



Report to the Chairman,
Committee on Homeland Security
and Governmental Affairs,
U.S. Senate

March 2014

DEFENSE LOGISTICS

Actions Needed to Improve Department-Wide Management of Conventional Ammunition Inventory

GAO Highlights

Highlights of [GAO-14-182](#), a report to the Chairman, Committee on Homeland Security and Governmental Affairs, U.S. Senate

Why GAO Did This Study

DOD manages nearly \$70 billion of conventional ammunition—which includes many types of items other than nuclear and special weapons—at eight Army depots. The military services use automated information systems to manage their inventory. They also compile annual reports that compare ammunition inventory levels against stated requirements. GAO was asked to evaluate DOD's management of conventional ammunition. This report addresses the extent to which (1) the services' information systems facilitate efficient management of the conventional ammunition inventory and (2) the services collect and share inventory data to help them meet their stated requirements. GAO reviewed DOD guidance on materiel management and logistics systems, reviewed the services' annual inventory reports for fiscal years 2009 to 2013, and discussed inventory management and related issues with service officials.

What GAO Recommends

GAO is making seven recommendations to improve the efficiency of the services' systems for managing DOD's conventional ammunition inventory and to improve data sharing among the services, including implementing data exchange standards, developing a plan for improving the accuracy and timeliness of ammunition data in the Army's LMP, enhancing DOD's ability to provide total asset visibility over conventional ammunition, and incorporating additional items as part of the services' current stratification and redistribution process. DOD concurred with all of these recommendations.

View [GAO-14-182](#). For more information, contact Zina D. Merritt at (202) 512-5257 or merrittz@gao.gov.

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Actions Needed to Improve Department-Wide Management of Conventional Ammunition Inventory

What GAO Found

The military services use automated information systems to manage and maintain accountability for the Department of Defense (DOD) ammunition inventory, but the systems have some limitations that affect their ability to facilitate efficient management of conventional ammunition.

- The systems cannot directly exchange ammunition data because they use different data exchange formats. Only the Army's Logistics Modernization Program (LMP) system uses the standard DOD format. The other services have not adopted this format, although Air Force officials have said that they plan to by 2017. Without a common format for data exchange, the services will continue to devote extra time and resources to ensure efficient data exchange between their systems and LMP.
- LMP has some limitations in its ammunition-related functionality that can affect the accuracy and completeness of data for items stored at Army depots and require extra time and resources to confirm data or correct errors. The Army acknowledges there are limitations in LMP; however, it has not yet developed a comprehensive plan, with time frames and costs, for addressing the limitations. Such a plan could provide DOD reasonable assurance that its efforts to upgrade ammunition-related functionality in LMP are making progress.
- The Army developed the National Level Ammunition Capability (NLAC) as a DOD-wide repository of ammunition data, but NLAC has some limitations in providing ammunition visibility—that is, having complete and accurate information on items wherever they are in the supply system. The Army does not have reasonable assurance that NLAC collects complete and accurate data from service systems because it does not have checks and controls that federal internal control standards recommend to ensure source data is reliable. Without steps to ensure the quality of the data that flows into NLAC, DOD officials risk making decisions based on inaccurate and incomplete inventory information, or ammunition offices may have to devote extra staff and time to obtain accurate data of DOD-wide inventory.

To identify inventory owned by one service that may be available to meet the requirements of another service, the military services have a process for collecting and sharing ammunition data. Through a stratification and redistribution process, the services assess whether inventory can meet stated requirements and then may transfer available inventory, including inventory in excess of one service's requirement, to another service. This redistribution offsets procurements of ammunition items. To facilitate this process, each service develops and shares ammunition inventory data in annual reports. The Army's annual report, however, does not include information on certain missiles. Also, the Army's report does not include information on all available, usable ammunition that in a prior year was unclaimed by another service and placed in storage for disposal; DOD guidance does not require that such inventory be included in the reports. Without incorporating these items in the Army's report, DOD may lack full transparency about all available items and may miss opportunities to avoid procurement costs for certain usable items that may already be available in the Army's stockpile.

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Abbreviations

AMC	Army Materiel Command
CAS	Combat Ammunition System
DLA	Defense Logistics Agency
DLMS	Defense Logistics Management Standards
DOD	Department of Defense
DRRS	Defense Readiness Reporting System
GCCS-J	Global Command and Control System–Joint
GCSS-J	Global Combat Support System–Joint
JOCG	Joint Ordnance Commanders’ Group
JOPES	Joint Operation Planning and Execution System
LMP	Logistics Modernization Program
MILS	Military Standard Systems
NLAC	National Level Ammunition Capability
OIS	Ordnance Information System
OIS-MC	Ordnance Information System–Marine Corps
PEO	Program Executive Office
SMCA	Single Manager for Conventional Ammunition
WARS-NT	Worldwide Ammunition Reporting System– New Technology

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March 31, 2014

The Honorable Thomas R. Carper
Chairman
Committee on Homeland Security and Governmental Affairs
United States Senate

Dear Mr. Chairman:

The Department of Defense (DOD) manages a stockpile of conventional ammunition valued at nearly \$70 billion. Conventional ammunition includes items ranging from small arms cartridges to rockets, mortars, and artillery to tactical missiles.¹ DOD policy calls for the highest possible degree of efficiency and effectiveness in ammunition acquisition and logistics,² and managing this inventory involves extensive coordination among the Army, Navy, Marine Corps, and Air Force. For example, many ammunition items entering DOD's supply system are delivered to eight Army-managed ammunition depots and are stored there until the items are requisitioned and transferred to an Army or another service's unit, supply point, or other location. The depots have about 30.5 million square feet of storage space and, as of August 2013, housed about 1.7 million tons of conventional ammunition belonging to all of the military services.

The military services have several automated information systems for managing the conventional ammunition inventory. The services each have their own systems that provide accountability over items and that maintain various item-specific data such as location, condition, and quantity. To promote efficient transfers of data among the systems, DOD has directed that logistics systems migrate toward a standard data exchange format. For example, the service systems routinely exchange

¹DOD defines conventional ammunition as an end item, complete round, or materiel component charged with explosives, propellants, pyrotechnics, or initiating composition for use in connection with defense or offense (including demolitions), as well as ammunition used for training, ceremonial, or nonoperational purposes. This includes inert devices that replicate live ammunition, commonly referred to as dummy ammunition, which contain no explosive materials. Department of Defense, *Single Manager for Conventional Ammunition (SMCA)*, Directive 5160.65 (Washington, D.C.: Aug. 1, 2008). Conventional ammunition does not include nuclear and special weapons.

²See *id.*, para. 4.

data with the Army's Logistics Modernization Program (LMP), an information system that is used to manage operations at ammunition depots and other Army industrial activities.³ The military services rely on Army data in LMP to help them maintain accountability of items, including ammunition, they own that are stored and managed at the Army's depots. In addition to the services' systems, the Army has a data repository called the National Level Ammunition Capability (NLAC). NLAC collects ammunition data from across the department and provides these data to DOD decision-support systems, such as those used for readiness assessments and joint operational planning. NLAC is an outgrowth of prior efforts by DOD to achieve total asset visibility⁴ of conventional ammunition inventory.

As part of their ammunition inventory management, the services also are required by DOD guidance to generate "stratification" reports that show the status of the inventory at a point in time.⁵ The reports are to list, or stratify, the inventory by category, including item quantities that are needed to meet specific requirements, such as for training or war reserves, and the quantities being retained for possible future use or for

³The Army refers to LMP as an enterprise resource planning system, which is an automated information system using commercial off-the-shelf software and consisting of multiple, integrated functional modules that perform a variety of business-related tasks such as accounting, inventory forecasting, purchasing, management, and distribution; and scheduling work.

