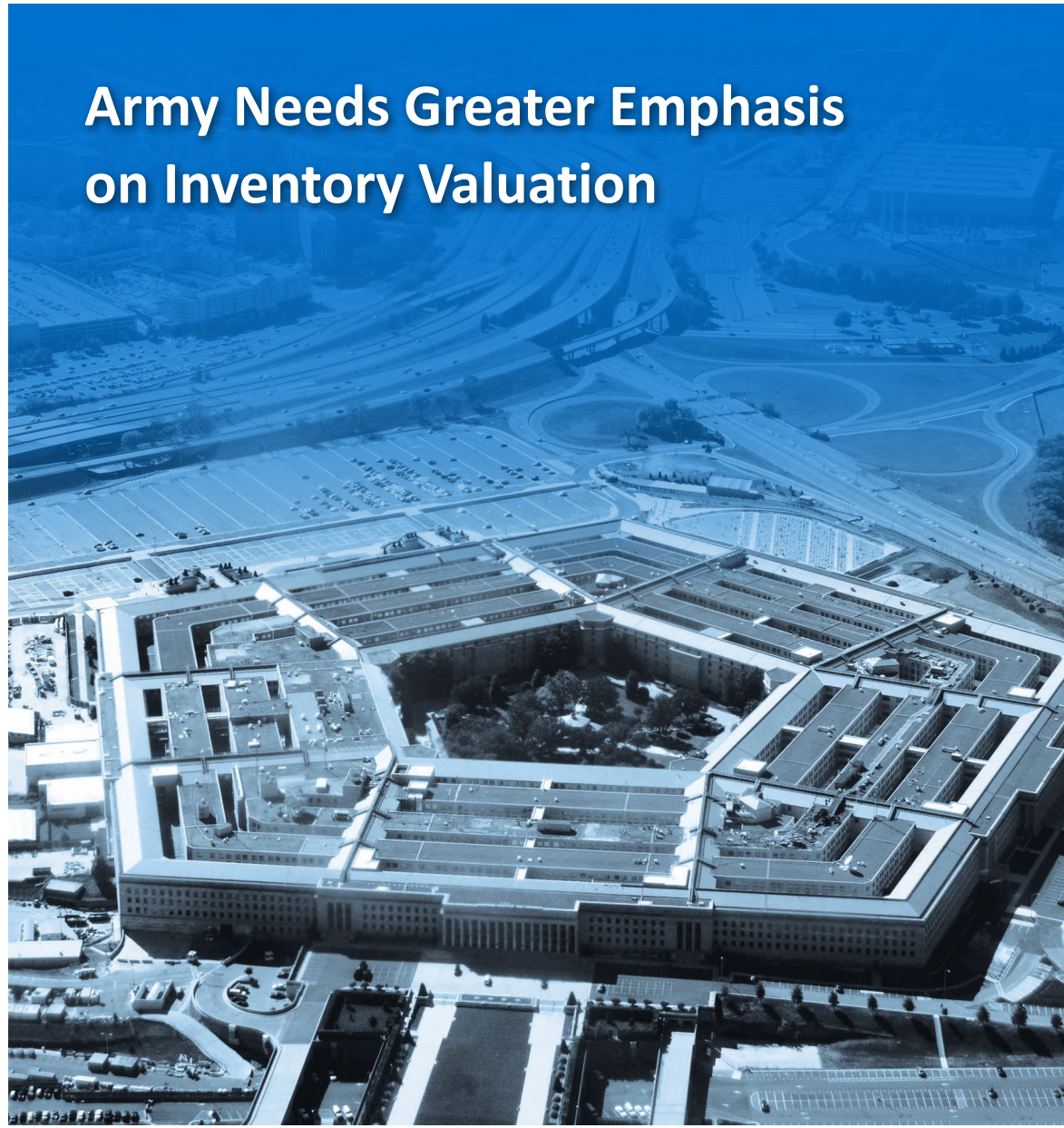




INSPECTOR GENERAL

U.S. Department of Defense

JULY 12, 2016



Army Needs Greater Emphasis on Inventory Valuation

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Results in Brief

Army Needs Greater Emphasis on Inventory Valuation

July 12, 2016

Objective

We determined whether the Department of the Army properly records Army Working Capital Fund (AWCF) Inventory, Available and Purchased for Resale, at moving average cost (MAC¹) within the Logistics Modernization Program (LMP²) system.

Finding

Despite the LMP system having the functionality to compute MAC, U.S. Army Materiel Command (AMC) did not properly record 83 of 128 non-statistically sampled items from 18 of 557 plants³ in a manner that reasonably approximated historical cost. This occurred because AMC did not implement controls to ensure Life-Cycle Management Commands properly recorded AWCF inventory at MAC. AMC officials were focused on managing inventory quantities, rather than valuing the inventory at MAC. Specifically, AMC did not properly control the use of certain types of inventory movements within LMP,⁴ and did not train Army personnel adequately on MAC valuation and inventory movement types. In addition, AMC did not establish controls to identify and correct improper MAC values, prevent improper data from updating within LMP during end-of-day reconciliations, or properly establish data for Non-Army Managed Items (NAMI)

¹ MAC is a method for valuing inventory.

² LMP is an enterprise resource planning system used to record Army logistical and financial transactions.

³ See Appendix A for sampling methodology.

⁴ Inventory movements within LMP indicated how the inventory reached its current location and condition.

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Finding (cont'd)

unit-of-measure elements in LMP. Finally, the Army did not develop a comprehensive strategy for implementing MAC as the methodology for valuing its inventory in LMP.

As a result, the Army materially misstated its inventory on the FY 2015 AWCF Financial Statements and is at increased risk of not meeting the FY 2017 audit readiness milestone. Inaccurate MAC values have resulted in AWCF Industrial Operations switching to standard pricing as the basis for billing their customers, which may result in higher billing rates.

Recommendations

We recommend that the Commander, AMC, establish policies and procedures focused on managing inventory valuation at MAC; implement procedures to properly transfer inventory between valuation and movement types; and implement continuous training of Army personnel involved with inventory movements that affect MAC values. Among other recommendations, the Commander, AMC, should also review and correct MAC values for all Inventory, Available and Purchased for Resale; restrict access for the LMP end-of-day reconciliation process to personnel with proper authority and training; and establish NAMI unit-of-measure elements properly in LMP. We recommend that the Assistant Secretary of the Army (Financial Management and Comptroller), in collaboration with AMC, develop a comprehensive strategic plan for implementing MAC as the AWCF Inventory, Available and Purchased for Resale, valuation methodology.

Management Comments and Our Response

The Commander, AMC, and Assistant Secretary of the Army (Financial Management and Comptroller) did not respond to our request for comments on the recommendations in the draft of this report. We request that the Commander, AMC, and Assistant Secretary of the Army (Financial Management and Comptroller) provide comments on the final report. Please see the Recommendations Table on the back of this page.

Recommendations Table

Management	Recommendations Requiring Comment
Commander, U.S. Army Materiel Command	1.a., 1.b., 1.c., 1.d., 1.e., 1.f., 1.g., 1.h., 1.i., 1.j.
Assistant Secretary of the Army (Financial Management and Comptroller)	2

Please provide Management Comments by August 12, 2016.



**INSPECTOR GENERAL
DEPARTMENT OF DEFENSE
4800 MARK CENTER DRIVE
ALEXANDRIA, VIRGINIA 22350-1500**

July 12, 2016

MEMORANDUM FOR UNDER SECRETARY OF DEFENSE (COMPTROLLER)/
CHIEF FINANCIAL OFFICER, DOD
DIRECTOR, DEFENSE FINANCE AND ACCOUNTING SERVICE
DIRECTOR, DEFENSE LOGISTICS AGENCY
AUDITOR GENERAL, DEPARTMENT OF THE ARMY

SUBJECT: Army Needs Greater Emphasis on Inventory Valuation
(Report No. DODIG-2016-108)

We are providing this report for review and comment. Despite the Logistics Modernization Program system having the functionality to compute moving average cost, U.S. Army Materiel Command did not record some inventory transactions in a manner that reasonably approximated historical cost. We conducted this audit in accordance with generally accepted government auditing standards.

