United States General Accounting Office

GAO

Report to the Secretary of Defense

August 1997

DEFENSE INFRASTRUCTURE

Inventory Control Point Consolidation Savings Would Be Substantial

GAO/NSIAD-97-157

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-276977

August 13, 1997

The Honorable William S. Cohen
The Secretary of Defense

Dear Mr. Secretary:

The National Defense Authorization Act for Fiscal Year 1996 directed you to review the Defense Logistics Agency's (DLA) management of all Department of Defense (DOD) inventory control points (ICP) and to report the results to the congressional defense committees and the Comptroller General of the United States. Your report identified large savings as well as potential risks associated with consolidating ICPs under DLA. We reviewed the report and are providing our observations on the estimated consolidation savings. Your report, along with our observations, may be useful to the National Defense Panel (NDP) and others as they assess matters raised by the Quadrennial Defense Review (QDR) relating to DOD's logistics infrastructure.

Results in Brief

The Office of the Secretary of Defense (OSD) used conservative assumptions and cost factors in estimating cost savings from consolidating service ICPs under DLA. Its projected cost savings of $2.2 billion to $3.8 billion cover a 13-year period, fiscal years 1998 to 2010. We believe this approach to be reasonable, given the sensitive nature of the issue, the limited amount of time to perform the review, and the data available. However, the projected cost savings estimates would be at least $1.3 billion to $2.3 billion greater if OSD used base realignment and closure (BRAC) principles, such as estimating steady-state savings over a longer time period and a present value analysis instead of a constant dollar analysis.[1] The potential savings would likely be greater yet if the analysis included (1) savings from all business process improvements related to the consolidation and (2) planned future improvements to DOD's existing material management information systems.

Background

ICPs provide services associated with the acquisition, distribution, maintenance, and disposal of consumable and reparable parts,[2] and

[1]A present value analysis calculates the value of future dollar amounts in terms of present dollars by recognizing the time value of money. In the calculation, the future monetary amounts are "discounted" to the present using the appropriate interest or discount rate.

[2]Consumable parts are generally not cost-effective to repair and are thrown away when worn or broken; reparable parts can be repaired at maintenance activities when worn or broken.

supplies needed to operate weapon systems and components. DLA manages 5 ICPs at 5 locations, and the services manage 11 ICPs at 13 locations. DLA's ICPs manage consumable items such as repair parts, personnel support items, fuel, and other bulk items and material. The services' ICPs manage reparable components, subsystems, and assemblies and selected consumable items. The 16 ICPs employ about 24,000 people and manage parts valued at approximately $69 billion. The number of ICPs is expected to be reduced to 11 ICPs at 13 locations by fiscal year 2003.[3] (See app. I for a list of service and DLA ICPs by location and by those that are scheduled for downsizing.)

In past reports, we criticized DOD's logistics system as being cumbersome, inefficient, and costly. Likewise, since at least the 1970s, DOD has recognized and been concerned about overlap and duplication in its logistics system and other inefficiencies. In 1989, OSD proposed a review to consolidate ICPs under a single service or agency manager, but the services strongly opposed the idea because they believed their ability to support weapon systems effectively would be adversely affected. However, in the National Defense Authorization Act for Fiscal Year 1996, Congress required the Secretary of Defense to review the management of all DOD ICPs by DLA, including service-managed reparable items.[4] Thus, in April 1996, the Deputy Under Secretary of Defense for Logistics tasked the Logistics Management Institute (LMI) to conduct such a review.

On November 19, 1996, OSD reported the results of its review to Congress and provided a copy to the Comptroller General of the United States. The report concluded that cumulative savings during fiscal years 1998 to 2010, ranging from $2.2 billion to $3.8 billion, might accrue if the management of all ICPs were transferred to DLA. The report also noted the services' concerns regarding the transfer, principally the risk of disrupting the intraservice integration of material and weapon system management. The report noted, however, that actions could be taken to lessen the risks. Given the services' concerns, the report stated that DOD, through its QDR and other future planning and programming efforts, would examine alternatives that might provide similar savings at less overall risk.

[3]DLA's Defense Fuels Supply Center is collocated with DLA's headquarters at Fort Belvoir, Virginia, and is not included in these downsizing numbers.

[4]The July 1990 ICP Consolidation Study (Defense Management Report Decision 926) directed the services to transfer service-managed consumables to DLA. This effort began in August 1991 and is scheduled to be completed by January 1998.