⁴In the *DOD Supply Chain Materiel Management Regulation*, DOD defined total asset visibility as the capability to provide timely and accurate information on the location, movement, status, and identity of units, personnel, equipment, and supplies. According to the definition, it also included the capability to act on that information to improve the overall performance of DOD logistics practices. Department of Defense, *DOD Supply Chain Materiel Management Regulation*, Regulation 4140.1-R, para. AP1.1.154 (May 23, 2003). DOD cancelled and reissued DOD Regulation 4140.1-R as a multivolume manual in February 2014; the revised manual does not contain a definition of total asset visibility. For the purposes of this report, we refer to total asset visibility as access to complete and accurate information on items wherever they are in the DOD supply system.

⁵See *id.*, para. C9.3. DOD cancelled and reissued DOD Regulation 4140.1-R as a revised multi-volume manual, DOD Manual 4140.01, *DOD Supply Chain Materiel Management Procedures* in February 2014, while this report was in the final stages of drafting. Although the stratification and reporting procedures contained in two volumes of that manual are generally consistent with those in DOD Regulation 4140.1-R, we did not assess the changes resulting from the new issuance.

economic reasons,⁶ as well as the quantities that are not needed for these purposes. The services are to prepare these reports prior to an annual conference where service representatives may agree to transfer items that are excess to one service's needs to another service having a requirement for those same items.

You requested that GAO evaluate DOD's management of conventional ammunition. This report assesses the extent to which (1) the military services' information systems facilitate efficient management of the conventional ammunition inventory and (2) the military services collect and share inventory data to help them meet their stated requirements.

To determine the extent to which the military services' information systems facilitate efficient management of the conventional ammunition inventory, we reviewed DOD guidance on conventional ammunition, supply chain, and logistics systems management. We reviewed key documents from the Under Secretary of Defense for Acquisition, Technology, and Logistics; technical guidance from the Defense Logistics Agency Management Standards Office; and documentation of services' responses to a common set of questions related to their systems. We obtained access to NLAC, and conducted tests to compare data with the services' source data. We also interviewed officials in each of the services' ammunition system program offices, the Army's Joint Munitions Command, the Office of the Secretary of Defense, and other relevant offices.

To determine the extent to which the military services collect and share inventory data to help them meet their stated requirements, we reviewed policies, procedures, and other guidance, as well as reports responding to conventional ammunition reporting requirements for the services. These reports list items in the current inventory (as of the date of the report) and display how much meets or exceeds service requirements. We reviewed the reports (hereafter referred to as annual reports) that each service produced and shared with other services in fiscal years 2009 through 2013. We selected this period of time to observe how inventory reporting changed from year to year.⁷ We attended an annual conference where

⁶Ammunition that is retained as part of the economic retention munitions stock is inventory that is more expensive to dispose of and reacquire in the future than to retain to meet future requirements.

⁷The Marine Corps did not have a 2009 stratification report.

service participants discussed inter-service transfers of items. We interviewed officials knowledgeable about the annual ammunition report process and determined that the information included in those reports was sufficiently reliable for the purposes of our report. Appendix I provides further information on our scope and methodology.

We conducted this performance audit from December 2012 to March 2014 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 objectives.

Background

Organization for Management and Oversight of Conventional Ammunition

DOD has an extensive organizational structure for managing and overseeing conventional ammunition, with the Army having a prominent role. Since 1975, the Secretary of the Army has served as DOD's Single Manager for Conventional Ammunition (hereafter referred to as the Single Manager). Under DOD guidance, the Single Manager's mission encompasses all aspects of the life cycle of conventional ammunition, from research and development through acquisition, inventory management, and eventual disposal.⁸ The Single Manager, the military services, and U.S. Special Operations Command all have responsibilities pertaining to assigned conventional ammunition items,⁹ including logistics management, stock control, and reporting on the status of inventory. In addition, DOD organizations involved in ammunition management have developed joint policies and procedures to guide certain activities.

⁸See generally Department of Defense, *Single Manager for Conventional Ammunition (SMCA)*, Directive 5160.65 (Aug. 1, 2008). Department of Defense, *Single Manager for Conventional Ammunition (SMCA): Responsibilities of the SMCA, the Military Services, and United States Special Operations Command (USSOCOM)*, Instruction 5160.68 (Washington, D.C.: Dec. 29, 2008).

⁹The military services separately manage some types of conventional ammunition, such as guided rockets and missiles, naval mines, and torpedoes. Such items are often unique to one service.

The Secretary of the Army, in executing the Single Manager role, has delegated and designated related functions to a number of Army entities. For example, responsibility for issuing policy and providing oversight of the Single Manager mission is delegated to the Assistant Secretary of the Army for Acquisition, Logistics, and Technology. The Deputy Commanding General of Army Materiel Command serves as the Executive Director for Conventional Ammunition, responsible for monitoring and assessing the overall Single Manager mission and for overseeing the Single Manager's execution of its mission for joint service activities. Joint Munitions Command, a subordinate command of Army Materiel Command, is assigned as the field operating activity for the Single Manager, responsible for providing logistics and sustainment support, storing and managing wholesale ammunition for all of the military services, and providing information to the military services on ammunition stored at Army depots.¹⁰ In this role, the Joint Munitions Command maintains items, performs physical inventory checks, and reports on the status of assets that are stored at its eight depots across the United States. Aviation and Missile Command provides similar functions for tactical missiles that are stored at these sites.

The Under Secretary of Defense for Acquisition, Technology, and Logistics has responsibility to provide policy and guidance for the Single Manager's mission and, in collaboration with other DOD component heads, appraise the overall performance of the Single Manager in accomplishing the mission objectives outlined in guidance and facilitate improvements.¹¹ Appendix II depicts the organizational structure of these offices.

Military Services' Systems for Managing Ammunition Inventory

All of the military services have automated information systems for managing and maintaining accountability for ammunition inventory. The Air Force has developed the Combat Ammunition System, which contains comprehensive information on ammunition at all levels—depot, ammunition supply points in theaters of operations, and individual units. The Navy uses its Ordnance Information System, which is divided into

¹⁰Wholesale generally refers to the highest level of organized DOD supply, maintained for resupplying the retail levels of supply. Retail generally refers to the level of inventory below wholesale, either at the consumer level or at the intermediate level.

¹¹Department of Defense Directive 5160.65, encl., para. 1.

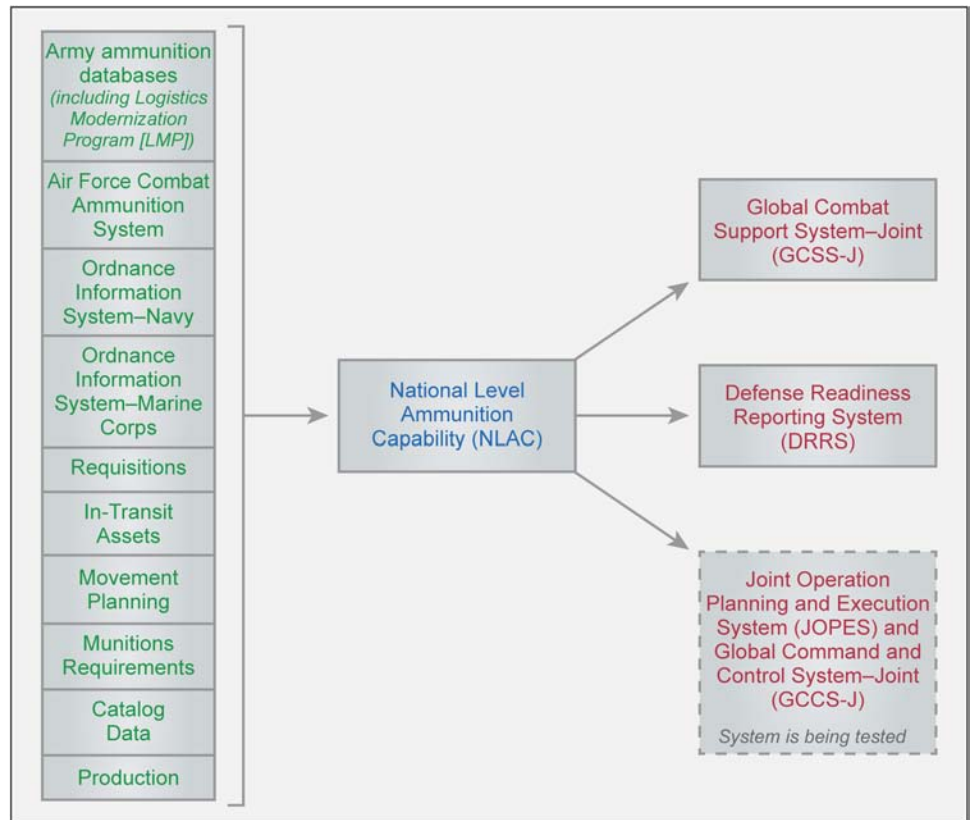
two sub-systems for wholesale and retail stocks. The Marine Corps has developed the Ordnance Information System—Marine Corps, which shares a common system architecture with the Navy’s system.