DoD Instruction 7650.03 requires that recommendations be resolved promptly. The Commander, Army Materiel Command, and Assistant Secretary of the Army (Financial Management and Comptroller), did not provide comments to the draft report. Please provide comments that state whether you agree or disagree with the finding and recommendations. If you agree with our recommendations, describe what actions you have taken or plan to take to accomplish the recommendations and include the actual or planned completion dates of your actions. If you disagree with the recommendations or any part of them, please give specific reasons why you disagree and propose alternative action if that is appropriate. You should also comment on the internal control weaknesses discussed in the report. Therefore, we request comments on the recommendations and internal control weaknesses by August 12, 2016.

Please send a PDF file containing your comments to audfmr@dodig.mil. Copies of your comments must have the actual signature of the authorizing official for your organization. We cannot accept the /Signed/ symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Please direct questions to me at (703) 601-5945 (DSN 329-5945).

Lorin T. Venable
Lorin T. Venable, CPA
Assistant Inspector General
Financial Management and Reporting

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Introduction

Objective

We determined whether the Department of the Army properly records Army Working Capital Fund (AWCF) Inventory, Available and Purchased for Resale, at moving average cost (MAC) within the Logistics Modernization Program (LMP) system.

We focused the audit on how the LMP system recorded MAC values for AWCF Inventory, Available and Purchased for Resale, but did not perform detailed reviews of the documentation supporting the MAC values entered into the system. The review of documentation, such as purchase orders, receiving reports, and invoices, will be the subject of a future audit. This audit is the fifth in a series of DoD Inspector General reports on LMP functionality. See Appendix A for a discussion of the scope and methodology, Appendix B for prior audit coverage, and the Glossary for definitions of technical terms used in this report.

Background

LMP is an enterprise resource planning system used to record Army logistical and financial transactions. LMP records inventory transactions within its general ledger and interfaces inventory sales with the Army General Fund through the General Fund Enterprise Business System. The Assistant Secretary of the Army (Financial Management and Comptroller) (ASA[FM&C]) and U.S. Army Materiel Command (AMC) G-8 reported to Congress that LMP would be the system used to develop auditable AWCF financial statements.

Roles and Responsibilities

ASA(FM&C) is responsible for modernizing Army financial management systems and processes; integrating financial data and cost information; developing associated policies, procedures, programs, and systems; and monitoring internal control and audit compliance. AMC manages logistical and financial functions at AWCF Life-Cycle Management Commands (LCMCs) and is responsible for establishing policies and procedures for the LCMCs and Army Sustainment Command. As the DoD's largest logistics support agency, the Defense Logistics Agency (DLA) sources and provides nearly all military consumables (food, fuel, medical supplies, and construction materials) and 90 percent of all military spare parts. DLA also operates distribution field activities, which store most Army inventory items.

Army Working Capital Fund

The Army purchases its inventory using the AWCF. A working capital fund provides a way to purchase common goods and services and is designed to provide a more effective means for controlling the costs of goods and services required, produced, or furnished by AWCF activities. The AWCF operates much like a business rather than a Government entity. The AWCF's customers include the Army General Fund, DoD Components, other Federal government agencies, and private parties when authorized by law, including foreign, state and local governments. AMC manages the AWCF for the Army. The Defense Finance and Accounting Service, in coordination with ASA(FM&C), prepares annually audited financial statements for the AWCF, which are separately reported from the Army General Fund. These statements include the balance sheet (where inventory is reported) and statement of net cost (where the cost of goods sold is reported).

The AWCF consists of two activity groups: Industrial Operations and Supply Management. The two activity groups are managed by the LCMCs. The Industrial Operations activity group provides the Army with the in-house capability to maintain, repair, and upgrade military equipment and materials. The Supply Management activity group buys spare and repair parts for sale primarily to Army operating units located worldwide, Army Industrial Operations activities, and other DoD Components. In anticipation of customer demands, Supply Management item managers buy new inventory items or place orders with contractors and DoD depots for repaired and remanufactured items. The Supply Management activity group arranges for the purchased and repaired or remanufactured inventory items to be shipped directly to the customers or stored for future use. Once customer orders are filled, customers are billed for the purchase. The Supply Management activity group then uses sales revenue to replenish inventory. The Supply Management activity group administers inventory for Army-managed items, Non-Army Managed Items (NAMI), and war reserve.⁵

As of June 30, 2015, AWCF reported \$20.5 billion in Net Inventory (82 percent of \$25 billion in total assets), of which \$12.9 billion was Inventory, Available and Purchased for Resale (Inventory).⁶ Inventory consists of procured, manufactured, and remanufactured items that are in a usable condition and available for immediate resale to customers. The Army stores its inventory at multiple

⁵ War reserve materiel is necessary to equip and support the increase in military requirements and forecasts are contingent on an outbreak of war.

⁶ Inventory, Available and Purchased for Resale, is reported in LMP in U.S. Standard General Ledger (USSGL) account 152100.

locations, including the LCMC⁷ plants,⁸ Single Stock Fund⁹ sites, DLA distribution field activities, and contractor sites. In addition, the Army Sustainment Command stores inventory for the war reserve. Each location is designated with a unique plant code.¹⁰ Table 1 provides a breakdown by activity storing the inventory in order of plant code series.

Table 1. Inventory Available as of June 30, 2015

Plant Code Series	Inventory Activity	Total Inventory Value	Percentage of Total Inventory
1000-1999	CECOM	\$34,247,740	0.3
2000-2999	AMCOM	540,342,076	4.4
3000-3999	TACOM	113,783,828	0.9
4000-4999	SBCCOM	23,096,147	0.2
5000-5999	JM&L	323,084,867	2.6
6000-6999	Single Stock Fund	2,873,320,432	23.2
7000-7999	DLA	6,720,489,230	54.3
8000-8999	Army Sustainment Command War Reserve	669,758,283	5.4
9000-9999	Contractor	1,078,171,454	8.7
	Total	\$12,376,294,057*	100

Source: DoD OIG Analysis

* The difference between what was reported in Note 9 in the Third Quarter FY 2015 Financial Statements (\$12.9 billion) as inventory and the information in Table 1 (\$12.4 billion) is attributed to inventory in transit not included in the 152100.1000 "Inventory Purchased for Resale" account.

The AWCFF financially reports its inventory by business limitation¹¹ and National Item Identification Number (NIIN). A NIIN is the last nine digits of the national stock number that differentiates each individual inventory item from all other inventory items. Each LCMC owns and manages different types of inventory. The inventory items, identified by NIIN, can be positioned in multiple plants based upon customer need. As of June 30, 2015, the Army reported AWCFF inventory at 557 plants worldwide. LMP keeps up-to-date records of inventory balances, and it calculates a separate MAC for each NIIN at each of the 557 plants.

⁷ The U.S. Army Communications-Electronics Command (CECOM), Aviation and Missile Command (AMCOM), U.S. Army Tank-Automotive and Armaments Command (TACOM), and Joint Munitions and Lethality (JM&L) are LCMCs under AMC. U.S. Army Soldier and Biological Chemical Command (SBCCOM) is a subordinate command under AMC.

⁸ A plant is the physical storage location of an inventory asset. The plant is also where valuation is assigned within LMP.

⁹ Single Stock Fund sites store and sell AWCFF-owned inventory at U.S. Army bases around the world.

¹⁰ LMP uses a four-digit number for plant identification.

¹¹ The limitation identifies a subdivision of funds that restricts the amount or use of funds for a certain purpose or identifies sub-elements within the account for management purposes.

When the Supply Management activity group sells inventory, it is to report the sale in a revenue account (U.S. Standard General Ledger [USSGL] 510000) and in the cost of goods sold account (USSGL 650000) at historical cost.¹² The cost of AWCF's ending inventory and the cost of goods sold are calculated using MAC. AWCF uses a standard price as the sales price when selling inventory to customers. The standard price is based on the latest purchase cost plus cost recovery rate¹³ in an attempt to reach a "break-even" point, which is the financial goal of the AWCF.

Moving Average Cost

The MAC is a method for valuing inventory. MAC is determined each time costs are incurred for a purchase or when a reparable item is repaired or remanufactured. According to the DoD Financial Management Regulation, MAC is calculated by dividing the cost of total units available at the time (inventory plus current purchase or remanufacturing costs) by the number of total units available at that time.¹⁴ The use of MAC requires LMP to recalculate inventory values after each inventory transaction. MAC must be used with a perpetual inventory system,¹⁵ such as LMP. Statement of Federal Financial Accounting Standards No. 3¹⁶ states that inventory must be valued at either historical cost or latest acquisition cost (LAC).¹⁷ The MAC valuation method is an accepted means to arrive at historical cost.¹⁸ DoD issued guidance on July 6, 2001, requiring the use of MAC for valuing inventory. AWCF began valuing some of its inventory using MAC in June 2003, as it transitioned from the Commodity Command Standard System (CCSS) to LMP. In November 2011, the Army completed its fielding of LMP and, in August 2014, completed its transition of AWCF-owned inventory to MAC. Inventory valuation is a critical component for AWCF audit readiness. The milestone for audit readiness is FY 2017.