Approach and Methodology Used in the Review

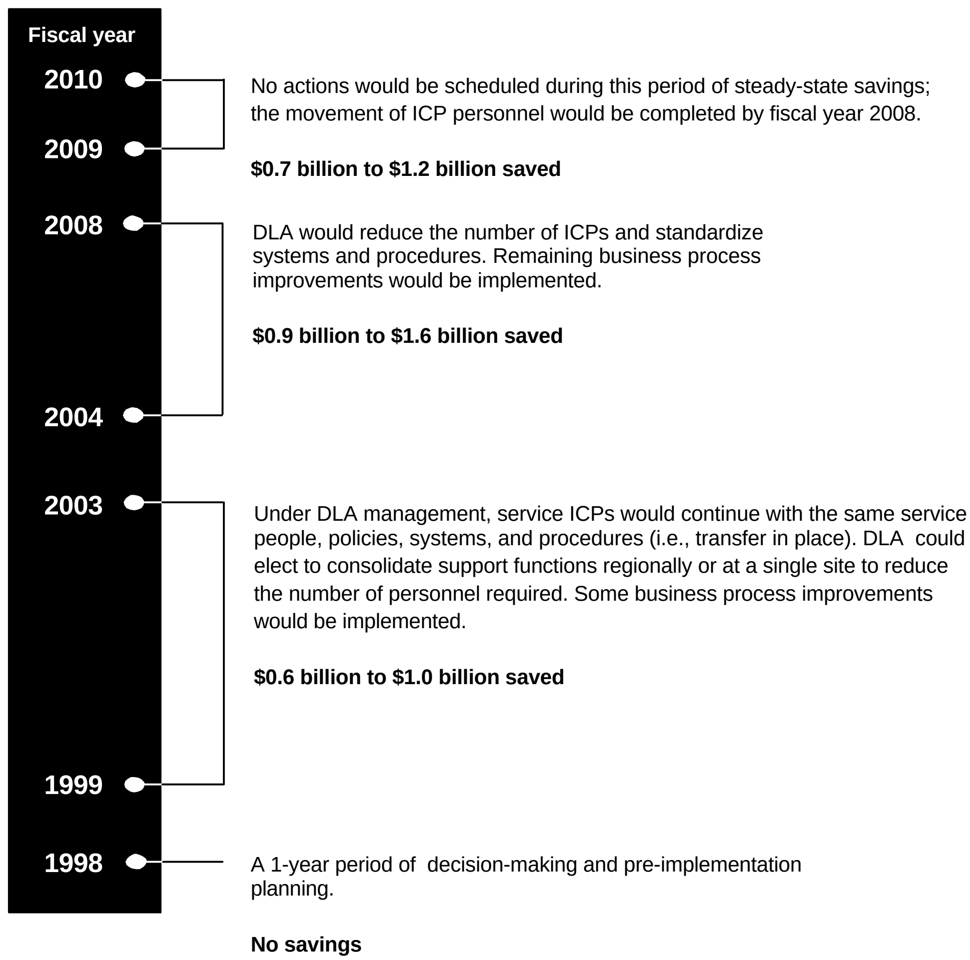
LMI developed a scenario for consolidating the service ICPs under a single manager within DLA and identified the associated potential costs, benefits, and risks. LMI recognized that if the proposed consolidation were to occur, the implementation might differ from its scenario, and the major personnel reductions and site consolidations envisioned in the review would likely have to undergo a process similar to that recently used for BRAC actions. Therefore, LMI considered its analysis conceptual in nature because it did not address specifics, such as which ICPs to close and which to retain. The analysis was intended to indicate only whether the consolidation has merit.

Under LMI's scenario, the consolidation would take place during fiscal years 1998-2010, reduce the number of ICPs[5] to either six or three,[6] and affect at least 12,000 people. Figure 1 is a chronology of LMI's scenario, the actions projected to occur, and the associated range of savings.

[5]DLA's Defense Fuels Supply Center was not part of OSD's review and was therefore not included in LMI's analysis.

[6]Using these two options, LMI provided a range of the potential savings. The use of six ICP locations represents the low end of LMI's cost savings and reflects conservative assumptions, and the use of three represents the high end to reflect relatively aggressive assumptions.

Figure 1: LMI's Consolidation Scenario



Note: The total savings from fiscal year 1998 to 2010 is $2.2 billion to $3.8 billion.