The Army has LMP as well as other systems—such as the Worldwide Ammunition Reporting System—New Technology—which contain comprehensive information about wholesale and Army retail ammunition stocks. LMP, among other functions, stores information on wholesale inventory in all classes of supply, including ammunition. LMP contains information on all ammunition inventory stored at Army depots, including inventory that the Army manages for other services. The Army completed final deployment of initial LMP capabilities, referred to as Increment 1, in 2010. In December 2011, the Army began to develop additional capabilities for LMP—referred to as LMP Increment 2. The Army plans to deploy Increment 2 in multiple stages between December 2013 and September 2016.

DOD’s Efforts toward a Single Database for Ammunition Inventory

DOD has worked for decades to achieve department-wide visibility of ammunition stocks in a single database. Drawing upon lessons learned from the Gulf War in 1990-91, it sought to develop a Joint Total Asset Visibility system to provide logistics information on all classes of supply. For ammunition, it aimed to integrate multiple service databases to provide a department-wide ammunition capability. DOD also initiated a program to develop a Joint Ammunition Management Standard System. When that program was terminated because it did not provide a single, viable department-wide source of ammunition data, the Army then agreed to support the sustainment of the ammunition portion of the joint asset visibility database, known as the National Level Ammunition Capability, or NLAC. In fiscal year 2012, NLAC’s budget was about \$2.4 million. NLAC receives data from a variety of sources, serving as a DOD-wide data repository, and in turn provides data to DOD decision support systems (see fig. 1).

Figure 1: Sources and Users of NLAC Data



Source: GAO analysis of DOD information.

Note: Service systems may also provide information directly to the DOD-wide systems.

As shown in the figure, NLAC receives data from the services' ammunition systems and other sources. It provides data to two DOD decision support systems—the Defense Readiness Reporting System and the Global Combat Support System-Joint, both of which are used by operational planners.¹² Testing is underway with interfaces between

¹²DRRS measures and reports on the readiness of military forces and their supporting infrastructure. GCSS-J is the capstone joint logistics mission application enabling the Global Combat Support System strategy of providing unimpeded access to information regardless of source and fusing information from disparate sources into a cohesive and common operational picture.

NLAC and the Joint Operation Planning and Execution System and the Global Command and Control System-Joint.¹³ In its guidance, DOD has indicated a need for systems to provide logistics information visibility to support the joint warfighter.¹⁴

DOD's Inventory Reports and Its Annual Redistribution Process

DOD guidance directs the military services to stratify their conventional munitions inventory into several categories and prepare annual ammunition reports.¹⁵ The stratification separates the inventory into several categories to assess the ability of the inventory to meet stated requirements, ensure that inventories above requirements are kept only if warranted, and optimize the department's ammunition inventory. The categories are

- requirement-related munitions stock, including items needed for war reserve, training, and testing;¹⁶

¹³JOPES provides data for the time-phased, force-deployment data system that guides movements of troops, supplies, and equipment in support of regional and functional operations plans. GCCS-J combines selected command and control capabilities into a comprehensive, interoperable system by exchanging imagery, intelligence, status of forces, and planning information.

¹⁴Department of Defense, Chairman of the Joint Chiefs of Staff, *Global Combat Support Family of Systems Requirements Management and Governance Structure*, Instruction 6723.01B (July 31, 2009; current as of Sept. 18, 2013).

¹⁵See *Department of Defense Regulation 4140.1-R*, para C9.3 (May 23, 2003). As noted above, DOD cancelled and reissued DOD Regulation 4140.1-R as a multivolume DOD Manual in February 2014, while this report was in the final stages of drafting. See Department of Defense, *DOD Supply Chain Materiel Management Procedures*, Manual 4140.01 (Feb. 10, 2014). Although the stratification and reporting procedures contained in two volumes of that Manual are generally consistent with those in DOD Regulation 4140.1-R, we did not assess the changes resulting from the new issuance in detail.

¹⁶The requirement-related munitions stock also accounts for procurement lead time and other military service inventory management considerations.

-
- contingency retention munitions stock, which includes items that support requirements other than those already considered in the war reserve requirement and the training and testing requirements;¹⁷
 - economic retention munitions stock, a category that refers to inventory that is more expensive to dispose of and reacquire in the future than to retain to meet future requirements; and
 - potential reutilization and disposal stocks, meaning inventory that exceeds the total of the other categories.

In fiscal year 2013, the Army listed about 3.8 billion ammunition items on its annual report; the Marine Corps listed about 1.5 billion, and the Air Force listed about 730 million.¹⁸ The services prepare their annual stratification reports prior to an annual conference called the Quad Services Cross-Leveling Review. The purpose of the conference is to identify ammunition that is excess to one service's needs (i.e., stock identified for potential reutilization or disposal) and can be transferred to another service that has identified a requirement for that same item.¹⁹ The Defense Security Cooperation Agency screens any inventory that is not redistributed at this annual meeting for suitability for foreign military sales. According to a 2010 Army Audit Agency report, the Army had significantly underestimated the funding requirements needed to perform its conventional ammunition demilitarization mission and, as a result, the

¹⁷The contingency retention munitions stock is the inventory quantity above the requirement-related munitions stock, retained to support requirements other than those included in that stock. It includes assets set aside in special war reserve stock for allies, unpredictable homeland defense or counternarcotics missions, unpredictable weapon system tests, demonstrations, or assets being retained until suitable replacement weapon systems arrive. See Department of Defense, Regulation 4140.1-R, para. C.9.3.2.1.1.3 (May 23, 2003).

¹⁸Specific information pertaining to the active Navy inventory is classified and is not included in this GAO report. Information on ammunition items that were available for redistribution is not classified.

¹⁹Ammunition in retention categories may be available for redistribution as well. DOD guidance directs the services to consider all stock in the economic retention munitions stock, contingency retention munitions stock, and potential reutilization and disposal stock categories as potentially available for redistribution if other services have shortages in their requirement-related munitions stock. The owning military service shall decide on the final availability of items in the retention categories after assessing the acceptability of risk associated with drawdown of the stockpile. See Department of Defense Regulation 4140.1-R, para. C9.3.3.2.2 (May 23, 2003).

stockpile has grown to over 557,000 tons, representing a \$1 billion liability.²⁰

GAO's Prior Work on Ammunition Inventory

GAO last reported on DOD's conventional ammunition management in 1999.²¹ At that time, we found that management of the Army's conventional ammunition program continued to be fragmented despite internal recognition of the problem and efforts to identify alternative solutions. We recommended that the Secretary of Defense direct the Secretary of the Army to establish a timeframe for implementing an Army-wide reorganization to integrate the management of conventional ammunition. DOD concurred, commenting that although the Army was working to resolve the inefficiencies we noted and to make the necessary organizational changes, the conventional ammunition program continued to be fragmented. DOD agreed that the three commands then dealing with various aspects of conventional ammunition needed to implement an Army-wide organizational restructuring to integrate the management of conventional ammunition. DOD subsequently took actions to implement GAO's recommendation.