¹² Historical cost includes all purchase, shipping, and production costs to bring an inventory item to its current condition and location.

¹³ The cost recovery rate is used to recover operating expenses incurred by the AWCF Supply Management activity.

¹⁴ DoD Financial Management Regulation 7000.14-R, volume 4, chapter 4, "Inventory and Related Property," May 2009.

¹⁵ A perpetual inventory system maintains detailed records of the cost of each inventory purchased and sold continuously to show the inventory that should be on hand for every item. A perpetual inventory keeps track of both quantities and costs.

¹⁶ Statement of Federal Financial Accounting Standards No. 3, "Accounting for Inventory and Related Property," October 27, 1993.

¹⁷ Statement of Federal Financial Accounting Standards No. 48, "Opening Balances for Inventory, Operating Materials and Supplies, and Stockpile Materials," January 27, 2016, updated Statement of Federal Financial Accounting Standards No. 3 to state that "Inventory shall be valued at either (1) historical cost or (2) a method that reasonably approximates historical cost."

¹⁸ Statement of Federal Financial Accounting Standards No. 3 states that first-in, first-out; weighted average; or MAC flow assumptions may be applied in arriving at the historical cost of ending inventory and cost of goods sold.

Review of Internal Controls

DoD Instruction 5010.40¹⁹ requires DoD organizations to implement a comprehensive system of internal controls that provides reasonable assurance that programs are operating as intended and to evaluate the effectiveness of the controls. We identified internal control weaknesses in the Army's recording of MAC in LMP financial and accountability records. Specifically, the AMC did not implement adequate controls to ensure LCMCs properly recorded AWCF inventory at MAC. We will provide a copy of the report to the senior official responsible for internal controls in the Department of the Army.

¹⁹ DoD Instruction 5010.40, "Managers' Internal Control Program Procedures," May 30, 2013.

Finding

Army's Inventory Lacks Proper Valuation

Despite the LMP system having the functionality to compute MAC, AMC did not record 83 of 128 non-statistically sampled items from 18 of 557 plants²⁰ in a manner that reasonably approximated historical cost. This occurred because AMC did not implement adequate controls to ensure LCMCs properly recorded AWCF inventory at MAC. AMC officials were focused on managing inventory quantities, rather than valuing its inventory at MAC. Specifically, AMC did not:

- properly control the use of certain types of inventory movements between plant codes in LMP;
- establish controls to prevent improper data from updating within LMP during end-of-day reconciliations;
- train Army personnel adequately on MAC inventory valuation and movement types; and
- establish data properly for NAMI unit-of-measure elements in LMP.

In addition, the Army did not develop a comprehensive strategy for implementing MAC as the methodology for valuing its inventory in LMP.

As a result, the Army materially misstated its inventory on the FY 2015 AWCF Financial Statements and is at increased risk of not meeting the FY 2017 audit readiness milestone. Additionally, the Army cannot properly measure the effectiveness of AWCF operations and was unable to properly record the Net Cost of Operations due to improper inventory movements. Finally, Army's inability to stabilize MAC values has resulted in AWCF Industrial Operations switching to standard pricing as the basis for customer billing, which may result in higher billing rates.

Army Improperly Valued Inventory

AMC did not record 83 of 128 non-statistically sampled items in a manner that reasonably approximated historical cost. According to the DoD Financial Management Regulation,²¹ inventory must be valued using MAC based on historical cost unless an exception is specifically authorized. In FY 2014, the Army reported²²

²⁰ See Appendix A for sampling methodology.

²¹ DoD Financial Management Regulation 7000.14-R, volume 4, chapter 4, "Inventory and Related Property," May 2009.

²² FY 2014 AWCF Financial Statements and Notes.

that it had transitioned 100 percent of its resale inventory to MAC in LMP. LMP is based on commercial software with functionality to calculate MAC. Consequently, the MAC calculation in LMP was systematically correct when historical cost information was entered properly. However, the FY 2015 AWCF Financial Statements, Note 1.M,²³ states that the on-hand, transitioned balances were not properly baselined to MAC. Consequently, a portion of the AWCF inventory may not be compliant with Statement of Federal Financial Accounting Standards No. 3 historical cost requirements. Historical costs include all appropriate purchase, transportation, and production costs incurred to bring items to their current condition and location. Additionally, the Army's FY 2015 Annual Statement of Assurance recognized the lack of historical cost information as a material weakness impacting MAC inventory balances on the FY 2015 AWCF Financial Statements.

We reviewed the LMP MAC calculation for a non-statistical sample of 128 inventory items (38 different NIINs), valued at \$303.6 million, and determined that LMP did not properly record MAC values for 83 of 128 sampled items. Many of the same NIINs had substantially different MAC values at the various plants at which the inventory items were located. For example, NIIN 01-072-8067 (filter, band pass) located at the New Cumberland Army Depot, had a MAC value of \$66,948 (total inventory value of \$2,209,310 for 33 units²⁴), while the same NIIN at DLA Distribution Depot in Tobyhanna, Pennsylvania, had a MAC value of \$7,585 (total inventory value of \$91,024 for 12 units). Other locations had NIINs with zero MAC values. All AWCF inventory should be valued at historical cost. The MAC values for NIINs at these and other locations were adversely affected by certain types of transactions that were not supported by historical cost information. The historical cost information should have come from invoices and other supporting documents that would have been based on contractual or other obligation information in LMP. Instead, AMC logistical and inventory management personnel entered transactions that caused the loss of historical cost information. Consequently, the proper MAC value for the 83 of the 128 sampled items could not be determined because of the lack of this historical cost information. We identified internal control weaknesses that prevented LMP from accurately computing MAC values.

²³ Note 1 contains information about significant accounting policies that apply to the financial statements. Specifically, Note 1.M. in the FY 2015 AWCF Financial Statements describes accounting policies for AWCF inventory and related property.

²⁴ Information is based on July 22-26, 2015, detailed system records provided by LMP Product Office. The amounts varied from the June 30, 2015, data on the universe.

Army's Internal Controls Over Inventory Were Inadequate

AMC did not develop and implement controls to ensure that the LCMCs properly recorded AWCF inventory at MAC. The Federal Managers' Financial Integrity Act of 1982 establishes overall requirements with regard to internal control.

AMC and LCMC officials were more focused on managing inventory quantities rather than ensuring that AWCF inventory was properly valued at MAC.

The agency head must establish controls that reasonably ensure that revenues and expenditures applicable to agency operations are properly recorded and accounted for to permit the preparation of accounts and reliable financial and statistical reports and to maintain accountability over the assets.

AMC and LCMC officials were more focused on managing inventory quantities rather than ensuring that AWCF inventory was properly valued at MAC.

The primary business focus of AMC Headquarters, AMCOM, and TACOM personnel was to make material available to the warfighter, not on the effects that material movements had on inventory valuation.

Specifically, AMC policies did not direct LCMCs to review inventory valuation to proactively identify when MACs were miscalculated, or provide LCMCs with a process for correcting MAC values. Additionally, LCMC Standard Operating Procedures did not ensure that inventory MAC values were properly reviewed and corrected, as necessary; nor did the LCMC Standard Operating Procedures require that adequate documentation be maintained to support adjustments made. Consequently, AMC personnel did not emphasize the use of inventory valuation in their decision making, or recognize its impact on the AWCF financial statements. AMC should establish policies and procedures focused on computing inventory valuation at MAC, including monitoring MAC values for NIINs at plants and making supported corrections to MAC values. In addition, AMC should review and correct MAC values for all Inventory, Available and Purchased for Resale.

Inventory Movements Affect the MAC

AMC did not properly control the use of certain inventory movements between plant codes in LMP. Statement of Federal Financial Accounting Standards No. 3 requires that systems record changes in the value of inventory due to changes in condition. The Financial Management Systems Requirements Manual²⁵ requires systems to record changes in the location of an inventory item, such

²⁵ DFAS 7900.4-M, Financial Management Systems Requirements Manual, volume 4, "Inventory, Supplies, and Materials," August 2015.

as from one warehouse to another, and any associated changes in the person or organization responsible for stewardship of the item. The Army business process used multiple valuation and movement types to designate in LMP a group of assets and the status of inventory items. Movement types also determine the general ledger accounts and values used in recording these transactions. Improper uses of transfers between valuation and movement types distort MAC values. When LMP users entered certain valuation²⁶ and movement types²⁷ to transfer inventory, this erroneously adjusted MAC values, and historical cost information was lost.

