defense Logistics Agency remains a cost-effective option. They also noted that the Defense Logistics Agency has better business practices and handles more volume than the Center, which results in the distribution of fixed costs over more products.

A Coast Guard study completed during FY 2000 confirmed the Center's wholesale inventory operations continue to be a top candidate for outsourcing. The study evaluated 10 Coast Guard functions and found the Center's wholesale warehousing operations to be the function that would benefit most from outsourcing. Although the study did not estimate dollar savings, it cited improvements in technology access; a more cost-effective labor force; and improved accountability, quality of service, and responsiveness to customers as benefits.

Coast Guard officials decided against the transfer for two reasons. First, they believed the Defense Logistics Agency would give a higher priority to the inventory needs of the Department of Defense military services. Second, Coast Guard believed the Defense Logistics Agency was not interested in managing or storing Coast Guard's consumable inventory because most were low demand items. However, these concerns appear to be addressed by the following factors.

- Coast Guard already has an established business relationship with the Defense Logistics Agency, which manages an estimated 100,000 different parts used by Coast Guard. During calendar year 2000, the Defense Logistics Agency processed more than 116,000 Coast Guard requests, valued at more than $49 million. Examples of parts provided to Coast Guard by the Defense Logistics Agency include inlet valves, cylinder liners, and VHF mixers. Coast Guard has not filed complaints about or otherwise indicated dissatisfaction with the Defense Logistics Agency's performance.

- Customer satisfaction with the Defense Logistics Agency exceeds the satisfaction level with the Center's performance. A 2001 customer satisfaction survey conducted by the Center showed only 33 percent of the customers were satisfied with the parts and services provided by the Center. In contrast, the Defense Logistics Agency's most recent customer satisfaction survey of the military services (conducted during calendar years 1998 and 1999), showed a large majority of customers were satisfied with the their products and services. Sixty-five percent of Defense Logistics Agency customers responded that they could not provide products and services better themselves, 8 percent stated they could do it better, and 27 percent responded they did not know.

- In April 2001, Defense Logistics Agency officials told us they would accept the inventory from the Coast Guard's Center and would be willing to meet to discuss the transfer and management of the inventory. According to Defense Logistics Agency officials, they would utilize both fully manned and long-term storage facilities to meet the needs of the Coast Guard's fast, slow, and non-moving inventory items. We have discussed the transfer with Coast Guard officials and have agreed to participate in a meeting between them and the Defense Logistics Agency.

## Most of the Center's Inventory Is Inactive or Infrequently Requested

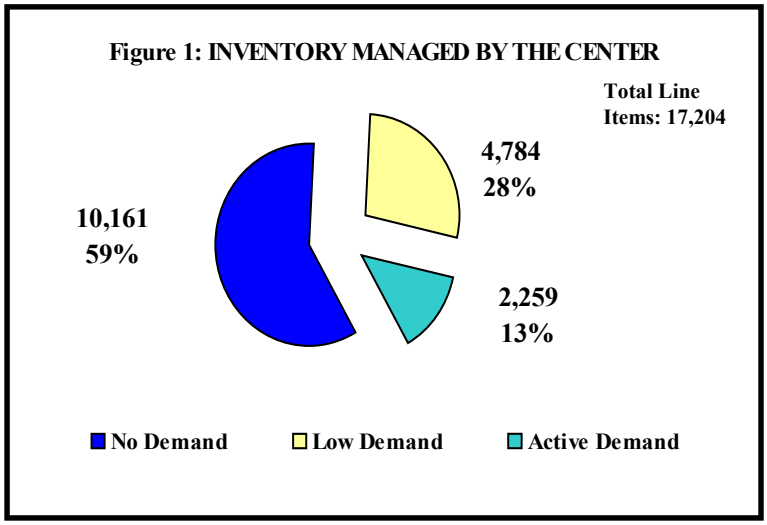
The Center stores inventory items valued at $82 million that have no or low demand. It is unlikely that a significant amount of this inventory will ever be used or used entirely because cutters and small boat facilities either no longer use or rarely use many of the items. We reviewed 40 items with no or low demand and found 28 items (70 percent) were obsolete, being phased out, or under review for disposal due to inactivity. For example, 58 memory units totaling $232,348 ($4,006 each) that were used in providing navigational information are now obsolete because they have been replaced with newer items.

Further analysis of the Center's 17,204 inventory line items showed:

- 59 percent (10,161 line items) had no demand during the 32-month period ending May 31, 2001. Examples of no demand items include crank pins for propellers, transformers for navigational positioning systems, relay-solenoids for engine starters, and fluid filters.

- 28 percent (4,784 line items) had 4 or fewer units requested annually. Examples of low demand items are switchboards for navigation information systems and tackle blocks for handling buoys.

- 13 percent (2,259 line items) valued at $46 million, were requested more than 4 times per year. Included in these active items were some important pieces of equipment such as de-watering pumps and rafts. However, the Defense Logistics Agency could provide these items directly to cutters and small boat facilities.




The items that are most often requested are administrative items that could easily be provided by the Defense Logistics Agency. The 100 most demanded items accounted for 79 percent of the total demand during the 32-month period ending May 31, 2001. Of these 100 items, 66 were administrative items such as medals, ribbons, pins, and paper forms. Coast Guard's 1996 contractor study recommended that these high-demand administrative items, including Coast Guard china and flatware, be the first items transferred to the Defense Logistics Agency.

In addition to consumable inventory, the Center manages and stores other inventory items that can be stored by the Defense Logistics Agency. Approximately 2,400 of the Center's 17,204 line items are repairable parts. In contrast, the military services of the Department of Defense store their repairable parts at the Defense Logistics Agency, but the individual military branches continue to manage the repair of these items. The Center also stores 5,016 miscellaneous inventory line items (not included in the 17,204 line items) valued at $69 million that are generally not used by cutters or small boat facilities. These items are described by Coast Guard as insurance items, Government-furnished material, and Headquarters project material. According to Defense Logistics Agency officials, they could provide the same storage service to Coast Guard for its repairable and miscellaneous items.