To identify the cost savings of its scenario, LMI considered three areas through which savings were possible: (1) a transfer in place, (2) site consolidation, and (3) business process improvements. (See app. II for a list of the business improvements identified by LMI.)

LMI developed the cost savings for the transfer in place and site consolidations using the services' and DLA's ICP and supporting headquarters cost data. For the business process improvements, however, LMI could not obtain complete data from the services for all 16 improvements, but was able to price 4 individual initiatives that would result from the transfer. To develop the potential cost savings in these areas, LMI used cost factors and made assumptions that were conservative in nature. According to an LMI official, the team's conservative approach was designed to avoid overstating the anticipated cost savings.

Savings Estimates Associated With Consolidation Would Be Higher Using BRAC Principles

After examining the report on consolidation, we believe OSD's approach was reasonable, given the sensitive nature of the issue, the limited amount of time to perform the review, and the data available. However, we concluded that the cost savings estimates would have been $1.3 billion to $2.3 billion greater if BRAC principles had been used. Also, indications are that the savings estimates would be even greater if the review included the savings associated with all 16 business process improvements and likely future improvements to the material management information systems. Full achievement of these additional savings is dependent on the consolidation of the ICPs under a single manager.

Adjustments to LMI's Methodology Would Result in Higher Savings Estimates

Given the short time frame LMI had to review the ICP consolidation, it performed a conceptual analysis to show whether savings were possible. It did not use the cost of base realignment actions (COBRA) model, which was used during the four BRAC rounds since 1988 to evaluate the cost of stationing alternatives. Although LMI was not required to use the model, COBRA was the proven, standard means for analyzing proposed consolidations.

We recognize the difficulty in using the COBRA model because it requires the collection of a large amount of data and numerous assumptions, such as which sites to retain and which to close. Had LMI used some of the BRAC principles that were used in the COBRA model, such as a longer period of steady-state savings and a present value analysis in arriving at its cost savings estimates, the combined effect would have resulted in larger estimated savings.[7] More importantly, using these BRAC principles provides a way of showing cost savings estimates that are consistent with how DOD projected costs and savings in previous BRAC rounds.[8]

[7]In a present value analysis cost savings estimates are decreased, but if the time period is also extended, the net effect is an increase in the cost savings estimates.

[8]We recognize that BRAC legislation expired on December 31, 1995. However, the use of these principles is an approved and established procedure DOD has used in the past to examine closure and realignment actions.

To illustrate, BRAC legislation required that consolidations be completed in no more than 6 years and that DOD project savings over a 20-year period, thus ensuring at least 14 years of steady-state savings. BRAC also required the use of a present value analysis to reflect the value of money over time. LMI projected cost savings over a 13-year period (i.e., fiscal years 1998-2010), which included an 11-year implementation period and 2 years of steady-state savings. Its analysis also did not consider the time value of money. An LMI official told us that, given more time, it would have considered using a present value analysis and a longer time period.

We adjusted LMI's cost savings estimates by applying these two BRAC principles without changing LMI's scenario or assumptions. Specifically, we extended LMI's ending time frame from fiscal year 2010 to 2022 to allow 14 years of steady-state savings and performed a present value analysis on LMI's cost savings estimates, using a rate of 4 percent.[9] Table 1 shows the results of our adjustments.

Table 1: Projected Cost Savings Estimates

Dollars in billions

Projected by	Consolidation period—fiscal years	Discount rate (percent)	Years of steady-state savings	Projected cost savings
LMI	1998 to 2010	None	2	$2.2 to $3.8
GAO	1998 to 2022[a]	4.00	14	$3.5 to $6.1

[a]To ensure 14 years of steady-state savings without changing LMI's assumptions, we had to extend the time period.

LMI's analysis could be adjusted in many ways if the scenario assumptions were changed. We could have used a 20-year period (fiscal years 1998-2017), which would include 14 years of steady-state savings. Although we believe this alternative calculation would generate savings similar to or greater than those from our analysis, we would have had to make numerous assumptions about LMI's consolidation scenario. For example, by achieving consolidation within the first 6 years (i.e., between fiscal year 1998 and 2003, or sooner), DOD could increase the potential cost

[9]Since the costs and savings were in constant dollars (i.e., excluded inflation), we used a real discount rate of 4 percent (i.e., a nominal interest rate of 6.9 percent minus a projected inflation rate of 2.9 percent) for our present value analysis. For the nominal interest, we used the yield on U.S. Treasury bonds for the period of our analysis, and for the projected inflation rate, we used the average of inflation forecasts from two major economic forecasting firms.

savings even more. We have previously reported on the effect of implementing BRAC actions sooner and the resulting increase in savings.[10]

Some Potential Savings Are Not Included in Savings Estimates

The savings identified in LMI's analysis do not include potential savings from all 16 business process improvements and a DOD-wide material management information system. We were unable to quantify these associated costs and savings, but we believe their inclusion into LMI's analysis would increase LMI's cost savings estimates.