Zero-Value Inventory Existed

AMC did not establish controls in LMP to prevent system users from incorrectly recording transfers between inventory groups²⁸ based on the condition and ownership. These inventory groups changed the condition status from “inventory unavailable for resale” to “inventory available for resale” and ownership from “Army General Fund-owned operating materials and supplies” to “AWCF-owned inventory available for resale.” In addition, controls in LMP did not prevent DLA transfers of inventory valued at zero being transferred into AWCF-owned inventory available for resale. If not done correctly, transfers between these inventory groups end up having a zero value, which results in substantially understated inventory amounts.

We identified 2,004 of 41,724 items with zero value as of June 30, 2015, at the 18 plants reviewed. The JM&L LCMC (Rock Island Arsenal Wholesale) had 1,369 of 2,401 inventory items valued at zero, while DLA sites, which had a total of 24,421 inventory items, accounted for 560 inventory items with a zero value. See Table 2 for details on the inventory activities with NIINs with zero value.



We identified 2,004 of 41,724 items with zero value as of June 30, 2015, at the 18 plants reviewed.

²⁶ Valuation type in LMP provides the ability to value inventory of the same material differently based on business-driven categories.

²⁷ Movement type is a three-digit alpha-numeric code that indicates inventory movement transactions within LMP. Inventory movement transactions include receipt, transfer, or sale of inventory, among many others. There is also a large number of reversing transactions to offset previous transactions.

²⁸ Inventory groups are based on condition and ownership codes in LMP. Serviceable inventory is valued at MAC with a condition code of “SERV.” Other condition codes are valued at standard price, with the standard price being set in LMP at zero dollars. LMP condition codes include “UNSERV” for unserviceable, “OSIR” for organic secondary item repair, and “NOVAL” for non-AWCF inventory. “NOVAL” is not considered AWCF-owned inventory because an AWCF business activity does not own these inventory items.

Table 2. Zero-Value NIINs by Inventory Activity

Inventory Activity	Zero-Value Items at Inventory Activity	Total Number of Items at Inventory Activity
AMCOM	0	3
CECOM	61	964
JM&L	1,369	2,401
TACOM	1	2
Single Stock Fund	13	13,933
DLA	560	24,421
Total	2,004	41,724

Source: DoD OIG Analysis

Movement of the zero-valued inventory to different plants also caused the inventory at those plants to be incorrectly valued. When NIINs with zero value were transferred between plants, the receiving plant assumed the originating plant's NIIN value, causing the receiving plant's MAC value to also be erroneously understated. For example, we reviewed the MAC values of NIIN 01-466-3753 (hydraulic transmission) as of July 25, 2015. On this date, hydraulic transmissions were located at three plants. We compared the MAC value at the three plants to the LAC for the hydraulic transmission to determine whether the MAC value closely represented the recent purchase costs and provided a reasonable basis for its inventory value. The analysis showed a large variance between the two valuation methodologies, providing evidence that the MAC values were unreasonably low and one plant incorrectly recorded a zero-value MAC. See Table 3 for details of our analysis and comparison of MAC to LAC for the hydraulic transmission.

Table 3. Review of MAC for Hydraulic Transmission as of July 2015

	Fort Hood 1st Cavalry	Red River Processing Plant	Red River Defense Distribution Center
Quantities	2	5	38
MAC Per Unit	\$74,832.48	\$0	\$25,282.77
LAC Per Unit	<u>\$173,895.67</u>	<u>\$173,895.67</u>	<u>\$173,895.67</u>
Per Unit Difference	\$99,063.19	\$173,895.67	\$148,612.90
MAC Total Value	\$149,664.96	\$0	\$960,745.39
LAC Total Value	<u>\$347,791.34</u>	<u>\$869,478.35</u>	<u>\$6,608,035.46</u>
Total Difference	\$198,126.38	\$869,478.35	\$5,647,290.07

Source: DoD OIG Analysis

In April 2015, when inventory quantities were transferred at zero value to the Red River Distribution Center, it reduced the MAC values (from \$74,832.50 to \$30,813.38) at Red River Distribution Center by increasing quantities (from 7 to 17), while overall values stayed the same. A subsequent transfer in July 2015 further reduced the MAC to \$25,282.77. As a result of these transfers, the AWCF inventory for this NIIN at Red River Processing Plant and Red River Defense Distribution Center were significantly undervalued.²⁹

AMC should implement procedures to properly maintain historical cost when transferring inventory between plants and properly capture and record all appropriate purchase, transportation, and production costs to bring the inventory items to their current condition and location.

Inventory Receipt Transactions Not Properly Handled

AMC did not establish controls to prevent the unnecessary use of certain types of inventory movement transactions in LMP. Army Regulation 725-50³⁰ prescribes procedures for processing and accounting for inventory at a receiving entity using pre-positioned material receipts.³¹ This regulation provides specific guidance on establishing pre-positioned material receipts to aid in this process. Army and DLA officials confirmed that Army often shipped items without the required pre-positioned material receipt documentation necessary for the receiving entity to match the inventory received to a purchase order in LMP.

When a pre-positioned material receipt was not included with inventory shipments, LMP users created a “Receipt Without Purchase Order” inventory movement type transaction, which caused the associated inbound inventory items to be valued at the current MAC value in LMP for that NIIN³² instead of the inventory’s associated costs. Similarly, the use of “Reverse Receipt Without Purchase Order” inventory movement type transactions reversed on-hand inventory at the then-current MAC value instead of the cost associated with the original transaction. When a pre-positioned material receipt is included with inventory shipments, the inventory records can be matched to specific purchase orders containing historical cost information.

²⁹ Based upon the LMP data provided, we did not identify MAC value anomalies at the Fort Hood site.

³⁰ Army Regulation 725-50, “Requisition and Issue of Supplies and Equipment Requisitioning, Receipt, and Issue System,” November 15, 1995.

³¹ A pre-positioned material receipt is a document that contains information including quantity, condition, and inspection/acceptance requirements for materials shipped.

³² The “Receipt Without Purchase Order” inventory movement transaction is known as a “501 inventory movement type” in LMP. It brings inventory to record. The “Reverse Receipt Without Purchase Order” inventory movement transaction is known as a “502 inventory movement type.”

The Army recorded \$907 million in “Receipt Without Purchase Order” inventory movement transactions in LMP in the third quarter FY 2015, but only recorded \$414 million in the reversal inventory movement type transactions during the same period. The \$493 million difference between these two movement type transactions indicates that LMP contains many unmatched purchase orders. Table 4 depicts the difference in the dollar value of “Receipt Without Purchase Order” and “Reverse Receipt Without Purchase Order” inventory movement transactions occurring in the third quarter FY 2015, by inventory activity.

Table 4. Differences in Two Associated Movement Types in Third Quarter FY 2015

Inventory Activity	Receipt Without Purchase Order Movements	Reverse Receipt Without Purchase Order Movements	Difference
CECOM	\$3,960,741	\$1,854,579	\$2,106,162
AMCOM	13,098,085	5,223,387	7,874,698
TACOM	10,934,328	2,423,218	8,511,110
SBCCOM	104,405	188	104,217
JM&L	5,410,094	3,418,228	1,991,866
Single Stock Fund	527,147,684	253,895,211	273,252,473
DLA	245,497,937	129,856,499	115,641,438
Army Sustainment Command War Reserve	53,130,546	6,043,982	47,086,564
Contractor	47,695,926	11,759,920	35,936,006
Total	\$906,979,747	\$414,475,213	\$492,504,534

Source: DoD OIG Analysis

DLA Corpus Christi personnel confirmed that the Army did not always ship items with the pre-positioned material receipt documentation necessary for the receiving entity to properly record the inventory movement transaction in LMP. DLA personnel stated that material often arrived on-site without the required pre-positioned material receipt documentation, resulting in a “Receipt Without Purchase Order” inventory movement in LMP. They also confirmed that purchase orders could remain in the system “virtually forever” if proper paperwork was not submitted by the shipping location with the material upon receipt. Without matching purchase order transactions, historical cost information was lost. The Figure provides an illustration of some of the inventory located at DLA Corpus Christi.