## RECOMMENDATIONS

We recommend that the Commandant reevaluate action to build a new warehouse and direct the Assistant Commandant for Systems to:

1. Develop and implement a more comprehensive plan for the Engineering Logistics Center operations that evaluates all consumable and repairable items to identify and transfer on a case-by-case basis those items that should be managed and/or stored at the Defense Logistics Agency or other Government agencies.

2. Dispose of unneeded inventory items.

3. As a result of these actions, reconsider whether a new warehouse is still needed at Curtis Bay, Maryland, and if so, what size is justified.

## U.S. COAST GUARD RESPONSE

A draft of this report was provided to Coast Guard on November 26, 2001. In its initial December 21, 2001 response to the draft report, Coast Guard did not concur with three of our four recommendations. Subsequently, we met with Coast Guard on January 23, January 29, and February 1, 2002, to discuss the draft report findings and clarify the intent of the recommendations. As a result of these meetings, we reached agreement with Coast Guard on revised wording for the recommendations that addressed the issues raised in the draft report as well as Coast Guard's concerns. We also consolidated the original four recommendations into three.

In its March 4, 2002 amended response to the draft report, Coast Guard concurred with the revised recommendations and stated that the Assistant Commandant for Systems has reevaluated the need for and size of the warehouse and has validated it to be a sound business decision. The response noted that the Assistant Commandant for Systems directed the Center to move forward on the approved planning proposal for consolidation of Center warehousing at Curtis Bay to more efficiently and cost effectively support Coast Guard operations. Coast Guard included a cost analysis indicating that it could manage and store inventory items for 12 percent less than the Defense Logistics Agency after the new warehouse consolidation project is completed.

## OFFICE OF INSPECTOR GENERAL RESPONSE

Coast Guard's planned actions to develop and implement a more comprehensive plan to systematically review, identify, and transfer those items that should be managed and/or stored at the Defense Logistics Agency or other Government agencies, and dispose of unneeded inventory items, are responsive to our recommendations. However, Coast Guard's March 4, 2002 written response did not provide a date for completing the planned actions. We are requesting that Coast Guard provide completion dates for these recommendations.

Coast Guard's actions in response to our recommendation to reevaluate the need for, and size of, a new warehouse are nonresponsive. We made the recommendation because Coast Guard's initial justification was not based on what size warehouse was needed to meet future inventory needs. Coast Guard's reevaluation of the warehouse, presented in its March 4, 2002 amended response to the draft report, is premature since it has not evaluated its inventory to determine whether the Coast Guard, the Defense Logistics Agency, or other Government agencies should manage and store Coast Guard inventory items, and it has not disposed of unneeded inventory items. The decision to proceed with the proposed warehouse should be deferred until Coast Guard knows which parts and how many parts need to be warehoused. We are requesting Coast Guard to provide proposed corrective action that is responsive to our recommendation to reevaluate the warehouse after the systematic review and identification of items for transfer and disposal are completed, and a target date for completing the reevaluation.

After completing the comprehensive review of the inventory and determining the need for or appropriate size of a new warehouse, some or all of the $12.6 million appropriated for the warehouse could be reprogrammed to capital projects that are not projected to receive funding. The Five Year Capital Investment Plan contained in Coast Guard's FY 2003 budget submission to Congress, contains no capital funding allocations for shore facilities or aids to navigation for FYs 2004 and 2005. The shore facilities category, for example, provides funding to construct small boat stations used by search and rescue crews, construct family housing units, and perform minor capital projects such as renovating existing facilities to comply with fire and occupational safety standards.

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# BACKGROUND

The U.S. Coast Guard (Coast Guard) maintains a fleet of 213 cutters and 1,054 small boats. To support this fleet, the Engineering Logistics Center (the Center) manages a wholesale inventory of 17,204 different spare and repair parts and other items such as Coast Guard paper forms and medals. During fiscal year (FY) 2000, the Center supplied parts and other items costing $34.5 million. As of May 31, 2001, it stored parts valued at $128 million.

Coast Guard's inventory includes both consumable and repairable parts. Consumable parts include such items as nuts, bolts, paper forms, medals, ribbons, and awards. Repairable parts generally include more costly items, such as generators, gauges, and navigational equipment that are sent by the user to the Center for repair, placed back in stock after being repaired, and subsequently returned to a customer (cutter or small boat facility) upon request. Table 1 presents a summary of the consumable and repairable parts inventory maintained by the Center.

***Table 1: Summary of Consumable and Repairable Parts Inventory***

| Type of Part | Number of Different Parts | Number of Units | Dollar Value (millions) |
|---|---|---|---|
| Consumable Parts | 14,793 | 1,165,752 | $37.1 |
| Repairable Parts | 2,411 | 30,020 | 90.5 |
| **Total** | **17,204** | **1,195,772** | **$127.6** |

During FYs 1999 and 2000, the Center purchased approximately $37 million of consumable parts and $7.3 million of repairable parts. In addition, it paid $30.4 million in repair costs.

The Center's parts are stored in a leased warehouse in Columbia, Maryland. The Columbia warehouse has 35 employees. In addition, there are 19 item managers whose duties include procuring consumable and repairable parts, and arranging to have parts repaired by the appropriate commercial establishments. Coast Guard spends about $1.66 million annually in salary costs for warehouse employees and another $1.7 million to lease the Columbia warehouse. Coast Guard plans to begin building a 133,000 square foot, $12.6 million warehouse in FY 2002 at the Coast Guard Yard in Curtis Bay, Maryland, to store the inventory.

The Defense Logistics Agency is a logistics support agency whose primary role is to provide supplies and services to U.S. military customers and other Federal agencies throughout the world. It employs approximately 28,600 civilian and

military personnel located in all 50 states and 28 countries, with over 500 sites worldwide. The Defense Logistics Agency has over 79 million square feet of storage space, houses $80 billion in inventory, and processes more than 25 million requisitions per year.