Business Process Improvements

Although LMI identified 16 business process improvements from which savings could be anticipated, it estimated costs and savings for only 4. These four, however, account for a significant portion of the overall estimated savings—ranging between $1.5 billion and $2.7 billion. Nevertheless, the additional 12 could also result in savings. According to LMI officials, these business process improvements are a sample of improvements that DLA could make as a single manager for all DOD ICPs, to include improving the contracting methodology and process, deleting inactive parts, and improving material acquisitions and inventory storage. According to an LMI official, LMI estimated savings for only four improvements because of the lack of data, time constraints, and limited resources.

Service officials stated that the savings associated with these four process improvements duplicate ongoing service efforts and should not be considered in this analysis. However, they did not provide data to support their statements.[11] We believe that even greater savings could be achieved if the business process improvements were implemented by a single manager across service lines for all of DOD's ICPS.

DOD-wide Material Management Information System

At the time of LMI's analysis, DOD was planning to implement the Material Management Standard System to be used at its ICPS.[12] In July 1995, DOD estimated it would spend about $5.3 billion to develop, deploy, and maintain the system at its ICPS, and it expected the effort to produce as much as $15 billion in savings over a 15-year period. According to an LMI official, Material Management Steering Group officials told the LMI team

[10]Military Bases: Closure and Realignment Savings Are Significant, but Not Easily Quantified (GAO/NSIAD-96-67, Apr. 8, 1996).

[11]Only the Navy provided documentation; however, most of its process improvements were conceptual and would be limited to the Navy.

[12]This system was intended to be independent from over 500 existing systems to carry out wholesale logistics operations. The systems cost billions of dollars in maintenance and increasingly result in unnecessary requisitions and excess inventory.

not to consider using these numbers because of the questionable costs and savings estimates. We later reported that DOD had underestimated the costs and overestimated the savings.[13]

Because of difficulty in developing the system, the strategy to develop and implement a standard material management system was abandoned. According to a former senior official involved in the development of the system, progress was marred by incompatible service goals that could be overcome if the ICPs were consolidated under a single organization such as DLA. DOD officials told us that they did not believe a standard system would work, considering the differences in how each service does business. However, LMI and several military officials said that a standard database that could be shared was needed. Although the costs and savings associated with a standard system are not easily quantifiable, we believe that successful implementation of a standard system or database would be more likely and savings would be achievable under a single organization.

QDR Consideration of ICP Consolidation

The National Defense Authorization Act for Fiscal Year 1997 established the QDR to examine defense requirements and strategy and develop a revised defense program through 2005. The act also established an NDP to review the QDR's work and provide you with recommendations for improvements to the QDR's review, which it did on May 15, 1997. In addition, the NDP will report to you on additional matters by December 1, 1997.

DOD established a QDR Infrastructure Panel Logistics Task Force to examine DOD's infrastructure issues, including ICP consolidation alternatives. The Logistics Task Force considered six alternatives (see app. III for a list of all six alternatives) and decided against consolidating service ICPs and reparable inventory under DLA, even though the savings estimates were much greater than any other alternative. Instead, the task force recommended establishing one ICP per service with multiple locations. Only the recommended alternative was forwarded to the NDP for its consideration.

In the NDP's May 15, 1997, report, the NDP reported on the QDR's changes and reductions to DOD's infrastructure but did not specifically address ICP consolidation. According to an NDP staff member, DOD infrastructure issues

[13]Defense IRM: Critical Risks Facing New Materiel Management Strategy (GAO/AIMD-96-109, Sept. 6, 1996).

are still being considered by the Panel, but it is uncertain whether ICP infrastructure will be addressed in the NDP's December 1, 1997, report.