²⁰U.S. Army Audit Agency, *Funding Requirements for the Conventional Ammunition Demilitarization Program*, Audit Report No. A-2010-0134-FFE (Alexandria, Va. July 16, 2010).

²¹GAO, *Defense Management: Army Could Achieve Efficiencies by Consolidating Ammunition Management*, [GAO/NSIAD-99-230](#) (Washington, D.C.: Sept. 30, 1999).

Military Services' Systems Have Some Limitations That Affect Their Ability to Facilitate Efficient Management of Conventional Ammunition

Military Services' Ammunition Information Systems Use Different Formats and Cannot Directly Exchange Data

The military services' ammunition systems cannot directly exchange data because they use different data exchange formats. Only the Army's LMP system uses the standard DOD format; the Navy, Marine Corps, and Air Force systems operate with formats that are obsolete and not compatible with the format used by LMP.

In December 2003, the Under Secretary of Defense for Acquisition, Technology, and Logistics issued a memo to the military services and other components establishing policy for migration of logistics systems to the Defense Logistics Management Standards (DLMS)²² and elimination of the use of the Military Standard Systems (MILS).²³ MILS is based on standards and computer technology developed more than 50 years ago. According to DOD, MILS is functionally constraining, technologically obsolete, and unable to support the tracking of an item throughout its life cycle and across the entire supply chain using unique identifier codes.²⁴

²²DLMS is a broad base of business rules including uniform policies, procedures, time standards, transactions, and data management designed to meet DOD's requirements for total logistics support. DLMS is founded upon American National Standards Institute Accredited Standards Committee X12 electronic data interchange standards.

²³The MILS/Defense Logistics Standard Systems was established in 1962 and incorporated the computer technologies available at the time to provide procedures for communicating requirements, moving material, and performing other tasks associated with DOD's logistics system.

²⁴Department of Defense, Under Secretary of Defense for Acquisition, Technology, and Logistics, "Migration to the Defense Logistics Management Standards (DLMS) and Elimination of the Military Standard Systems (MILS)," memorandum (Washington, D.C.: Dec. 22, 2003).

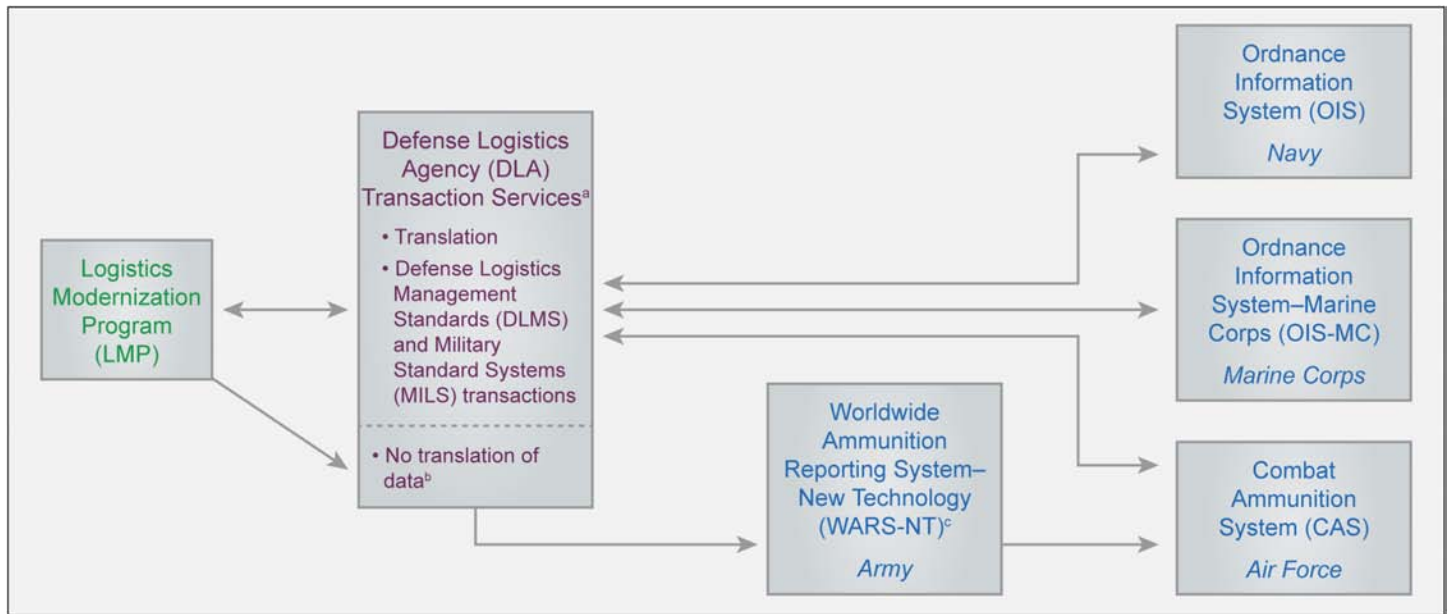
The Under Secretary of Defense for Acquisition, Technology, and Logistics reaffirmed this direction in 2013, calling for compliance by 2019.²⁵ In addition, DOD guidance indicates that DLMS, rather than MILS, shall be the basis for new, replacement, and major modifications to logistics business processes or systems.²⁶

LMP uses DLMS for data exchange; however, the other services' ammunition systems continue to exchange data using MILS. Consequently, LMP cannot exchange data directly with the other services' ammunition systems. Rather, data must pass through a translation process at Defense Logistics Agency (DLA) Transaction Services. DLA's process translates data from one format to another format, enabling otherwise incompatible systems to exchange data. With respect to the services' ammunition systems, the translation process occurs for the exchange of ammunition data between LMP and Navy's and the Marine Corps' ammunition systems; however, according to Air Force Combat Ammunition System officials, the translation of data between LMP and the Air Force's system is not complete. Air Force Combat Ammunition System officials we interviewed stated that the ammunition data the Air Force system receives from LMP that DLA Transaction Services translates does not include lot and serial number information. Figure 2 provides a high-level overview of how data flow between service ammunition systems using the translation process.

²⁵Under Secretary of Defense for Acquisition, Technology, and Logistics, *Acquisition & Logistics Functional Business Strategy* (Washington, D.C.: February 2013).

²⁶Department of Defense, Regulation 4140.1-R, para. C8.6.1.1.6 (May 23, 2003). As previously noted, DOD cancelled and reissued DOD Regulation 4140.1-R in February 2014 as DOD Manual 4140.01. Because the revised guidance was issued while this report was in the final drafting stages, we did not assess the changes in detail. However, the reissued guidance carries forward the requirement to employ DLMS as the basis for new, replacement, and major modifications to logistics business processes and systems. See DOD Manual 4140.01, Volume 8, *DOD Supply Chain Materiel Management Procedures: Materiel Data Management and Exchange*, encl. 3, para. 2.b(5)(c) (Feb. 10, 2014).

Figure 2: Data Transmission from LMP to Service Ammunition Systems



Source: GAO analysis of DOD information.

Notes: The figure represents data transmission from LMP to the services' ammunition systems; it does not represent all data transmissions, such as direct transmissions that occur between the Navy and Marine Corps ammunition systems.