# FINDING AND RECOMMENDATIONS

## PRIOR COAST GUARD STUDIES HAVE RECOMMENDED OUTSOURCING INVENTORY MANAGEMENT

Since the early 1990's, Coast Guard has conducted a series of studies to determine if there is a more cost-effective way of managing its inventory. In April 1990, a Coast Guard steering committee analyzing the relocation of the Supply Center Brooklyn concluded that transferring a portion of Coast Guard's consumable inventory items to the Defense Logistics Agency was a feasible option. In 1993 a Coast Guard study of its inventory management practices provided further support for the transfer.

In April 1994, a Coast Guard working group was chartered to more definitively determine if transferring consumable item management to the Defense Logistics Agency would benefit the Coast Guard from a cost and management perspective. Although the working group knew that prior studies recommended the transfer of consumable items to the Defense Logistics Agency, it determined that the studies were not conclusive enough with regards to cost-effectiveness and improved management. The working group wanted a more formal cost analysis that would support a decision to transfer or retain the management of consumable inventory. The working group contracted with a logistics management firm to conduct a $170,000 study into this issue.

The study was conducted in two phases. Phase one was designed to determine if Coast Guard's management of consumable inventory was more or less costly than transferring these items to the Defense Logistics Agency. Only if the cost differential were advantageous to the Coast Guard would the contractor be approved to proceed into phase two, which would examine the administrative and logistical requirements necessary to transfer the consumable inventory items to the Defense Logistics Agency and would more closely analyze potential cost savings. Otherwise, the Coast Guard would consider the issue of transferring consumables to the Defense Logistics Agency closed. Since phase one identified potential cost savings of $740,000 per year, the contractor was authorized to proceed with phase two.

The results of phase two showed Coast Guard could improve inventory management and save an estimated $7.3 million over a 5-year period (FY 1997 through FY 2001) by transferring the management and storage of consumable inventory items to the Defense Logistics Agency. Those projected cost savings are summarized in Table 2.

***Table 2: Projected Coast Guard (CG) Cost Savings From Transferring Consumable Inventory Items to the Defense Logistics Agency (DLA)***

(millions of dollars)

| Component | FY 1997 | FY 1998 | FY 1999 | FY 2000 | FY 2001 | Projected Savings |
|---|---|---|---|---|---|---|
| Total CG cost | $19.01 | $19.68 | $20.11 | $20.51 | $20.82 | n/a |
| Total DLA cost | 18.06 | 18.42 | 18.60 | 18.79 | 18.98 | n/a |
| **Savings** | **$ 0.95** | **$ 1.26** | **$ 1.51** | **$ 1.72** | **$ 1.84** | **$7.28** |

The contractor study also provided Coast Guard with a recommended plan for transferring consumable items to the Defense Logistics Agency. The plan included a series of actions that would provide Coast Guard with assurances that the Defense Logistics Agency was providing good service. These actions included completing a Memorandum of Agreement between the two parties regarding the transfer of consumable inventory items and creating a joint team of the Center and Defense Logistics Agency staff to review consumable inventory for transfer. The contractor also recommended placing a Coast Guard liaison at the Defense Logistics Agency to devise and coordinate the transfer. The contractor's plan further recommended that Coast Guard unique items such as flag china, flatware, ribbons, medals, flags, and insignia should be the first items transferred.

Coast Guard officials decided against transferring consumable inventory items to the Defense Logistics Agency for two reasons. First, Coast Guard believed it would receive a lower priority from the Defense Logistics Agency in filling requests for parts than the Department of Defense military services. Second, Coast Guard believed the Defense Logistics Agency was not interested in managing or storing Coast Guard's consumable inventory because most were low demand items. These concerns appear to be addressed by the following factors.

First, from our meetings and review of prior studies, we found that Coast Guard already has an established business relationship with the Defense Logistics Agency, which manages an estimated 100,000 different parts used by Coast Guard. During calendar year 2000, the Defense Logistics Agency processed more than 116,000 Coast Guard requests, valued at more than $49 million. Examples of parts provided to Coast Guard by the Defense Logistics Agency include inlet valves, cylinder liners, and VHF mixers. Coast Guard has not filed complaints

about or otherwise indicated dissatisfaction with the Defense Logistics Agency's performance.

Second, customer satisfaction with the Defense Logistics Agency exceeds the satisfaction level with the Center's performance. A 2001 customer satisfaction survey conducted by the Center showed only 33 percent of the customers were satisfied with the parts and services provided by the Center. In contrast, the Defense Logistics Agency's most recent customer satisfaction survey of the military services (conducted during calendar years 1998 and 1999), showed a large majority of customers were satisfied with the products and services they received. Sixty-five percent of Defense Logistics Agency customers responded that they could not provide products and services better themselves, 8 percent stated they could do it better, and 27 percent responded they did not know.

Third, in April 2001, Defense Logistics Agency officials told us they would accept the inventory from the Coast Guard's Center and would be willing to meet to discuss the transfer and management of the inventory. According to Defense Logistics Agency officials, they would utilize both fully manned and long-term storage facilities to meet the needs of the Coast Guard's fast, slow, and non-moving inventory items. We have discussed the transfer with Coast Guard officials and have agreed to participate in a meeting between them and the Defense Logistics Agency.

In July 2001, contractor personnel involved in the study told us that transferring consumable items to the Defense Logistics Agency remains a cost-effective option. They also noted that the Defense Logistics Agency has better business practices and handles more volume, which results in the distribution of fixed costs over more products. Contractor personnel further stated the Center could not operate as efficiently as the Defense Logistics Agency because it handles such a small volume of inventory.

A team of Coast Guard and contractor representatives completed another study in September 2000 that evaluated 10 Coast Guard functions, including the Center's inventory warehousing, to determine if they were candidates for outsourcing. The team used such criteria as improving accountability, improving quality of service and responsiveness, improving technology access, and developing a more cost-effective labor force. The team found the Center's wholesale inventory-warehousing operations to be the function that would benefit most from outsourcing. The team found that outsourcing could improve such areas as technology access, cost-effectiveness of the labor force, accountability, quality of service, and responsiveness to customers.