Recommendation

Although substantial savings are possible by consolidating the services' ICPS under DLA, the services have resisted such proposals, citing potential risks that could affect operational effectiveness. Given this situation, we recommend that you ask the NDP to examine the savings and risks associated with ICP consolidation under DLA.

As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on this recommendation to the Senate Committee on Governmental Affairs and the House Committee on Government Reform and Oversight not later than 60 days after the date of the report and to the Senate and House Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

Agency Comments and Our Evaluation

DOD generally concurred with our findings, but stated that without addressing the risks associated with the consolidation, our cost savings projections would not be very meaningful. (See app. IV for a reproduction of DOD's comments.) We agree with DOD that the risks cannot be ignored. However, as indicated in the OSD report, these potential risks can be mitigated. Given these circumstances, we believe that the NDP should examine both the savings and risks associated with the consolidation of ICPS under DLA. Although this recommendation was not in the draft report DOD reviewed, our subsequent review of the QDR and NDP reports prompted us to add this recommendation.

Scope and Methodology

During our review, we evaluated matters related to the cost of the proposed transfer of service-managed ICPS to DLA. We did not address the risks associated with the proposed transfer, nor did we examine any of DOD's ongoing initiatives in the logistics infrastructure area. However, we did obtain some information on pertinent matters considered by the Logistics Infrastructure Panel of the QDR.

To obtain an overall service perspective on the cost aspects of the report, we held discussions with cognizant officials from OSD; the Joint Chiefs of Staff; and headquarters and installations of the Army, Navy, Marine Corps, Air Force, and Defense Logistics Agency, and reviewed documents provided by the services. Locations visited included the Communications and Electronics Command, Fort Monmouth, New Jersey; the Naval Inventory Control Point and Naval Supply Systems Command, Mechanicsburg, Pennsylvania; Naval Sea Systems Command, Washington D.C.; Air Force Materiel Command, Dayton, Ohio; and Oklahoma City Air Logistics Center, Oklahoma City, Oklahoma.

To understand the report's methodology for estimating costs, we talked with OSD and LMI officials, reviewed LMI-prepared data[14] and spreadsheets, and randomly checked LMI's calculations. To estimate additional potential cost savings, we adjusted LMI's data to include a longer time period of steady-state savings and a present value analysis.

We conducted our review between December 1996 and June 1997 in accordance with generally accepted government auditing standards.

We are sending copies of this report to the Chairmen and Ranking Minority Members of the Senate Committee on Armed Services and the House Committee on National Security. We will make copies available to others on request. Please contact me on (202) 512-8412 if you or your staff have any questions about this report. Major contributors to this report were George Jahnigen, Kevin Perkins, and David Epstein.