^aDLA Transaction Services is the central point for all DLMS transactions. All DLMS transactions are routed to DLA Transaction Services, which provides several services and support, including translation and conversion services to enable interoperability between DLMS and MILS systems.

^bLMP sends data to Worldwide Ammunition Reporting System-New Technology (WARS-NT) through DLA Transaction Services, which performs no changes to the data, but routes it to WARS-NT for processing.

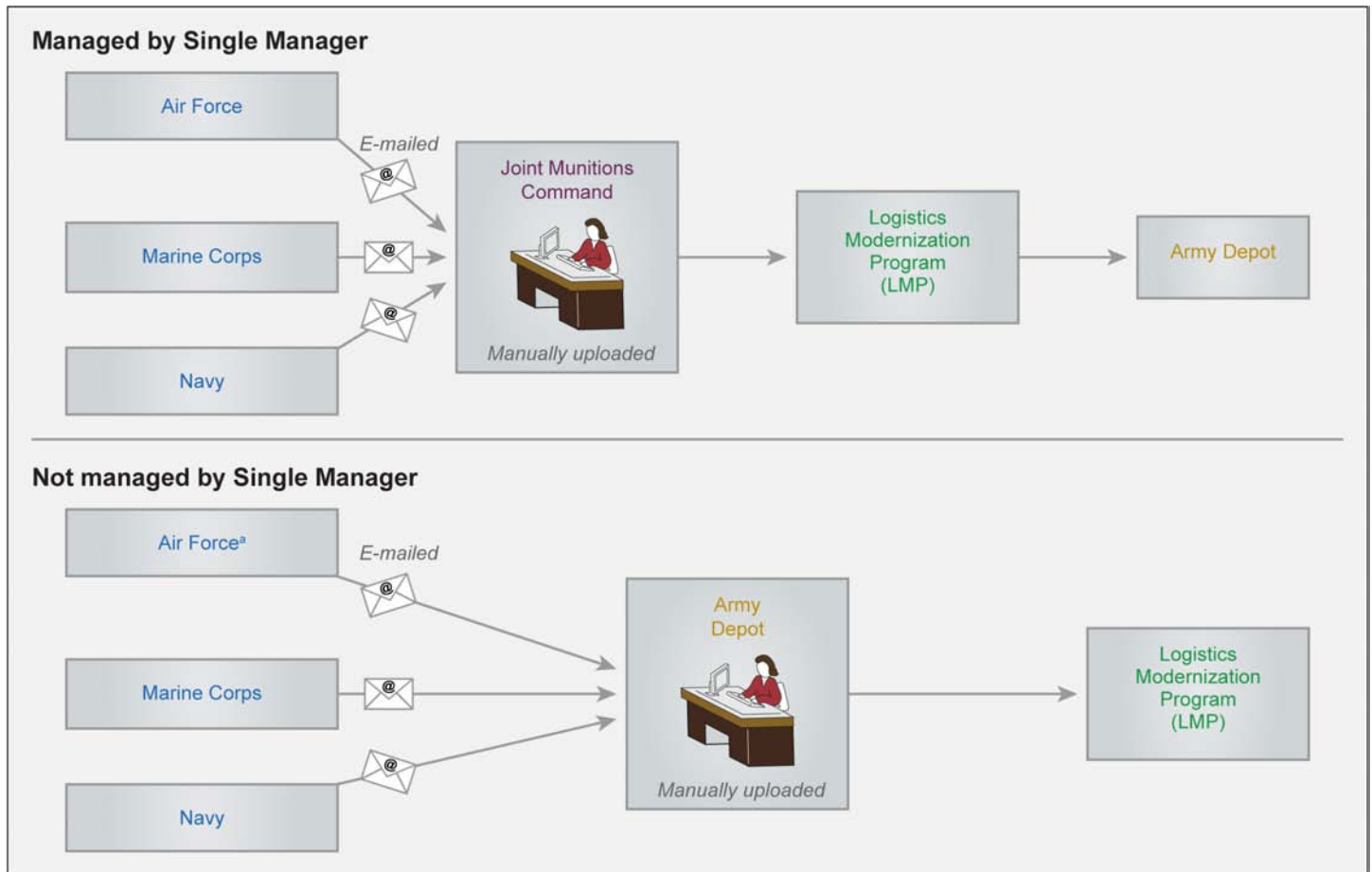
^cAir Force's CAS receives information on inventory balances from WARS-NT.

The DLA Logistics Management Standards Office has recommended the services and other DOD components make DLMS implementation a top priority in order to achieve efficiencies consistent with the direction from the Under Secretary of Defense for Acquisition, Technology, and Logistics. According to DLA officials, any system operating under MILS is limiting its capabilities for being able to send and receive data from more advanced systems. MILS is restrictive in that it does not allow for more detailed information to be included when conducting specific transactions. As a result of the use of different data exchange formats, the services rely on e-mail for certain business transactions related to ammunition. For example, Navy, Marine Corps, and Air Force personnel have to type e-mails to submit requisitions for certain ammunition items to an Army Joint

Munitions Command item manager for processing through LMP. These requisitions include items managed by the Single Manager that include specific instructions,²⁷ as well as items the services are transferring to a different account for reutilization. For items that are not managed by the Single Manager and include specific instructions, Navy, Marine Corps, and Air Force personnel have to type e-mails for such requisitions directly to the depots for processing. Figure 3 provides an overview of the requisition processes that the services currently use when requesting ammunition items, whether or not managed by the Single Manager, that include specific instructions.

²⁷For the purposes of this report, we use the term specific instructions when referring to what DOD calls exception data. According to a Joint Munitions Command official, specific instructions can include, for example, information about what particular lot number of ammunition should be pulled to fill the request.

Figure 3: Services' Ammunition Requisition Processes When Including Specific Instructions



Source: GAO analysis of DOD information.

Notes: The figure does not capture all the requisition processes used by the services. The figure represents processes that the services use when requesting ammunition items from the Army, whether or not managed by the Single Manager, that include specific instructions.

^aThe Air Force will also send requisitions directly through the Combat Ammunition Support (CAS) system and separately type an e-mail that includes the specific instructions to the depot for processing.

According to Air Force Global Ammunition Control Point officials, using the e-mail procedure for requisitioning ammunition increases processing time by as much as a week and lacks visibility because there is no confirmation either that the requisition was received or that it was completed. In addition, because different data exchange standards are used, an Army Joint Munitions Command official we interviewed stated

that instructions had to be issued for standardizing processes with the other services for requisitions that cannot be completed through the services' systems and LMP.

Although an Under Secretary of Defense for Acquisition, Technology, and Logistics Business Strategy calls for transition to DLMS by 2019, Marine Corps officials stated that they have no plans at present to update their ammunition system to DLMS, and Naval Supply Systems Command officials told us that the Navy's plan to update its ammunition system to DLMS has not been funded. According to Air Force officials, the Air Force plans to update its ammunition system to the DLMS standard by 2017. The services have lagged in transitioning to DLMS for different reasons, one of them being that funding for this upgrade has not been a priority. According to Naval Supply Systems Command officials we interviewed, they submitted funding requests annually from 2010 through 2013 to update the Navy's ammunition system to DLMS; these requests were denied. Marine Corps officials stated they are waiting to update the Marine Corps ammunition system until after the Navy completes its DLMS update. However, the Navy and the Marine Corps made significant changes to their respective ammunition systems in 2004 and 2008 without updating to DLMS. According to Naval Supply Systems Command officials, the Navy incorporated wholesale ammunition operations to the current system in 2004. Similarly, Marine Corps officials we interviewed stated that the Marine Corps replaced its legacy system with the current system, Ordnance Information System—Marine Corps, in October 2008. Without upgrades of the Navy, Marine Corps, and Air Force systems to DLMS, the services will continue to devote extra time and resources to ensure the efficient transfer of ammunition data between these systems and LMP.