## MOST OF THE CENTER'S INVENTORY IS INACTIVE

Over the 32 months ending May 31, 2001, 87 percent of the Center's inventory items received either no demand or low demand from cutter or small boat facilities. Table 3 shows that 59 percent (10,161 line items) of the Center's inventory items were not requested between October 1, 1998, and May 31, 2001, an indication that the parts were not needed. An additional 28 percent (4,784 line items) of the parts inventory were requested 4 or fewer times per year. The Defense Logistics Agency can warehouse these items and provide them directly to cutters and small boats.

***Table 3: Summary of Inventory Activity Levels***

| Activity Level | Number of Line Items | Percentage of Line Items | Dollar Value of Inventory (millions) | Number of Units |
|---|---|---|---|---|
| No demand items | 10,161 | 59% | $29.0 | 246,044 |
| Low demand (1 to 4 requests per year) | 4,784 | 28% | $52.8 | 135,355 |
| **Subtotal No and Low Demand** | **14,945** | **87%** | **$81.8** | **381,399** |
| Active items (more than 4 requests per year) | 2,259 | 13% | $45.7 | 814,373 |
| **Total Demand Items** | **17,204** | **100%** | **$127.5** | **1,195,772** |

The 14,945 no and low demand line items include large pieces of equipment such as engines and propellers; small electronic parts such as fuses and resistors; and various hardware items such as washers, nuts, and O-rings. The value of no demand items ranges from less than $1 to more than $100,000 per unit.

Coast Guard is storing large quantities of inactive inventory, indicating that much of the inventory is obsolete or no longer needed. We sampled 40 no and low demand items to determine the reason for the lack of activity. We selected items ranging in value from $50 to over $16,000 per unit. Our analysis found that 28 items (70 percent) were obsolete, being phased out, or under review for retention or disposal due to inactivity. Most of the parts were not requested in the 32-month period between October 1, 1998, and May 31, 2001. For the 28 parts, Coast Guard had a total of 1,767 units on-hand valued at $1.4 million.

It is unlikely that a significant number of these inventory items will ever be used or used entirely, in part because cutters and small boats no longer need some of the inventory or the inventory has not been requested over an extended period of time. According to Coast Guard officials, they stock large quantities of certain parts because the parts are no longer manufactured, are difficult to find, or require long lead-times to procure. Although these are valid reasons for acquiring large quantities of certain parts, the demand for many parts has declined or is non-existent; therefore, the number of parts stored should be reduced or the parts should be disposed of entirely.

During this audit, we found that Coast Guard had made some advances to identify unneeded inventory. However, additional efforts must be made to identify and dispose of all unneeded inventory items. Table 4 lists some obsolete items, items being phased out, and items under review for disposal. For example, we found 58 memory units costing $232,348 ($4,006 each) that were used in providing navigational information but are now obsolete because they have been replaced with newer items. These obsolete items were last purchased by the Center in 1997. We also found 64 switch assembly units costing $116,672 ($1,823 each) that were last purchased by the Center in 1998. In each example, neither cutters nor small boat stations made any requests for these items during the 32-month period covered by this review.

***Table 4: Examples of Items That Are Obsolete, Being Phased Out, or Under Review for Disposal Due to Inactivity***

| Item Description | Units on Hand | Unit Cost | Total Value |
|---|---|---|---|
| **Obsolete** | | | |
| Memory units for navigation | 58 | $4,006 | $232,348 |
| Switch assembly | 64 | $1,823 | $116,672 |
| Cassette decks for navigation | 22 | $1,158 | $ 25,476 |
| **Phased-Out** | | | |
| Tackle block for handling buoys | 29 | $3,060 | $ 88,740 |
| Left crank pin ring for propeller | 15 | $5,757 | $ 86,355 |
| **Under Review for Disposal** | | | |
| Zinc anode extruders for corrosion protection | 393 | $ 73 | $ 28,689 |
| Elapsed time meters for radio transmissions | 177 | $ 83 | $ 14,691 |
| **Total** | **758** | **N/A** | **$592,971** |

Only 13 percent (2,259 items valued at $45.7 million) of the 17,204 inventory line items stored at the Center are requested more than 4 times per year, which includes some parts of significant value. However, many of these items are non-mission-critical. Our audit found that 513 (23 percent) of the most requested inventory line items were paper forms, award folders, campaign ribbons, medals, flags, and pins. Further, the 100 most requested items accounted for 79 percent of the total demand during the 32-month period ending May 31, 2001. Sixty-six of the 100 most requested items were administrative items such as medals, paper forms, ribbons, and pins. The Defense Logistics Agency could provide these high-demand administrative items directly to cutters and small boat facilities.

## THE DEFENSE LOGISTICS AGENCY COULD STORE THE CENTER'S OTHER INVENTORY

In addition to consumable inventory items, Coast Guard manages and stores 2,411 different repairable items valued at $90.5 million. Repairable items are stored in warehouses at Columbia and Curtis Bay, Maryland. Coast Guard contracts for repair work with commercial establishments. At the time of our review, Coast Guard had not studied whether these repair items could be stored and managed by the Defense Logistics Agency. However, the Defense Logistics Agency is already storing repair items for Department of Defense military services and would have no problem storing repair items for Coast Guard as well.

In addition to consumable and repairable parts, the Center manages and stores at Columbia and Curtis Bay, Maryland, 5,016 miscellaneous inventory line items valued at about $69 million that are generally not requested by cutters or small boat facilities. These items are defined by Coast Guard as (1) insurance items—available for emergency situations, (2) Government-furnished material—primarily component parts that must be assembled prior to use, and (3) Headquarters project material—generally used in facilities construction. Defense Logistics Agency officials stated they could provide less costly storage space for these items.

## JUSTIFICATION FOR NEW WAREHOUSE DID NOT CONSIDER ALL ALTERNATIVES

The FY 2002 appropriations provided $12.6 million for Coast Guard to begin constructing a new warehouse for inventory parts. Coast Guard reasoned that the new 133,000 square foot, $12.6 million warehouse was justified because the reduction of 23 personnel and the termination of the Columbia, Maryland warehouse lease would recover the cost of the warehouse in 6.5 years.