Figure. Inventory Stored at DLA Corpus Christi, Texas
Source: DoD OIG

On March 26, 2015, LMP Product Office (PO) began to research the root causes behind inventory received without pre-positioned material receipt documentation at DLA storage locations. As of March 2016, LMP PO had not completed its research.

AMC also did not control the use of the “Reverse Receipt Without Purchase Order” inventory movement type. This inventory movement type transaction was sometimes used to inappropriately reverse a “Goods Receipt”³³ inventory movement type transaction. Detailed system records from LMP for NIIN 01-358-3193 (blade rotary rudder), located at the New Cumberland Army Depot, demonstrate the incorrect use of the “Reverse Receipt Without Purchase Order” inventory movement type. For example, on October 25, 2012, 11 blade rotary rudders (priced at \$16,997 each) were received using the “Goods Receipt” inventory movement type transaction. On the same date, this transaction was reversed using the “Reverse Receipt Without Purchase Order” inventory movement type transaction. The reversal was performed using the current MAC value of \$9,529, rather than the original value of the transaction, which was \$16,997. The unit price variance of \$7,467 for all 11 blade rotary rudders remained in the cumulative balance used to calculate MAC (totaling \$82,140) for this transaction, impacting the previous MAC value for that item. Reversing a “Goods Receipt” inventory movement type transaction using the “Reverse Receipt Without Purchase Order” inventory movement type transaction inappropriately removed the items (11 blade rotary rudders) from LMP inventory records, which understated inventory and exposed

³³ A “Goods Receipt” inventory movement type transaction confirms the physical receipt of inventory.

the items to potential fraud, waste, and abuse. Table 5 details how the “Receipt Without Purchase Order” and “Reverse Receipt Without Purchase Order” inventory movement types impacted the MAC value.

Table 5. Impact of Movement Types on MAC Values for NIIN 01-358-3193

Transaction Posting Date	Movement Type	Transaction Quantity	Unit Price	Cumulative Quantity	Cumulative Balance	MAC
Beginning Balances			\$3,887.96	16	\$62,207.36	\$3,887.96
9/13/12	107	26	3,954.94	42	165,035.80	3,929.42
9/13/12	502	(26)	3,929.42	16	62,870.88	3,929.42
10/2/12	107	1	16,997.19	17	79,868.07	4,698.12
10/5/12	501	1	4,698.12	18	84,566.19	4,698.12
10/9/12	991	(1)	4,698.12	17	79,868.07	4,698.12
10/25/12	107	11	16,997.19	28	266,837.16	9,529.90
10/25/12	502	(11)	9,529.90	17	162,008.26	9,529.90
10/25/12	107	1	16,997.19	18	179,005.45	9,944.74
10/26/12	501	1	9,944.74	19	188,950.19	9,944.74
10/30/12	991	(1)	9,944.74	18	179,005.45	9,944.74

Movement Type Codes:

107 Goods Receipt

501 Receipt Without Purchase Order

502 Reverse Receipt Without Purchase Order

991 Transfer of Stock

Source: DoD OIG Analysis

When inventory movement types “Receipt Without Purchase Order” and “Reverse Receipt Without Purchase Order” are used, miscellaneous gains and losses³⁴ occur, resulting in erroneous increases in revenues and expenses. LCMC officials stated that inventory movement type “Receipt Without Purchase Order” also created unliquidated obligations³⁵ because they could not be matched to specific purchase orders. Unmatched receipt of goods against purchase orders required extensive research by LCMC personnel to resolve.

³⁴ Statement of Federal Financial Accounting Standards No. 7, “Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting,” May 10, 1996, states that gains and losses are recognized to differentiate unusual or nonrecurring transactions for evaluating an entity’s performance or setting its prices. Material gains and losses are expected to be infrequent.

³⁵ According to the DoD Financial Management Regulation 7000.14-R, volume 3, chapter 11, “Unmatched Disbursements, Negative Unliquidated Obligations, and In-Transit Disbursements,” April 2015, an unliquidated obligation is the amount of an order placed, contract awarded, or service received that has not been paid.

On April 20, 2015, ASA(FM&C) developed an AWCF Plan of Action and Milestones that contained several corrective action plans to address the use of “Receipt Without Purchase Order” and “Reverse Receipt Without Purchase Order” inventory movement types. Specifically, AMC has been tasked by ASA(FM&C) to develop standardized procedures that require users to post goods receipts to the appropriate purchase order using a “Goods Receipt” inventory movement type transaction rather than a “Receipt Without Purchase Order” inventory movement type transaction. In addition, AMC, in coordination with ASA (FM&C), has been tasked to implement a monitoring control designed to review miscellaneous gains and loss account postings on a daily basis. As of January 2016, AMC’s system change request to address the improper miscellaneous gains and losses had not been implemented. AMC should expedite development and implementation of procedures limiting the use of “Receipt Without Purchase Order” and “Reverse Receipt Without Purchase Order” inventory movement type transactions. AMC should also develop a comprehensive goods receipt and acceptance process involving LMP to ensure that historical cost information is not lost for proper valuation of inventory.

Inadequate Inventory Training on MAC Valuation

AMC did not adequately train Army logistics and inventory management personnel on inventory valuation and movement types. The LCMCs and LMP PO personnel stated that Army LMP users did not have sufficient training on how inventory movement types affect MAC values. Additionally, LMP PO personnel stated AMC did not provide continuous training to employees after the initial deployment sites and did not approve training for implementation of NAMI activities. AMC should implement continuous training of Army logistical and inventory management personnel involved with inventory movements that affect inventory valuation at MAC in LMP system. This training should cover how to properly record inventory receipt, acceptance, transfer, and sale transactions within the system to ensure that the historical costs of the inventory are properly captured for inventory valuation.

Erroneous End-of-Day Reconciliations

AMC did not establish controls in LMP to prevent incorrect data from updating within LMP during end-of-day reconciliations of inventory. The Financial Management Systems Requirements Manual³⁶ requires systems to provide a standard input record format for interfacing transactions from other systems for inventory and have system edits, validations, and error-correction procedures to support data integrity. In addition, erroneous transactions must be maintained

³⁶ DFAS 7900.4-M, Financial Management Systems Requirements Manual, volume 4, “Inventory, Supplies, and Materials,” August 2015.

and tracked until corrected, posted, or deleted by an authorized user to enable performance measurement. The end-of-day reconciliation is a batch process³⁷ using interface files to populate LMP. These files originate from government entities, such as DLA, or contractors that possess government-furnished materials. LMP used two files to perform end-of-day inventory reconciliations. If the quantity balances resulting from individual inventory transactions in the first file did not match the ending inventory quantity balances within the second file, LMP automatically recorded adjustments to the inventory quantity to match the second file using the current MAC values.

The original and reversing transactions resulted in inventory offsets to either the miscellaneous gain account or miscellaneous loss account. However, when the transactions were reversed, they were recorded to different general ledger accounts.³⁸

Additionally, LMP lacked standard tolerance levels³⁹ and validation controls⁴⁰ to prevent processing inaccurate data. The Federal Information System Controls Audit Manual⁴¹ states that business process controls require that input data are validated and edited to provide reasonable assurance that erroneous data are detected before processing, parameters and tolerances are configured, and error conditions and messages are defined. It also states that parameters and tolerances should be based on limits of transaction amounts or on the nature of the transaction.

For example, AMC personnel stated that in June 2015, Boeing employees performed a full physical inventory of its government-furnished materials. Rather than using the standard manual process to adjust inventory quantities, Boeing employees adjusted the inventory using the end-of-day reconciliation process in LMP without training or authorization. AMC did not restrict user access to the end-of-day reconciliation process to those trained and authorized to perform the reconciliation

³⁷ A batch process is the passing of data from one system to another on a periodic basis. The contents of the file would be records of a consistent layout, and the format would be agreed to and understood between the sending and receiving application systems. Processes are considered "batch" when they are grouped and sent periodically and not individually in real time. Definition obtained from *Managing Data in Motion: Data Integration Best Practice Techniques and Technologies*, by April Reeve, published by Morgan Kaufman Publishers, 2013.

³⁸ Instead of recording the reversing entries to the same general ledger account (a miscellaneous gain account or a miscellaneous loss account), they were recorded to a different general ledger account.