LMP Has Some Limitations That Can Affect the Accuracy and Completeness of Data on Ammunition Items Stored at Depots

LMP was not specifically designed to track ammunition and has some limitations in its ammunition-related functionality that can affect the accuracy and completeness of data for items stored at Army depots. If ammunition-related functionality in LMP is not corrected, any data problems that exist may be replicated because LMP provides information to other services' ammunition systems. To address ongoing data quality concerns, the Army and the other services have had to use manual processes to check and, when necessary, make corrections to ammunition data.

DOD guidance on supply chain materiel management requires components to implement data administration policies and procedures

aggressively in ways that provide clear, concise, consistent, unambiguous, accurate, up-to-date, and easily accessible data DOD-wide, thereby minimizing the cost and time required to transform, translate, or research different-appearing, but otherwise identical data.²⁸ Further, guidance jointly developed by DOD components involved in ammunition management indicates that the Single Manager Field Operating Activity will provide accurate and timely information to the military services on ammunition stored at Single Manager sites,²⁹ such as the Army depots where conventional ammunition is stored.

LMP, however, has some limitations in its ammunition-related functionality that can affect the quality of data that it maintains and provides to the other services. For example, we found the following:

- LMP does not accurately calculate ammunition storage capacity at Army ammunition depots. Depot personnel need accurate information on the storage capacity that is available in buildings in order to plan for storing the ammunition that arrives at the depot. According to officials at Tooele Army Depot and Letterkenny Munitions Center, LMP overestimates the amount of space available for storage, and depot personnel must calculate storage capacity manually. Tooele officials said this process can often take up to a day and, in the end, is still only an approximation of available space. Joint Munitions Command assessments that were conducted in fiscal years 2012 or 2013 found that all the ammunition depots had problems with calculating storage capacity using LMP. The assessments we

²⁸ See Department of Defense, Regulation 4140.1-R, para.C8.6.2.1 (May 23, 2003). As previously noted, DOD cancelled and reissued DOD Regulation 4140.1-R in February 2014 as DOD Manual 4140.01. Because the revised guidance was issued while this report was in the final drafting stages, we did not assess the changes in detail. However, the revised guidance provides that DOD components are to adopt the DOD Net-Centric Data Strategy when implementing DLMS logistics data management policies, procedures, and standards. According to the guidance, these policies and procedures ensure clear, concise, consistent, unambiguous, accurate, up-to-date, and easily accessible data throughout the DOD. Further, DOD components are to manage and maintain all DLMS logistics data assets under configuration control to minimize the cost and time required to transform, translate, or research data assets that appear different but are otherwise identical, and conversely, data assets that appear to be identical or equivalent, but are in fact different. See DOD Manual 4140.01, vol. 8, encl. 3, paras. 2.f(1)(c), (d) (Feb. 10, 2014).

²⁹ See *Joint Conventional Ammunition Policies and Procedures*, Volume 5, para. J5.3.1 (January 2006) (revised June 2013).

reviewed do not quantify the extent that the depots must expend resources to calculate storage capacity manually. However, seven of the eight assessments stated that LMP's limitation in calculating ammunition storage capacity could have a negative impact on mission performance; and six of eight assessments indicated that the issue could result in unnecessary costs. Army officials at the Joint Munitions Command told us they expect to improve this functionality in 2014.

- LMP may not fully account for ammunition items that are shipped from Army depots to other locations. DOD guidance requires that the Single Manager is accountable for inventory items until the destination receives them.³⁰ However, as documented in an assessment of the ammunition process by the Army that concluded in November 2012, LMP lacks receipt confirmation for shipped ammunition items. LMP drops the item from record once the item ships from the depot, but there is no confirmation of receipt back to LMP from the receiving location. Without receipts for shipped items, there is a gap in accountability and visibility of ammunition items.
- LMP does not have a capability for generating certain performance information used for ammunition stockpile management. According to the fiscal year 2012 annual report by the Executive Director for Conventional Ammunition,³¹ LMP was unable to provide inventory accuracy rates, which is a key performance metric used to measure the Single Manager's ability to perform stockpile management.³² According to a briefing slide provided by Army Joint Munitions Command, inventory accuracy is the comparison between the physical inventory and the accountable record.³³ Similarly, the Marine Corps noted in its response to a fiscal year 2012 Army survey that

³⁰Specifically, Department of Defense, Instruction 5160.68, states that the Single Manager is relieved of custodial accountability on receipt by the military services / U.S. Special Operations Command—accountable officer at the first retail point or consumer level. See DODI 5160.68, encl. 2, para. 4.a(1)(a).

³¹Department of Defense, Office of the Executive Director for Conventional Ammunition, *Annual Report Single Manager for Conventional Ammunition* (2012).

³²According to the Single Manager charter, the Executive Director for Conventional Ammunition is responsible for assessing the overall mission of the Single Manager. The Executive Director's review is conducted on an annual basis and generally assesses the performance of the Single Manager for executing Acquisition Management, Production and Industrial Base Management, Stockpile Management, and Distribution Management.

³³According to an Army Program Executive Office Enterprise Information Systems briefing, LMP is the accountable record for wholesale ammunition assets.

inventory accuracy had neither been verified through physical inventory nor reconciled within LMP.³⁴ According to a Joint Munitions Command official, the Command has been sending LMP-generated inventory accuracy data to the ammunition depots for them to confirm and correct if necessary. As a result, officials expect the data will be used as the basis for the next Executive Director for Conventional Ammunition annual report on the Single Manager. Because the Executive Director for Conventional Ammunition has not released its report for fiscal year 2013, we were unable to determine whether inventory accuracy has been adequately addressed.

Officials at the other military services also have cited various concerns about the reliability of LMP data. According to responses provided by Marine Corps officials, data that the Marine Corps receive from LMP sometimes fail to differentiate information about the ammunition's intended purpose and ownership details.³⁵ In addition, Air Force officials we interviewed stated that LMP assigned a new lot number to an ammunition item that had undergone maintenance, but it still kept the old lot number on record—causing double counting. That problem, according to Air Force officials, required personnel to spend time determining which data were accurate. Further, ammunition officials with the Navy, Marine Corps, and Air Force stated that they spend time verifying the information sent from LMP to their respective systems. According to an Army planning document, there are several processes for manual review and corrections between LMP and the other services' ammunition systems.

We found in November 2010 that Increment 1 was not designed specifically to track ammunition and contained numerous issues that affected ammunition-related functionality.³⁶ In our most current review of LMP in November 2013,³⁷ we found that an interface between LMP and a

³⁴The Single Manager conducts a yearly survey of its primary military customers to help assess its performance, customer expectations, and lessons.

³⁵Ownership codes are numeric codes used to identify which military service owns the item. Purpose codes are alphabetic codes used to identify the purpose for which the item is being held.

³⁶GAO, *Defense Logistics: Additional Oversight and Reporting for the Army Logistics Modernization Program Are Needed*, [GAO-11-139](#) (Washington, D.C.: Nov. 18, 2010).

³⁷GAO, *Defense Logistics: Army Should Track Financial Benefits Realized from its Logistics Modernization Program* [GAO-14-51](#) (Washington, D.C.: Nov. 13, 2013).

system commonly referred to as SmartChain³⁸ had been developed to address specific functionality to ship, receive, inventory, and perform stock movements for ammunition items for the Army's Joint Munitions and Lethality Command. However, the Army has recognized other limitations associated with ammunition-related data in LMP that also affect the other services' ammunition systems.

Although the Army had planned several upgrades to LMP's ammunition-related functionality in Increment 2, the Army has decided not to include a number of these upgrades. Increment 2 is a major enhancement to LMP and is scheduled for deployment in phases through fiscal year 2016. Of five ammunition-related upgrades that had been planned for Increment 2, only one is now included (see table 1). LMP Product Management Office officials said that the cost and schedule for implementing Increment 2 had affected their ability to include all the planned ammunition-related upgrades.