Coast Guard's justification for the warehouse did not include a thorough needs assessment. In determining the appropriate size for the proposed warehouse, Coast Guard did not consider current or future inventory needs. Coast Guard did not consider the reduced warehouse needs due to inventory transfers to the Defense Logistics Agency or reduced inventory size from the disposal of obsolete inventory items. The size of the proposed warehouse was based on the size of the parcel available for warehouse construction.

The justification for the warehouse also did not reevaluate the cost-effectiveness of transferring inventory management and storage to the Defense Logistics Agency, which would allow Coast Guard to put funds to better use. Approximately $1.66 million in annual funding could be put to better use by making 35 personnel employed by the Center available for other duties. Also,

$1.7 million could be put to better use annually by eliminating the Columbia, Maryland warehouse lease. A one-time savings of up to $12.6 million would also be realized if the parts warehouse is eliminated or reduced in size. These efficiencies and cost savings do not include savings that would be realized by using the more cost-efficient supply services of the Defense Logistics Agency.

## RECOMMENDATIONS

We recommend that the Commandant reevaluate action to build a new warehouse and direct the Assistant Commandant for Systems to:

1. Develop and implement a more comprehensive plan for the Engineering Logistics Center operations that evaluates all consumable and repairable items to identify and transfer on a case-by-case basis those items that should be managed and/or stored at the Defense Logistics Agency or other Government agencies.

2. Dispose of unneeded inventory items.

3. As a result of these actions, reconsider whether a new warehouse is still needed at Curtis Bay, Maryland, and if so, what size is justified.

## U.S. COAST GUARD RESPONSE

A draft of this report was provided to Coast Guard on November 26, 2001. In its original December 21, 2001 response to the draft report, Coast Guard did not concur with three of four recommendations. Subsequently, we met with Coast Guard on January 23, January 29, and February 1, 2002, to discuss the draft report findings and clarify the intent of the recommendations. As a result of these meetings, we reached agreement with Coast Guard on the revised wording for the recommendations that addressed the issues raised in the draft report as well as Coast Guard's concerns. We also consolidated the original four recommendations into three. In its March 4, 2002 amended response to the draft report, Coast Guard concurred with the revised recommendations.

In concurring with recommendation 1, Coast Guard noted that it has transferred management of 69 consumable items to the Defense Logistics Agency over the past 24 months and that it uses the Defense Logistics Agency and other Government agencies to supply nearly 90 percent of Coast Guard's requirements. Coast Guard agreed to implement a more comprehensive plan that provides a more systematic review of both consumable and repairable parts that could be transferred to the Defense Logistics Agency or other Government agencies. Coast

Guard's response to recommendation 1 did not provide a date for completing the planned action.

In concurring with recommendation 2, Coast Guard noted that the elimination of several classes of cutters and boats in the past 5 years has exacerbated the levels of unneeded inventory for the Coast Guard. Coast Guard said it has eliminated over $25 million (10 percent of the FY 2000 ending inventory value for the Center) of excess, obsolete, and unserviceable inventory over the past 15 months. Coast Guard plans to dispose of $7.9 million of excess material in the near future, and review all material for disposal opportunities on a continuing basis. Coast Guard's response to recommendation 2 did not provide a date for completing the planned action.

In concurring with recommendation 3, Coast Guard stated that, in response to our draft report, the Assistant Commandant for Systems has reevaluated the need for and size of the planned warehouse and validated it to be a sound business decision. He has directed the Center to move forward on the approved planning proposal for consolidation of Center warehousing at Curtis Bay to more efficiently and cost effectively support Coast Guard operations. Coast Guard noted that the size of the new warehouse is less space than desired but funding became an issue.

Coast Guard also stated that the cost savings identified in the draft report were based on data that did not reflect today's costs. According to Coast Guard, the cost of the new warehouse has a 6.5 year payback and approximately $2 million in recurring annual savings. Coast Guard included a cost analysis indicating that it could manage and store inventory items for 12 percent less than the Defense Logistics Agency after the new warehouse consolidation project is complete.

## OFFICE OF INSPECTOR GENERAL RESPONSE

Coast Guard's planned actions to develop and implement a more comprehensive plan to systematically identify and transfer those items that should be managed and/or stored at the Defense Logistics Agency or other Government agencies, and dispose of unneeded inventory items, are responsive to our recommendations. However, Coast Guard's March 4, 2002 written response did not provide a date for completing the planned actions.

Coast Guard's actions in response to our recommendation to reevaluate the need for, and size of, a new warehouse are nonresponsive. We made the recommendation because Coast Guard's initial justification was not based on what size warehouse was needed to meet future inventory needs. Coast Guard's reevaluation of the warehouse, presented in its March 4, 2002 amended response to the draft report, is premature since Coast Guard has not evaluated its inventory

to determine whether the Coast Guard, the Defense Logistics Agency, or other Government agencies should manage and store Coast Guard inventory items, and it has not disposed of unneeded inventory items. The decision to proceed with the proposed warehouse should be deferred until Coast Guard knows which parts and how many parts need to be warehoused.

Similarly, we cannot accept Coast Guard's cost analysis because it includes questionable costs, does not evaluate all options for managing and storing the inventory, and does not reflect Coast Guard's future inventory needs after the systematic review and identification of items for transfer are completed. Our preliminary review identified various costs that appear questionable. For example, Coast Guard applied the Defense Logistics Agency's FY 2001 surcharge rate of 24.7 percent to Coast Guard inventory instead of the more appropriate FY 2002 surcharge rate of 21.5 percent or the FY 2003 surcharge rate of 20.7 percent. The surcharge would cover the operational costs of planning, procurement, order fulfillment, financial management, shipping, handling, and storage. Coast Guard's analysis also assumes that the Defense Logistics Agency would store all of Coast Guard inventory in an active warehouse. The analysis did not consider the option of using lower-cost, unmanned, long-term storage for the 87 percent of Coast Guard's inventory items that are inactive or slow moving.