Sincerely yours,

David R. Warren

David R. Warren, Director
Defense Management Issues

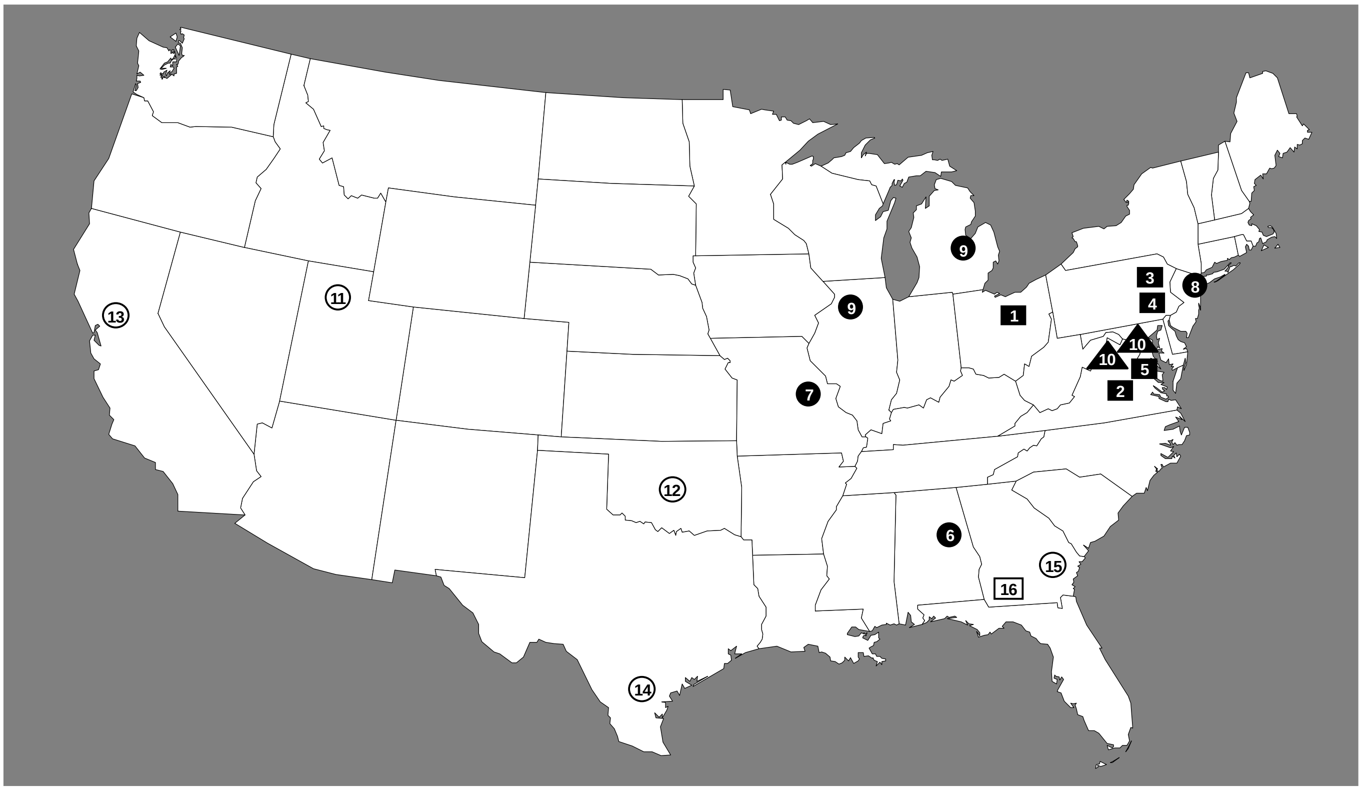
[14]Most of the information we used had been summarized in an LMI-prepared draft (Consolidation of DOD Inventory Control Points Under the Defense Logistics Agency: An Analysis of the Risks and Benefits, Jan. 28, 1997).

Contents

Abbreviations

BRAC	base realignment and closure
COBRA	cost of base realignment actions
DLA	Defense Logistics Agency
DOD	Department of Defense
ICP	inventory control point
LMI	Logistics Management Institute
NDP	National Defense Panel
OSD	Office of the Secretary of Defense
QDR	Quadrennial Defense Review

DOD's Inventory Control Points



1 **Defense Supply Center Columbus**, Columbus, Ohio NO
2 **Defense Supply Center Richmond**, Richmond, Va. NO
3 **Defense Industrial Supply Center**, Philadelphia, Pa. YES[a]
4 **Defense Personnel Support Center**, Philadelphia, Pa. YES[a]
5 **Defense Fuels Supply Center**, Fort Belvoir, Va.[b] NO
6 **Army Missile Command**, Huntsville, Ala. NO
7 **Aviation and Troop Command**, St. Louis, Mo. YES
8 **Communications and Electronics Command**, Fort Monmouth, N.J. NO
9 **Tank and Automotive Command & Armament and Chemical Acquisition and Logistics Activity**, Warren, Mich. and Rock Island, Ill. NO
10 **Naval Inventory Control Point**, Mechanicsburg, Pa. and Philadelphia, Pa. NO
11 **Ogden Air Logistics Center,** Ogden, Utah NO
12 **Oklahoma City Air Logistics Center**, Oklahoma City, Okla. NO
13 **Sacramento Air Logistics Center**, Sacramento, Calif. YES
14 **San Antonio Air Logistics Center**, San Antonio, Tex. YES
15 **Warner Robins Air Logistics Center**, Warner Robins, Ga. NO
16 **Marine Corps Logistics Base**, Albany, Ga. NO

Army
Air Force
Marine Corps
Defense Logistics Agency
Navy

Slated for BRAC downsizing
YES
NO

[a]These two activities are being combined as a result of a 1995 base realignment and closure (BRAC) action.

[b]This activity was not part of the Office of the Secretary of Defense's (OSD) review.