³⁹ Federal Information System Controls Audit Manual, GAO-09-232G, February 2, 2009, states a tolerance level is a parameter that is set up as a means to accept or reject data based on established criteria to identify an erroneous or improper transaction.

⁴⁰ Federal Information System Controls Audit Manual, GAO-09-232G, February 2, 2009, states that validation controls are edits that system owners and programmers build into the system to limit the number of errors that input into the system. The edits help ensure that data are complete, accurate, valid, and recorded in the proper format.

⁴¹ Federal Information System Controls Audit Manual, GAO-09-232G, February 2, 2009.

process. Consequently, the file with the ending inventory balances was condensed and some of the numbers that should have represented the NIIN were entered in the quantity field, causing a net increase of \$349.9 billion to the inventory value and the miscellaneous gain account.⁴² The next day, the Boeing plant personnel identified the error and re-ran the file with the correct inventory quantities, causing a net decrease of \$345.7 billion to the inventory and miscellaneous loss account.⁴³ Defense Finance and Accounting Service personnel also identified the error through their analysis of the abnormally large miscellaneous gain and loss accounts and prepared a journal voucher to offset the gain and loss accounts in the third quarter FY 2015 AWC Financial Statements. In July 2015, AMCOM and LMP PO personnel reversed the transactions related to this unauthorized adjustment to LMP.



The file with the ending inventory balances was condensed... causing a net increase of \$349.9 billion to the inventory value and the miscellaneous gain account.

LMP should not have allowed the flawed transactions to post into the general ledger. Instead, it should have systematically rejected the data feed through standard transaction tolerance levels within the system. However, AMC would not authorize LMP PO to implement standard tolerance levels and other LMP validation controls for processing inventory transactions. AMC personnel explained that corrective actions would be too voluminous and AMC did not have enough resources to fix all of the rejected items out of LMP. Since tolerance and other validation controls were not in place, erroneous and egregious transactions were accepted into LMP. If the tolerance and validation levels were set in LMP, LCMC personnel would have identified these transactions and prevented posting to the general ledger. The end-of-day reconciliation process also caused LCMC inventory management teams to expend a large amount of personnel resources reconciling or reversing transactions. For example, AMCOM personnel stated that they had 16 personnel dedicated to inventory corrections, many of which resulted from the end-of-day reconciliation process.

To prevent these types of errors in the future, AMC should:

- 1) Develop procedures that post reconciling transactions to the same general ledger accounts as the original transactions.
- 2) Restrict access to the transaction codes related to the end-of-day reconciliation process to only those with appropriate authority.

⁴² The financial entry debited inventory (USSGL 152100.1000) \$349.9 billion and credited miscellaneous gains (USSGL 719000.2000) \$349.9 billion.

⁴³ The financial entry debited miscellaneous losses (USSGL 729000.2000) \$345.7 billion and credited (USSGL 152100.1000) inventory \$345.7 billion.

- 3) Direct LMP PO to implement standard tolerance levels and other LMP validation controls that prevent transactions outside a specified range from processing.

Incorrect Unit-of-Measure Elements Continue to Be Used

AMC did not establish proper NAMI unit-of-measure information in LMP. NAMI are Army-owned secondary items⁴⁴ managed by other DoD agencies and redistributed within the Army. The Financial Management Systems Requirements Manual⁴⁵ requires systems to support unit-of-measure conversion for various functions, including ordering, stocking, and shipping. The unit-of-measure information defines the unit in which an item may be ordered, bought, stored, sold, or issued. When establishing an item in LMP, each item should have a record in the Material Master file containing a base unit of measure to define the item's ordering, stocking, and shipping unit. If one of those functions requires a different unit of measure, the item's record would require additional unit-of-measure information, such as an order unit and alternate unit of measure, and a price unit. For example, an item may be purchased by the foot, but issued by the inch. During the fourth quarter FY 2014, at the request of AMC, the LMP PO transitioned NAMI from the legacy system (CCSS) to LMP and revalued the inventory from LAC to MAC. However, when transitioning the NAMI data from CCSS to LMP, AMC sometimes did not enter correct data for the base unit of measure and alternate unit-of-measure elements in the LMP Material Master file.

The MAC value of the inventory was recorded as \$379.1 million, rather than \$3.2 million, or 119 times greater.

For example, at two Fort Hood Single Stock Fund sites, the MAC value for NIIN 01-082-9697 (oil sample bottles) was based on a per-box (120 oil sample bottles in each box) unit-of-issue value of \$116.93.⁴⁶ However, the quantity was based on the number of bottles, not boxes (3.24 million bottles equaling 27,000 boxes). Therefore, the MAC value of the inventory was recorded as \$379.1 million, rather than \$3.2 million, or 119 times greater. This resulted in a \$375.9 million overstatement of inventory in the third quarter FY 2015 Financial Statements.

We brought the incorrect unit-of-measure data to AMC's attention and separately with TACOM NAMI personnel during a site visit. TACOM NAMI personnel told us that the incorrect data was not uncommon and identified another NIIN with a

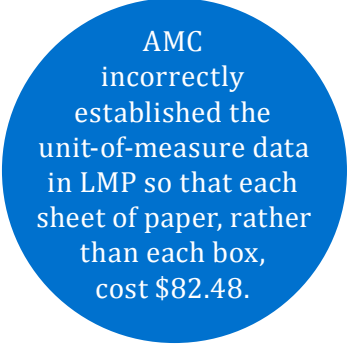
⁴⁴ Army-owned secondary items include end items, replacement assemblies, parts, and consumables.

⁴⁵ DFAS 7900.4-M, Financial Management Systems Requirements Manual, volume 4, "Inventory, Supplies, and Materials," August 2015.

⁴⁶ Although we identified this problem at 2 of the 18 plants based on our review of summary-level inventory data provided to us by the LMP PO, the NIIN was not in our non-statistical sample.

similarly overstated value. In this example, when transitioning NIIN 01-078-5649 (writing paper) from CCSS to LMP, AMC incorrectly established the unit-of-measure data in LMP so that each sheet of paper, rather than each box, cost \$82.48.

TACOM sold writing paper by the box, not the sheet. As a result, TACOM billed its customers \$412,400 for each box of paper (5,000 sheets) it sold them. In FY 2015, the TACOM NAMI Finance team reversed more than \$31 million in exaggerated paper sales. If not corrected, this would substantially misstate the cost of goods sold (USSGL 650000) and net sales (USSGL 510000) on the sale of the writing paper. Incorrect NAMI unit-of-measure elements greatly distort the MAC values and materially misstate the inventory line item on the AWCF balance sheet. In November 2015, the Army Shared Services Center established a NAMI Base Unit-of-Measure Working Group to research and correct the problems.



AMC incorrectly established the unit-of-measure data in LMP so that each sheet of paper, rather than each box, cost \$82.48.

AMC should review the Material Master file in LMP to identify all items with incorrect data recorded in its unit-of-measure elements and develop a strategy to correct them. AMC should also implement controls to ensure that the Material Master file data, including the unit-of-measure information, are established correctly in LMP and issue guidance on how personnel should establish and maintain data for the unit-of-measure elements in LMP.

Army Needs to Develop a Comprehensive Strategy

The Army did not develop a comprehensive strategy for implementing MAC as the method to value its inventory within the AWCF. Although the Army has taken steps to identify and address issues with valuing AWCF inventory using MAC, ASA(FM&C) has not taken the lead in developing an auditable end-to-end business process for AWCF inventory. In April 2012, the AMC Improvement Process Team identified 23 significant issues related to MAC values and the LMP inventory business process. However, after releasing its results, the Improvement Process Team did not meet again until January 2015. In 2015, the Improvement Process Team held additional meetings, as recent as September 2015. However, the Army has made limited progress in addressing inventory valuation problems.

On January 27, 2016, the Federal Accounting Standards Advisory Board released Statement of Federal Financial Accounting Standards No. 48, which reinforced the need to have a system that can value AWCF inventory at historical cost using MAC. This standard allows reporting entities to use an alternative valuation method in

establishing opening balances⁴⁷ for inventory. The standard provides reporting entities an alternative valuation method to adopt U.S. generally accepted accounting principles when historical records and systems do not provide a basis for valuation of opening balances in accordance with Statement of Federal Financial Accounting Standards No. 3. Reporting entities also need to ensure that system and business processes associated with valuing inventory are compliant with U.S. generally accepted accounting principles before making an unreserved assertion that the financial statements, or the inventory line item on the balance sheet, are presented fairly in accordance with U.S. generally accepted accounting principles.