Additionally, Coast Guard's estimated cost of $110,000 for material losses and obsolescence appears understated since it does not include recent write-offs for millions of dollars. Coast Guard disposed of $25 million of excess, obsolete, and unserviceable inventory over the last 15 months and plans to dispose of another $7.9 million in the near future. However, the $25 million and $7.9 million write-offs are not included in Coast Guard's operating cost figures from FY 2001 or its 5 year cost analysis.

Furthermore, Coast Guard did not evaluate all options for storing its inventory. Coast Guard did not consider the option of the Center managing repairable items and the Defense Logistics Agency providing storage for these items. Also, the reevaluation did not consider whether existing Coast Guard warehouses at Curtis Bay, Maryland, with or without modifications, could meet Coast Guard's warehousing needs after it had disposed of excess and obsolete inventory and transferred items to the Defense Logistics Agency or other Government agencies. In addition, although the Coast Guard cited the need for warehousing Deepwater Capability Replacement Project parts, a final decision on how the Deepwater project will be executed has not been reached. Until Coast Guard completes its systematic review and transfer of inventory items to the Defense Logistics Agency or other Government agencies, it is premature to conduct a cost analysis.

After completing the comprehensive review of the inventory and determining the need for or appropriate size of a new warehouse, some or all of the $12.6 million

appropriated for the warehouse could be reprogrammed to capital projects that are not projected to receive funding. The Five Year Capital Investment Plan contained in Coast Guard's FY 2003 budget submission to Congress has zero capital funding allocated to shore facilities or aids to navigation for FYs 2004 and 2005. The shore facilities category, for example, provides funding to construct small boat stations used by search and rescue crews, construct family housing units, and perform minor capital projects such as renovating existing facilities to comply with fire and occupational safety standards. The aids-to-navigation funding is used to construct and improve buoys, structures, and range lights that assist in navigation.

## ACTION REQUIRED

We request that Coast Guard provide completion dates for recommendations 1 and 2. We also request Coast Guard provide proposed corrective actions that are responsive to our recommendation to reevaluate the warehouse after the systematic review, identification, transfer, and disposal actions are completed; a target date for completing the reevaluation; and an estimate of any funds put to better use as a result of these actions. We request that Coast Guard provide the completion dates and its proposed corrective actions within 30 days of this final report.

# EXHIBIT A. SCOPE, METHODOLOGY, AND PRIOR COVERAGE

## SCOPE AND METHODOLOGY

We conducted our audit from July 2000 through July 2001. The audit was conducted at Coast Guard Headquarters in Washington, D.C., the Engineering Logistics Center in Curtis Bay, Maryland, and the warehouse in Columbia, Maryland. We also performed audit work at the Maintenance and Logistics Command Atlantic in Norfolk, Virginia. The audit covered the period October 1, 1998, through May 31, 2001, and focused on Coast Guard's wholesale inventory in the Columbia, Maryland warehouse.

During the audit, we learned that Coast Guard's fiscal year 2002 budget submission to Congress requested funding to begin construction of a new parts warehouse during FY 2002. Therefore, we focused our audit work on evaluating Coast Guard's justification for the parts warehouse, analyzing inventory items and parts activity, and reviewing prior Coast Guard studies on inventory management.

To obtain perspective on best business practices, lessons learned, and technology used in the inventory management industry, we met with officials at the Defense Logistics Agency and the Naval Supply Systems Command in New Cumberland and Mechanicsburg, Pennsylvania, respectively. We visited the Naval Engineering Support Unit in Portsmouth, Virginia. We also visited and met with team members at the Logistics Management Institute (consultants who specialize in inventory management) in McLean, Virginia.

To gain a working understanding of Coast Guard's inventory management process, we visited the warehouse in Columbia, Maryland, and held discussions with inventory management officials. We further visited two Coast Guard cutters (*Legare* and *Frank Drew*) to ascertain how the inventory process factored in the operation of the cutters.

To evaluate the inventory management process, we obtained numerical data such as total number of inventory line items, total dollar value, and a description of various types of inventory maintained. We requested and obtained documented regulations and policies governing inventory management operations. We analyzed the type, condition, and demand frequency of the inventory, and interviewed Coast Guard officials to determine the reliance on the inventory supplied by the Center.

To review the activity trends and history of the inventory items, we stratified the inventory into various dollar thresholds and selected 40 items that represented a range of values and a variety of items. We then met with Coast Guard management to discuss the results and determine the reasons so many inventory items received either no demand or very little demand.

To determine the status, historical trends, and plans for wholesale inventory warehousing, we obtained and reviewed Coast Guard contracted studies regarding ways to improve the Coast Guard's inventory management. We analyzed the studies and met with officials from Coast Guard Headquarters and the Center to discuss the Center operations and the recommendations outlined in the studies. We also met with members of the contractor team to obtain insight regarding Coast Guard's inventory management operations as viewed by an outside observer.

To assess Coast Guard's need for a new warehouse, we requested studies, analyses, and all information gathered and assessed by Coast Guard supporting its decision to build a new warehouse. We compared the work done with certain procedures required by the General Services Administration. The audit was conducted in accordance with Government Auditing Standards as prescribed by the Comptroller General of the United States.

## PRIOR AUDIT COVERAGE

In January 1995, the General Accounting Office (GAO) issued a report titled "COAST GUARD CUTTERS—Action Needed Now to Ensure Better Management of Parts and Supplies." The report evaluated Coast Guard's ability to effectively manage its inventory. GAO concluded that the Coast Guard did not have the organizational structure or computer system necessary to effectively manage its inventory for supporting cutters. As a result, the Coast Guard did not know the value, type, quantity, and condition of its spare and repair parts inventory. The report further stated that without such information, Coast Guard could not determine whether cutters had a shortage or an excess of parts, or whether parts were readily available when needed. Coast Guard officials stated that this lack of information had not seriously affected the Coast Guard's ability to carry out its mission, but it had resulted in costly emergency purchases and excess inventory. The report also stated that Coast Guard recognized the problems and had taken or planned to take action to improve its inventory controls by fiscal year 2002.