Business Process Improvements Under DLA's Management of ICPs

Business process improvement	Savings estimated in LMI's analysis
Improved contracting methodology and process: Improves contracting efficiency by emphasizing corporate contracting and reduced acquisition lead times.	Yes
Deletion of inactive items: Deletes from DOD's catalog items for which no current applications have been identified, thereby reducing item management costs.	Yes
Catalog total quality management: Corrects catalog data, which will facilitate correct requirements computations and decisions to repair or procure.[a]	No
Improved demilitarization: Corrects coding errors dealing with demilitarization responsibilities and facilitates timely disposal of excess material.	No
Improved stock positioning: Uses better data on requisitioner locations to reposition stock and decreases shipping and storage costs and response time.	No
Item reduction and entry control: Reviews items during weapon system design phase to identify all equivalent items, leading to reductions in items to be managed and inventory investments.	No
Secondary-item provisioning on end-item contracts: Establishes a DOD program to deal with provisioning line items with end items, thereby reducing procurements and potentially reducing prices as administrative costs are reduced.	No
Source breakout: Strengthens DLA's program to identify subcontractors and other less costly sources of supply.	No
Workloading of depot maintenance: Provides maintenance depots with better reparable parts induction scheduling, resulting in reduced inventories.	No
Integration of initial and replenishment requirements: Integrates requirements procedures used by program managers to combine computation of initial inventory and replenishment levels.	Yes
Single set of ICP policies and procedures: Eliminates current duplication of policies and procedures among the services and DLA for secondary items, thereby generating personnel savings.	Yes
Integration of wholesale and retail requirements: Reduces wholesale and retail inventory investment by using procedures that integrate wholesale and retail responsiveness and inventory costs.	No
Reduction of service-unique catalog data: Eliminates unique service management codes, thus reducing costs associated with data management.	No
Single design activity for materiel management system: Combines into one DLA activity the activities of service design agencies that develop and maintain service-unique software for managing secondary items.	No
Single ICP managing items on a weapon system: Realigns item management along weapon system lines, eliminating file duplication and facilitating computations using weapon system readiness goals.	No
Uniform credit policy for returns: Establishes a single policy for giving credit to organizations returning materiel, thereby simplifying budgeting and accounting at customer levels and industrial fund accounting.	No

[a]This process improvement was considered by OSD outside of this review. The decision to consolidate cataloging functions was announced on March 18, 1997.

ICP Consolidation Alternatives Considered by the Quadrennial Defense Review

Alternative	Description	Components involved
Consolidation of selective functions	Consolidation of selective ICP functions at a single site within a region.	All DOD components
Global Primary Inventory Control Activity	One wholesale manager for a common-use reparable item (or for similar common use reparable items).	Military services
Partnerships	Electronic networking and tasking to link ICPs and provide for a mechanism for executing partnership (intra- or inter-component).	All DOD components
Intra-component consolidation[a]	Reduction of each DOD component's ICPs (e.g., 1 ICP per service and 1 or 2 ICPs for DLA).	All DOD components
Single management element	Assignment of ICP management to all services, except the Marine Corps, along weapon system lines (e.g., Air Force - aircraft, Navy - ships, and Army - ground equipment).	Military services
DLA as single manager[b]	Management of all DOD ICPs under DLA.	All DOD components

[a]This alternative was selected by the Quadrennial Defense Review and forwarded to the National Defense Panel.

[b]This alternative was reviewed by OSD as required by the National Defense Authorization Act for Fiscal Year 1996.

Comments From the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
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WASHINGTON, DC 20301-3000

ACQUISITION AND TECHNOLOGY

(L/MDM)

16 JUN 1997

Mr. David R. Warren
Director, Defense Management Issues
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Warren:

This is the Department of Defense response to the General Accounting Office (GAO) draft report, "DEFENSE INFRASTRUCTURE: Inventory Control Point Consolidation Savings Would Be Substantial," dated May 20, 1997 (GAO Code 709232/OSD Case 1365).

The Department generally concurs in the report. We appreciate GAO's acknowledgment that the projected cost savings to be gained from consolidating military service inventory control points under the Defense Logistics Agency are generally reasonable, given the sensitive nature of the issue and the limited time and cost data available for conducting the review.

We agree that different sets of assumptions, such as those used by the GAO, will lead to projected cost savings different from those arrived at in the Department's report. However, we consider the higher savings figures developed by GAO to be impractical in the absence of addressing the risks associated with the proposed consolidation or the ongoing initiatives aimed at reducing logistics infrastructure costs. These are important issues that will influence the direction the Department ultimately takes.

Sincerely,

John F. Phillips
John F. Phillips
Deputy Under Secretary
of Defense (Logistics)

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