To be audit ready by FY 2017, ASA(FM&C), in collaboration with AMC, should develop a comprehensive strategic plan for AWCF to overcome material deficiencies with inventory, including MAC value accuracy. As part of the plan, ASA(FM&C) should coordinate and integrate the efforts already in place to address known problems with valuing AWCF inventory at MAC, including assigning lead activities for accomplishing tasks, prioritizing efforts, and monitoring progress. Additionally, the ASA(FM&C) should ensure that LMP is fully compliant with Statement of Federal Financial Accounting Standards No. 3 and make needed system and business process changes before making an unreserved assertion that the AWCF inventory line item is presented fairly in accordance with U.S. generally accepted accounting principles.

Material Misstatements Cause AWCF Effectiveness of Operations From Being Measured Properly

As a result of the lack of adequate controls over the recording of AWCF inventory valuation, the Army materially misstated its inventory on the FY 2015 AWCF Financial Statements and is at increased risk of not meeting the FY 2017 audit readiness milestone. For example, zero-value inventory items and the inability to properly account for inventory movements through use of valuation and movement type codes greatly affected inventory valuation and substantially overstated value of the AWCF inventory values for one item by \$375.9 million. For years, the Army has been working on the existence and completeness of its mission-critical assets, including inventory. The target date for asserting audit readiness on existence and completeness of Army mission-critical assets is June 30, 2016. More recently, DoD has focused efforts on inventory valuation and needs to substantially complete those efforts to meet the FY 2017 audit readiness milestone.

⁴⁷ Opening balances are account balances that exist at the beginning of the reporting period. Opening balances are based upon the closing balance of the prior period and reflect the effect of transactions and events of prior periods and accounting policies applied in the prior period. Opening balances also include matters requiring disclosure that existed at the beginning of the period, such as contingencies and commitments.

The Army was also unable to properly record the net cost of operations on the AWCF Statement of Net Cost due to improper inventory movements, which create inventory miscellaneous gain and loss transactions and misstate the AWCF cost of goods sold. The goal of a revolving fund,⁴⁸ such as the AWCF, is to break even with its revenues and costs. The Statement of Net Cost was designed to provide an entity's net cost of operations for a reporting period, and if compiled correctly, it would provide the break-even analysis used to evaluate its effectiveness. We determined that 47 percent (\$9.6 billion) of the \$20.4 billion Total Revenue and 59 percent (\$12.9 billion) of the \$21.8 billion Total Costs were associated with miscellaneous gain or loss accounts, which were primarily due to the inappropriate use of inventory movements within LMP. This demonstrates the impact that incorrect inventory transactions have on the financial statements.

Additionally, the Army's inaccurate MAC valuations impaired the ability to measure AWCF operational effectiveness. Inaccurate MAC values have resulted in the AWCF Industrial Operations activity group switching to standard pricing as the basis for billing their customers. Industrial Operations previously used MAC as the basis for customer billings. However, wide variations in MAC values overwhelmed the limited resources at the LCMCs monitoring MAC valuations and resulted in crediting and re-billing customers. Consequently, in May 2015, AMC directed Industrial Operations and LMP PO to start billing customers at standard price, a value based on the latest purchase cost of the inventory item.

The switch to standard price provided a consistent but overstated value used to bill the customers. It also resulted in the Defense Finance and Accounting Service recording a journal voucher for the fourth quarter FY 2015, in the amount of \$288.1 million, to reduce the cost of goods sold account and increase a miscellaneous gain account. For the LCMCs, this switch in methodology for billing Industrial Operations customers resulted in the reassignment of LCMC personnel who previously researched and corrected problems with MAC values. AMCOM and TACOM personnel stated that since the switch from MAC to standard price, they did not review the MAC values or concern themselves with inventory valuation. As long as inventory valuation is a low priority within the AWCF inventory community, progress in addressing inventory valuation problems within AMC and its LCMCs will continue to place AWCF audit readiness at increased risk.

As long as inventory valuation is a low priority within the AWCF inventory community, progress in addressing inventory valuation problems within AMC and its LCMCs will continue to place AWCF audit readiness at increased risk.

⁴⁸ DoD Financial Management Regulation 7000.14-R, volume 4, chapter 3, defines revolving fund as a fund generally designed to be free of the appropriation cycle, giving management the financial authority and flexibility to adjust operations. The fund operates under a buyer/seller or provider/customer relationship.

Recommendations

Recommendation 1

We recommend that the Commander, U.S. Army Materiel Command:

- a. **Establish policies and procedures focused on computing inventory valuation at moving average cost, including monitoring moving average cost values for National Item Identification Numbers at plants and making supported corrections of moving average cost values.**
- b. **Review and correct moving average cost valuation for all Inventory, Available and Purchased for Resale.**
- c. **Implement procedures to properly maintain historical cost when transferring inventory between plants, and properly capture and record all appropriate purchase, transportation, and production costs to bring the inventory items to their current condition and location.**
- d. **Expedite the development and implementation of procedures limiting the use of “Receipt Without Purchase Order” and the reversing “Reverse Receipt Without Purchase Order” inventory movement type transactions and develop a comprehensive goods receipt and acceptance process involving the Logistics Modernization Program system to ensure that historical cost information is not lost for proper valuation of inventory.**
- e. **Implement continuous training for Army logistics and inventory management personnel involved with inventory movements that affect inventory valuation at moving average cost in the Logistics Modernization Program system. The training should cover how to properly record inventory receipt, acceptance, transfer, and sale transactions within the system to ensure that the historical costs of the inventory are properly captured for inventory valuation.**
- f. **Develop procedures that post reconciling transactions to the same general ledger accounts as the original transactions.**
- g. **Restrict access to the transaction codes related to the end-of-day reconciliation process to only those with authority and training.**
- h. **Direct the Logistics Modernization Program Product Office to implement standard tolerance levels and other validation controls for processing inventory transactions.**

- i. **Establish Non-Army Managed Items unit-of-measure elements properly in the Logistics Modernization Program system. Review the Logistics Modernization Program system Material Master data to identify all items with incorrect unit-of-measure elements and develop a strategy to correct them.**
- j. **Implement controls, including management oversight to review and approve all Material Master file data changes prior to implementing them within the Logistics Modernization Program system, and issue guidance on how personnel should properly establish and maintain unit-of-measure elements in the Logistics Modernization Program system.**

Management Comments Required

The Commander, U.S. Army Materiel Command, did not respond to our request for comments on the recommendations in the draft of this report. We request that the Commander provide comments on the final report.

Recommendation 2

We recommend the Assistant Secretary of the Army (Financial Management and Comptroller), in collaboration with Commander, U.S. Army Materiel Command, develop a comprehensive strategic plan to overcome material deficiencies with the Army Working Capital Fund's inventory, including moving average cost value accuracy. As part of the plan, coordinate and integrate the efforts already in place to address known problems with valuing inventory at moving average cost, ensuring that the Logistics Modernization Plan system is fully compliant with Statement of Federal Financial Accounting Standards No. 3, and make needed system and business process changes before making an unreserved assertion that the Army Working Capital Fund inventory line item is presented fairly in accordance with U.S. generally accepted accounting principles.

Management Comments Required

The Assistant Secretary of the Army (Financial Management and Comptroller), in collaboration with Commander, U.S. Army Materiel Command, did not respond to our request for comments on the recommendation in the draft of this report. We request that the Assistant Secretary of the Army (Financial Management and Comptroller), in collaboration with Commander, U.S. Army Materiel Command, provide comments on the final report.