# EXHIBIT B. MAJOR CONTRIBUTORS TO THIS REPORT

**THE FOLLOWING INDIVIDUALS CONTRIBUTED TO THIS REPORT.**

| Name | Title |
|---|---|
| Edward M. Stulginsky | Program Director |
| Theodore M. Kilby. Jr. | Project Manager |
| Sam N. Bellino | Senior Auditor |
| Paul M. Streit | Senior Analyst |
| Nathaniel K. Adusei | Auditor |
| Todd O. Kath | Auditor |

# APPENDIX. MANAGEMENT RESPONSE

U.S. Department of Transportation
**United States Coast Guard**

# Memorandum

Subject: DOTIG REPORT ON MANAGEMENT OF SPARE AND REPAIR PARTS FOR CUTTERS AND SMALL BOATS

Date: 4 MAR 2002

7500

Reply to Attn. of: G-CQM
Mark Kulwicki
202-267-2294

From: Commandant, U. S. Coast Guard

To: Assistant Inspector General for Auditing

Ref: (a) DOTIG Draft Report Project Number 00M3004M000 dated November 26, 2001

1. On December 21, 2001, we responded to your draft report "Management of Spare and Repair parts for Cutters and Small Boats." In our original response, we non-concurred with the majority of your findings and conclusions including your recommendation to halt actions to construct a new warehouse. In the response, we provided additional information and documentation to support our position.

2. As a result of several meetings over the last few weeks between your audit team and my staff, I believe that we have reached some consensus on the findings and recommendations included in the draft report. Based on assurances that you will modify the recommendations in the final report, the U.S. Coast Guard amends its original response and concurs with the proposed findings and recommendations. We have incorporated your proposed recommendations into the body of our new response and now concur.

3. Please include this response in your final report. For additional information concerning this response, please contact Mr. Mark Kulwicki at 202-267-2294.

T. W. JOSIAH
Vice Admiral, U.S. Coast Guard
Chief of Staff

Encl: (1) Proposed Recommendations for the Final Report
(2) U.S. Coast Guard Response to DOTIG Recommendations

**STATEMENT ON DEPARTMENT OF TRANSPORTATION INSPECTOR GENERAL (DOTIG) REPORT**

**I. TITLE:** "DRAFT AUDIT REPORT ON ENGINEERING LOGISTICS CENTER'S INVENTORY MANAGEMENT OF SPARE AND REPAIR PARTS FOR CUTTERS AND SMALL BOATS" United States Coast Guard, Project No. 00M3004M000, Dated 26 November, 2001.

**II. U.S. COAST GUARD POSITION:** The Coast Guard concurs with the recommendation to reevaluate action to build a new warehouse. In fact, the DOTIG audit stimulated an in-depth reevaluation by the Assistant Commandant for Systems that clearly indicates consolidation of the Coast Guard Engineering Logistics Center (ELC) warehousing at Curtis Bay to be a sound business decision that will save the Coast Guard millions of dollars and more efficiently and cost effectively support its operations.

The Coast Guard position is based upon a recently completed cost analysis that included actual and proposed charges for Defense Logistics Agency (DLA) management and storage services. The ELC program for material management is viable, efficient and economical when compared to DLA's current total cost of management. Our recent needs assessment and cost analysis (Attachment A) shows that the current system employed by the ELC to manage both consumables and repairable items is over 8% less expensive when compared to DLA. Additionally, the cost comparison shows that the future cost for ELC to do business is even more efficient (12% less expensive) post warehouse consolidation.

**III. RECOMMENDATIONS AND RESPONSES:**

**We recommend the Commandant reevaluate action to build a new warehouse and direct the Assistant Commandant for Systems to:**

**(1) Develop and implement a more comprehensive plan for the Engineering Logistics Center operations that evaluates all consumable and repairable items to identify and transfer on a case-by-case basis those items that should be managed and/or stored at the Defense Logistics Agency or other government agencies.** The Coast Guard concurs with this recommendation. In the past 24 months, ELC has transferred management of 69 consumable items to DLA. Additionally, the Coast Guard uses DLA and OGA for all non-unique USCG inventory items, which comprise nearly 90 percent of all Coast Guard requirements. It is important to note that management of repairable assets by DLA is not feasible, and that transfer of the management and storage of repairable items to OGA can only occur when initiated by that OGA. The Coast Guard continues to transfer the management of unique repairable items to an OGA when an OGA customer becomes a user, indicating the item is no longer Coast Guard unique, or when an OGA formally requests to become Primary Inventory Control Authority (PICA) for that item. At that time, the Coast Guard transfers management and storage of that item to the requesting OGA. Those actions occur on a continuous, as-needed basis between the Coast Guard and requesting OGA activities. The Coast Guard's most recent cost analysis indicates the current system of consumable item management is 8% less expensive than DLA. However, as a result of this draft audit report the Coast Guard will implement a more comprehensive plan that provides a more

systematic review of both consumables and reparables that could be transferred to DLA or other agencies when analysis indicates transfer would provide more cost efficient management and better service to the end customer.

**(2) Assistant Commandant for Systems dispose of unneeded inventory items.**

The Coast Guard concurs with this recommendation. The elimination of several classes of cutters and boats in the past five years and the process of transferring many of those assets to Foreign Military Sales (FMS) customers have exacerbated the levels of unneeded inventory for the Coast Guard. Additionally, the ability to dispose of excess supply funded assets has been hampered by limited buy-out funds. Despite those challenges, the Coast Guard has taken effective action for several years on an aggressive program to dispose of unneeded inventory. The ELC has eliminated over $25M of excess, obsolete and unserviceable inventory over the past 15 months alone. This represents a 10% reduction in the FY00 ending inventory value for the ELC. The ELC plans to dispose of an additional $7.9 million of excess material in the near future, and reviews all material for disposal opportunities on a continuing basis.