Table 1: Status of Ammunition-Related Upgrades That Were Initially Included in LMP Increment 2

Planned upgrade	Description and goal	Status
Production Status and Other Services Reporting	Would integrate production tracking and reporting in LMP to enable real-time tracking of schedule fluctuations and reporting of production status to the customer base, which includes the other services.	No longer included
Supply Network Collaboration	Would allow the extended supply chain the ability to share data and interact with LMP through the Internet.	No longer included
Joint Munitions and Lethality Command Automatic Identification Technology (AIT)	Would enable LMP with an AIT integrated solution and eliminate the legacy system with AIT capabilities currently being used to manage several depot-level supply chain activities, such as transportation and planning and scheduling.	Included
Expanded Other Services' Capabilities	Would facilitate the corrections needed to provide accurate asset posture reporting and transaction reporting and reconciliation between LMP and services' ammunition systems and eliminate many of the manual review and corrections currently in place.	No longer included
Ammunition Budget and Pricing	Would provide additional functionality to further integrate budget and pricing planning process and perform end-to-end business functions, such as the ability to price ammunition for Foreign Military Sales.	No longer included

Source: GAO analysis of Army data.

Note: Data are from Army ammunition-related requirements for LMP Increment 2 and status updates on planned ammunition-related upgrades.

³⁸SmartChain is a software application that interfaces with LMP to provide an electronic method for performing standard depot operations such as receiving, moving, inventorying, and shipping ammunition. It tracks, automates, and integrates depot operations to manage and update inventory records.

As shown in table 1, one of the upgrades that the Army is no longer including in Increment 2 is an upgrade to improve LMP's capability to provide accurate asset posture reporting and transaction reporting and reconciliation between LMP and services' ammunition systems. The upgrade, according to the Army, would eliminate many of the manual processes currently in place. Joint Munitions Command officials said some requirements originally associated with this upgrade have been or will be addressed outside of Increment 2.³⁹ The Army, however, has not yet developed a comprehensive plan, with timeframes and costs, for addressing the limitations that exist in LMP ammunition-related functionality, including those that were to be addressed by the planned upgrades in Increment 2. Such a plan could provide DOD reasonable assurance that its efforts to upgrade ammunition-related functionality in LMP are making progress. Further, without addressing these limitations, the Army and the services will continue to rely on manual processes to check and correct LMP ammunition-related data.

NLAC Has Some Limitations in Providing Visibility of Conventional Ammunition

The Army's NLAC is a DOD-wide repository of ammunition data; however, it has some limitations in providing visibility of conventional ammunition and is not widely used outside of the Army. The Army does not have reasonable assurance that NLAC collects complete and accurate data from service ammunition systems. In addition to the challenges with LMP data discussed earlier in this report, NLAC also does not have certain checks and controls that could help ensure that data are accurately being transferred from source systems to NLAC. Another limitation to NLAC's ability to provide visibility of assets is that DOD has not determined whether NLAC should be designated as an authoritative source of ammunition data.

As noted previously, DOD guidance on supply chain materiel management requires components to implement data administration policies and procedures aggressively in ways that provide clear, concise, consistent, unambiguous, accurate, up-to-date, and easily accessible data DOD-wide, to help minimize the cost and time required to transform,

³⁹For example, according to Joint Munitions Command officials, a change was made that enables LMP to more accurately transmit serial numbers associated with ammunition items.

translate, or research different-appearing, but otherwise identical data.⁴⁰ In addition, federal internal control standards state that information systems should have effective internal controls that include application controls, which are designed to help ensure completeness, accuracy, authorization, and validity of all transactions during application processing. Our prior work has shown that controls should be installed at an application's interfaces with other systems to ensure that all inputs are received and are valid and outputs are correct and properly distributed. An example of the recommended controls is computerized edit checks built into the system to review the format, existence, and reasonableness of data.⁴¹

NLAC was designed to be a repository for all services' ammunition data by aggregating and distributing information throughout DOD. NLAC collects data at both the wholesale and retail levels, including inventory information such as quantity, location, requirements, and production. Several times a day, the repository receives updated data that are maintained in a web-based application for users across DOD—including headquarters, combatant commands, and ammunition supply points. NLAC data are available for use by service and joint component officials and, as noted earlier, feeds into the Defense Readiness and Reporting System and the Global Combat Support System-Joint.

Although NLAC contains ammunition data from across DOD, NLAC is not widely used outside the Army. Information on NLAC provided by the Army shows that most users are from within that service. For example, NLAC is used as the data source for the Army's semiannual Total Army Ammunition Authorization and Allocation Conference⁴² and the

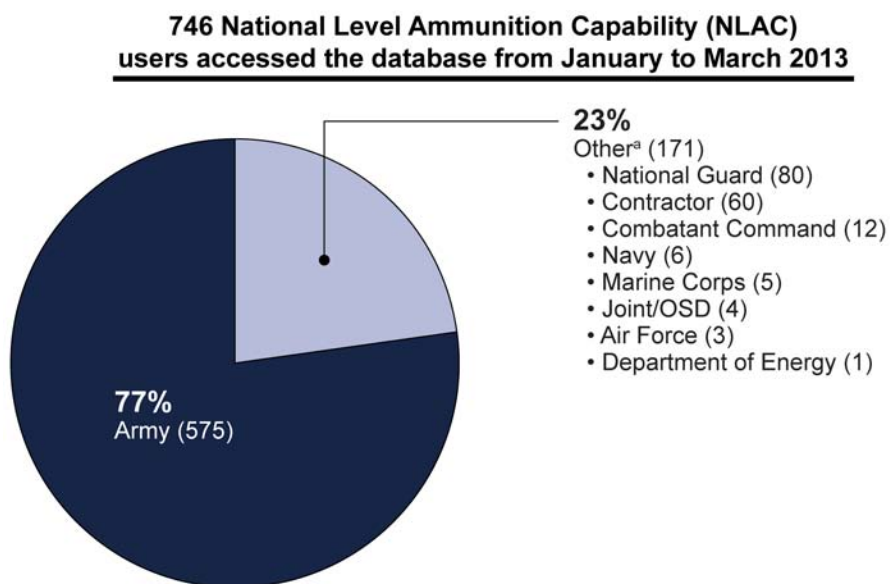
⁴⁰See Department of Defense, Regulation 4140.1-R, para C8.6.2.1 (May 23, 2003). See footnote 28 above regarding related guidance appearing in the recently issued DOD Manual 4140.01, which cancelled and reissued the guidance found in DOD Regulation 4140.1-R in February 2014.

⁴¹GAO, *Internal Control: Standards for Internal Control in the Federal Government*, GAO-AIMD-00-21.3.1, (Washington, D.C.: November 1999). See also Office of Management and Budget Circular A-123, *Management's Responsibility for Internal Control* (Dec. 21, 2004).

⁴²NLAC, rather than LMP, provides data to the Total Army Ammunition Authorization and Allocation Conference for the Army. The conference uses data about retail (unit-level) ammunition, as well as transportation and Total Army Management Information System data, to allocate ammunition for upcoming Army training needs. Since LMP only contains wholesale data, it lacks the appropriate management tools to facilitate the conference.

Centralized Ammunition and Missile Management system.⁴³ Figure 4 depicts NLAC's user base.

Figure 4: NLAC Users



Source: GAO analysis of Army data.

^aOther may contain Army users.

In our discussions about NLAC, ammunition officials who we interviewed from the Joint Staff, Marine Corps, Air Force, and Navy regarded data from other ammunition systems to be more accurate and complete than the data in NLAC. Non-Army officials who used NLAC said they confirm information with other service systems or by contacting knowledgeable officials. For example, Joint Staff and Marine Corps ammunition officials stated that, rather than relying solely on NLAC, they preferred to take the extra step of phoning or e-mailing their counterparts in the other services to obtain information on specific items.