Appendix A

Scope and Methodology

We conducted this performance audit from May 2015 through May 2016 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

We reviewed applicable guidance to gain a better understanding of how the LMP system should have recorded AWCF inventory valuation at MAC in the general ledger accounts and accountability records, including:

- Statement of Federal Financial Accounting Standards No. 3, “Accounting for Inventory and Related Property,” October 27, 1993
- Statement of Federal Financial Accounting Standards No. 7, “Accounting for Revenue and Other Financing Sources and Concepts for Reconciling Budgetary and Financial Accounting,” May 10, 1996
- Statement of Federal Financial Accounting Standards No. 48, “Opening Balances for Inventory, Operating Materials and Supplies, and Stockpile Materials,” January 27, 2016
- Statement of Federal Financial Accounting Concepts No. 5, “Definitions of Elements and Basic Recognition Criteria for Accrual-Basis Financial Statements,” December 26, 2007
- DoD Financial Management Regulation 7000.14-R, volume 4, “Accounting Policy,” chapter 4, “Inventory and Related Property,” May 2009

We selected a non-statistical sample of 18 plants from a possible 557 plants. We then selected a non-statistical sample of 128 inventory items (38 different NIINs) from 18 plants, valued at \$303.6 million, from a universe of 41,724 inventory items, valued at \$5.4 billion, as of June 30, 2015. During a site visit to the LMP PO, we obtained and reviewed detailed system records for each NIIN, as of July 26, 2015, supporting the non-statistical sampled items.⁴⁹ This review provided us with a basis for analyzing how AWCF inventory valuations were calculated within the system. We received detailed briefings from the LMP PO to understand how they implemented MAC. LMP PO and ASA(FM&C) personnel provided the audit team with a detailed walkthrough of system data and provided a narrative

⁴⁹ Due to differences of when that supporting data was pulled, the June 30, 2015, NIIN information from which the sample was drawn did not match the data from July 22 through July 26, 2015. This was due to other transactions posting against the NIINs during the 26 days between data pulls.

description and screen prints of transactions that impact MAC within the LMP system. In addition, we obtained business process flow charts, documentation, and system change requests related to managing MAC in LMP. We also conducted site visits to AMC and AMCOM, located in Huntsville, Alabama; TACOM, located in Warren, Michigan; a DLA activity in Corpus Christi, Texas; and LMP PO, located in Marlton, New Jersey. We reviewed Standard Operating Procedures from Army LCMCs covering MAC calculation and valuation. We also held discussions with key managers and obtained documents related to AWCF inventory management, including shipping, property issuance and acceptance, materiel transaction coding, property administration reports, material return, and settlement agreements.

Use of Computer-Processed Data

We used computer-processed data extracted from LMP. LMP PO personnel provided us information from the LMP MAC tables in excel spreadsheets. We had LMP PO and Army representatives demonstrate MAC processes within LMP for selected NIINs by performing screen-by-screen reviews of system data and creating narratives describing how LMP processed MAC data. In addition, on a limited basis, we reviewed hard-copy information supporting data in LMP. The data reliability matters we identified are discussed in the finding.

Use of Technical Assistance

We did not use technical assistance during the audit.

Appendix B

Prior Coverage

During the last 5 years, the Government Accountability Office (GAO), the Department of Defense Inspector General (DoD IG), and the Army Audit Agency issued eight reports discussing LMP and inventory valuation. Unrestricted GAO reports can be accessed at <http://www.gao.gov>. Unrestricted DoD IG reports can be accessed at <http://www.dodig.mil/pubs/index.cfm>. Unrestricted Army Audit Agency reports can be accessed from .mil and gao.gov domains at <https://www.aaa.army.mil/>.

GAO

Report No. GAO-15-350, “Service Generally Have Reduced Excess Inventory, but Additional Actions Are Needed,” April 20, 2015

Report No. GAO-12-177T, “DoD Financial Management: Challenges in the Implementation of Business Systems Could Impact Audit Readiness Efforts,” October 27, 2011

Report No. GAO-11-851, “Improvement Needed in DoD Components’ Implementation of Audit Readiness Effort,” September 13, 2011

DoD IG

Report No. DODIG-2016-013, “Independent Auditor’s Report on the Army Working Capital Fund FY 2015 and FY 2014 Basic Financial Statements,” November 16, 2015

Report No. DODIG-2015-128, “Army Needs to Improve Processes Over Government-Furnished Material Inventory Actions,” May 21, 2015

Report No. DODIG-2015-050, “Improvement Needed for Inventory Management Practices on the T700 Technical Engineering, and Logistical Services and Supplies Contract,” December 10, 2014

Report No. DODIG-2012-087, “Logistics Modernization Program Procure-to-Pay Process Did Not Correct Material Weaknesses,” May 29, 2012

Army Audit Agency

Report No. A-2012-0058-FMF, “Agreed-Upon Procedures Attestation Validating Communications-Electronics Command Inventory Values,” January 20, 2012

Glossary

Alternate Unit of Measure. A measurement unit in which a material may be bought, sold, or issued. The alternate unit-of-measure element is not required when creating a record on the LMP Material Master file. However, if used, it must be different than the Base Unit of Measure. A material may have more than one alternate unit of measure.

Base Unit of Measure. A measurement unit representing the least or smallest unit in which a material may be bought, stored, or issued. The base unit-of-measure element is required when creating a record on the LMP Material Master file and serves as the referencing unit for all quantities on the LMP Material Master file.

Latest Acquisition Cost. The LAC is a method for valuing inventory. It provides that the last invoice price must be applied to all like units held, including those units acquired through donation or non-monetary exchange. An allowance account for unrealized holding gains and losses must be established to capture revaluation gains and losses when using LAC. The ending balance of this allowance must be the cumulative difference between the historical cost and the LAC of ending inventory.

Limitation. The limitation identifies a subdivision of funds that restricts the amount or use of funds for a certain purpose or identifies sub-elements within the account for management purposes.

Material Master Record. The material master record functions as the cornerstone of all work performed within LMP. All information about a material is integrated into a single record.

Movement Type. Movement type is a three-digit alpha-numeric code that indicates inventory movement transactions within LMP. Inventory movement transactions include receipt, transfer, and sale of inventory. There is also a large number of reversing transactions to offset previous transactions.

Moving Average Cost. The MAC is a cost flow assumption used to arrive at the historical cost of ending inventory and cost of goods sold. It is determined each time costs are incurred for a purchase or a reparable item is repaired or remanufactured by dividing the cost of total units available at the time (inventory plus current purchase or remanufacturing costs) by the number of total units available at that time.

National Item Identification Number. The NIIN is the last nine digits of the national stock number that differentiates each individual supply item from all other supply items. The first two digits signify the National Codification Bureau that assigns the NIIN, while the last seven digits are not significant and are sequentially assigned by the Federal Logistics Information System. All U.S. manufactured items have a National Codification Bureau Code of “00” (cataloged before 1975) or “01” (cataloged in 1975 or later).

Non-Army Managed Items. NAMI are Army-owned assets managed by other Source of Supply organizations, such as the DLA and the General Services Administration.

Order Unit. Specifies, in terms of quantity, the unit of measure in which the goods or service is to be ordered.

Plant. A plant is the physical storage location of an inventory asset. The plant is also where valuation is assigned within LMP.

Plant Code. LMP uses a four-digit number for plant identification.

Price Unit. Specifies, in terms of dollars, the unit of measure in which the goods or services are to be ordered.

Single Stock Fund. Single Stock Fund sites store and sell Army installation level Inventory, Available and Purchased for Resale, that is managed by Army Sustainment Command.

Standard Price. The price customers are charged, which for a DoD Inventory Control Point managed item (excluding subsistence), remains constant throughout a fiscal year, except for the correction of significant errors. The standard price is calculated based on various factors, including the replenishment cost of the item plus surcharges to recover costs for transportation; inventory loss, obsolescence, and maintenance; depreciation; and supply operations. The formula for determining standard price is latest acquisition cost plus overhead cost recovery.

Tolerance Level. A tolerance level is a parameter that is set up as a means to accept or reject data based on established criteria to identify an erroneous or improper transaction.

Valuation Type. Valuation type is a condition in which inventory is in as defined by the accounting entity. For example, “SERV” is an AWCF valuation type that represents inventory ready for resale, and “NOVAL” represents non-AWCF-owned inventory.

War Reserve Material. War reserve material is necessary to equip and support the increase in military requirements, and forecasts are contingent on an outbreak of war.

Acronyms and Abbreviations

AMC	Army Materiel Command
AMCOM	Aviation and Missile Command
ASA(FM&C)	Assistant Secretary of the Army (Financial Management and Comptroller)
AWCF	Army Working Capital Fund
CCSS	Commodity Command Supply System
CECOM	U.S. Communication and Electronics Command
DLA	Defense Logistics Agency
JM&L	Joint Munitions and Lethality
LAC	Latest Acquisition Cost
LCMC	Life-Cycle Management Command
LMP	Logistics Modernization Program
LMP PO	Logistics Modernization Program Product Office
MAC	Moving Average Cost
NAMI	Non-Army Managed Items
NIIN	National Item Identification Number
SBCCOM	U.S. Army Soldier and Biological Chemical Command
TACOM	U.S. Tank-Automotive and Armaments Command
USSGL	U.S. Standard General Ledger



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