**(3) As a result of these actions, reconsider whether a new warehouse is still needed at Curtis Bay, Maryland and, if so, what size is justified.**

The Coast Guard concurs. A reevaluation and updated cost analysis, stimulated by the receipt of this draft DOTIG report, clearly supports building the proposed 216,000 $ft^2$ consolidated warehouse. The savings alluded to through transferring inventory and referenced in previous Coast Guard chartered and internal studies were based on FY94 data contained in a 1996 report that has not been updated to reflect today's costs. Based on up to date figures, the return on investment for the ELC warehouse consolidation project is significant and time sensitive with a simple payback of 6.5 years and approximately $2M in recurring cost savings following the investment period. An updated marginal cost analysis is included in Attachment A. This cost analysis indicates the current system of consumable item management is 8% less expensive than DLA and will be 12% less expensive after the warehouse consolidation project is complete. Any delay in the process now will have a significant negative impact on Coast Guard operations and will not allow the projected savings to become a reality. As for what size is justified, when the plan was initially developed, the Coast Guard had approximately 335,000 $ft^2$ of warehouse space. The existing plan is for 216,000 $ft^2$. This represents a reduction of approximately 119,000 $ft^2$ (36%). This was actually less space than desired, but funding became the limitation. As a result, the ELC will need to constantly and aggressively review its inventory requirements as the Coast Guard divests legacy assets, while simultaneously supporting Deepwater assets coming on line. Even though final Deepwater inventory requirements are unknown at this time, the payback period is short enough (6.5 years) that the warehouse will have paid for itself before most of the Deepwater assets the ELC would support become operational. The Assistant Commandant for Systems has reevaluated the need and size of the warehouse. He has validated it to be a sound business decision and has directed the ELC to move forward on the approved planning proposal for consolidation of ELC warehousing at Curtis Bay to more efficiently and cost effectively support Coast Guard operations.

ATTACHMENT (A)

**ELC WAREHOUSE CONSOLIDATION PROJECT**
**NEEDS ASSESSMENT AND COST ANALYSIS**

**WAREHOUSE CONSOLIDATION PROJECT:** The ELC warehouse consolidation project (SFRL #80-x3481) is a shore facility capital asset management (SFCAM) plan to re-capitalize over 100,000 square feet of World War II vintage low-bay warehouse buildings, and eliminate the need for costly leased warehouse space in Columbia, MD. This plan will provide the Coast Guard with one modern, efficient, high-bay facility that will provide service for the Coast Guard well into the future and at a substantially reduced operating cost.

**WAREHOUSE NEEDS ASSESSMENT:** Over the last decade, the Coast Guard consolidated Supply Centers Brooklyn and Curtis Bay into one Engineering Logistics Center. This consolidation was part of a larger plan to integrate logistics and engineering support for Coast Guard cutters and boats in a single organization. Supply Center Brooklyn was moved to the Baltimore area in the early 1990's and moved their warehousing functions into a leased facility in Columbia, MD. While both warehouses stock a mixture of wholesale and retail stock, the Columbia warehouse stores the majority of ELC wholesale parts (in support of fleet cutters and boats), while the Curtis Bay warehouse stores the majority of ELC retail stock (in support of the Coast Guard Yard). It's important to understand that the DOTIG audit only looked at a portion of the ELC's warehousing needs (Columbia only, not Curtis Bay). The ELC has significantly reduced space requirements for inventory. For example, technical publications will be print-on-demand through DLA, vice storage of paper volumes. Integrated management processes have eliminated the need for remote, leased storage, such as a 20,000 $ft^2$ warehouse at NSC Norfolk, VA and 20,514 $ft^2$ of temporary storage space in Middle River, MD. Additionally, the ELC eliminated 20,000+ $ft^2$ of storage needs at NSC Oakland, CA, 12,058 $ft^2$ at Auburn, WA and vacated several old World War II era buildings at the Coast Guard Yard that were ultimately demolished. During that same period, the ELC has gained spares to support two new classes of buoy tenders, the coastal patrol boat, and the 47-foot motor lifeboat. Reevaluating the ebb and flow of these changes, and the need to support both legacy and replacement Deepwater assets, the ELC has validated that the existing consolidated warehouse is appropriately sized to meet the Coast Guard's inventory requirements.

**ECONOMIC ANALYSIS:** The economic analysis of the consolidation project shows that the AC&I requirement of $12.6M has a simple payback (w/lease savings) of 6.5 years. This return on investment does not consider that a new lease (due in 2003) for the current Columbia warehouse site is estimated to increase 50 – 100%, which would yield a return on investment payoff of less than 3 years. That means, that by 2006, actual recurring savings could result at close to $2M a year compared to today's costs for warehouse lease and personnel to support the current multi-campus warehousing environment. It is critical that the schedule in the project-planning proposal be closely followed to ensure that the lease savings/cost reductions can be realized as soon as possible. The impact cost for delay is substantial.

**COST ANALYSIS:** The Coast Guard's current system (including cost of goods sold) is approximately 8% less costly than DLA and will be approximately 12% less costly after the warehouse consolidation project is complete. The following basic assumptions apply to this analysis:

- DLA will manage the whole repairable asset program, not just stock and sell the "A" condition inventory. This includes receipt, inspection and tracking of "F" condition assets from the units ensuring proper credit is received for the carcass turn-in, storage of "F" condition assets, issuing "F" condition assets to repair facilities and receiving them as "A" condition from the repair facility. Without this total management of repairable assets, a significant personnel and facility infrastructure would have to be maintained at the ELC.
- DLA's surcharge rate would be 24.7% for both consumable and repairable inventory.
- The existing Curtis Bay warehouse (scheduled for demolition under the consolidated warehouse plan) will not be replaced if the consolidated warehouse plan is not approved. If the consolidated warehouse is not constructed, this 60-year old structure will need at least $570K of AFC-43 funding to complete deferred maintenance (roof & HVAC).
- The historical personnel lapse rate observed at the ELC of 5% will continue into the foreseeable future.

The actual cost analysis is backed up in a fully burdened spread sheet cost analysis and will be provided in a separate stand alone report that will support the Coast Guard's position for future discussions on DLA or OGA outsourcing. A copy is included with this response.