NLAC does not have checks and controls that federal internal controls recommend to ensure that data from source systems are reliable. As a

⁴³Centralized Ammunition and Missile Management is an Army process whereby shortages are identified and requisitions to fill them are developed, sourced, and tracked.

result, errors in the originating data also will appear in NLAC. In addition to being subject to inaccuracies from source systems, NLAC may not receive complete data transmissions from source systems into NLAC. For example, NLAC is not receiving all serial numbers for serialized items, even where these exist in LMP. Joint Munitions Command officials have submitted a request to NLAC for assistance to determine why the transmission from LMP to NLAC is not taking place, but the issue has not yet been addressed and officials have not received a timetable for resolution. Also, data available in NLAC on the services' ammunition data may differ from data found in the services' accountable records because of different business processes among the military services. For example, the Air Force—unlike the Army—accounts for ammunition items that have been shipped to another location by retaining the amount to be delivered at the originating location until receipt has been confirmed at the destination. As a result, one Air Force official observed that the Air Force's Combat Ammunition System will show higher quantities of ammunition items that have amounts designated for shipment than are shown in NLAC.

NLAC program personnel have taken some steps to improve accuracy and to address errors and inconsistencies in data received from the services' systems. For example, according to program officials, they have monitored incoming data to ensure that updates occurred, such as whether the repository received the expected volume of information. Furthermore, they receive some data elements, such as the weight of the explosive component of the ammunition, directly from other sources even if these exist in LMP, because of known issues with LMP accuracy. They also conduct logic checks of incoming data; for example, they can detect and correct if a data field is supposed to contain an alphabetic character but the incoming file actually has a numeric character. However, they do not check whether the correct alphabetic characters appear. NLAC officials told us that users are their best source for detecting errors, particularly Army officials, as that service accounts for the preponderance of total users.

NLAC is also limited in its ability to provide visibility of conventional ammunition because DOD has not determined whether NLAC should be designated as an authoritative source of ammunition data. According to DOD guidance, an authoritative data source is a recognized or official source of data that could have a designated mission statement to publish

reliable and accurate data.⁴⁴ NLAC was at one time envisioned as the visibility module of the Joint Ammunition Materiel Management System, but when that program was terminated, the Army took over the effort from its joint predecessor. Although NLAC is an outgrowth of a DOD effort, DOD has not designated an authoritative data source for providing asset visibility of the conventional ammunition inventory DOD-wide. By designating NLAC as an authoritative data source, DOD might be better able to provide visibility of conventional ammunition department-wide.

Without steps to ensure the quality of the services' data that flow into NLAC, DOD officials could risk making decisions based on inaccurate and incomplete information on available inventory, or ammunition offices will have to devote extra staff and time to obtain accurate data on DOD-wide inventory. For example, military decision-makers who use the Global Combat Support System-Joint⁴⁵ may be unaware that the ammunition data in the system that came from NLAC could have errors. Also, NLAC program personnel told us that incorrect information could have logistics implications: for example, without correct weight information, shippers would not know how many trucks to order or how to best build pallets for ammunition transportation. Finally, some users may rely on data obtained from NLAC without knowing their provenance or capabilities. For example, the memorandum of agreement between the NLAC Program Management Office and the Defense Information Systems Agency Program Management Office for Global Combat Support System-Joint allows the latter to create mechanisms to share NLAC data with unanticipated but authorized third parties. In addition, we spoke to Navy officials who were unaware that NLAC provides Navy ammunition data to the Defense Readiness Reporting System.

⁴⁴An authoritative data source is a recognized or official data production source with a designated mission statement or source/product to publish reliable and accurate data for subsequent use by customers. An authoritative data source may be the functional combination of multiple, separate data sources. Department of Defense, *Unique Identification (UID) Standards for a Net-Centric Department of Defense*, Directive 8320.03, encl. 2, para. E2.2 (Mar. 23, 2007).

⁴⁵The Global Combat Support System—Joint is the capstone joint logistics mission application enabling the Global Combat Support System strategy of providing unimpeded access to information regardless of source and fusing information from disparate sources into a cohesive and common operational picture.

Services Have a Process for Collecting and Sharing Data on Conventional Ammunition, but the Army Does Not Report Information about All Available and Usable Items

The military services have a process for collecting and sharing data in annual reports on conventional ammunition levels and use these reports to identify inventory owned by one service that may be available to meet the requirements of another service. However, the Army's command that manages certain missiles has not contributed to these annual reports for the missile inventory, including any items that exceed the service's requirement-related munitions stock. Officials stated that they do not contribute to the annual report because the missile stockpile rarely has items to offer for redistribution. Also, the Army's annual report does not provide information about all available, usable ammunition items. Specifically, the Army's report does not include information from prior years about usable ammunition that was unclaimed by another service and stored for potential foreign military sales or slated for potential disposal.

Services Have a Process for Collecting and Sharing Data in Annual Reports about Inventory of Conventional Ammunition

The military services have a process for collecting and sharing data on conventional ammunition information through the stratification reports that they prepare annually. They use these reports to identify inventory owned by one service that may be available to meet the requirements of another service. DOD Regulation 4140.1-R directs the military services to assess the ability of the ammunition inventory to meet stated requirements by stratifying their inventories into various categories and requires them to prepare an annual internal report that lists the current inventory level of all ammunition.⁴⁶ The annual internal report divides the inventory into the categories of requirement-related munitions stock, economic retention munitions stock, contingency retention munitions stock, and potential reutilization and disposal stock. The regulation also directs the services to develop an external report identifying inventory in the long-supply categories of economic retention munitions stock, contingency retention munitions stock, and potential reutilization and disposal stock. The services are to use this report to identify potential opportunities for redistributing potential reutilization and disposal munitions stock, inventory that exceeds the requirements of an individual military service,

⁴⁶See Department of Defense, Regulation 4140.1-R, para. C9.3 (May 23, 2003). The services are required to produce three annual reports about the inventory: an internal report, an external report to use for cross-leveling, and a summary-level munitions stratification report to provide to the Assistant Secretary of Defense for Logistics and Materiel Readiness. As previously noted, DOD cancelled and reissued DOD Regulation 4140.1-R as a multivolume manual while this report was in the final stages of drafting. We did not assess in detail changes resulting from the revision.

but may not exceed the requirements of DOD. The regulation also directs the services to consider the economic retention and contingency retention stock as potentially available inventory for redistribution if another service has a shortage.⁴⁷

In their reports on fiscal year 2012 inventory, the Army, the Marine Corps, and the Air Force reported approximately 6 billion ammunition items in the inventory, of which approximately 224 million items (3.7 percent) were excess to the requirements of one service, categorized as potential reutilization and disposal stock.⁴⁸ From 2009 to 2013, this category of ammunition inventory fluctuated from 5.2 percent to 28.4 percent of total inventory. Prior to the Quad Services Cross-Leveling Review, different organizations within each service may review drafts of the annual reports to verify that information from each ammunition system is accurate. The reports are then distributed to the other services. In addition, the Office of the Executive Director for Conventional Ammunition, which facilitates this process, compares the data in the inventory reports with data on planned procurements of ammunition. After the services share their annual reports on ammunition inventory, including which ammunition could be reutilized, service officials meet to discuss how they will redistribute ammunition that is available for any service's requirements.

DOD guidance indicates that this redistribution process should serve to offset individual procurements by the services and enable disposal of only those assets that are excess to all DOD requirements.⁴⁹ For example, the Executive Director for Conventional Ammunition reported that DOD avoids an average of \$70 million annually in procurement costs by using the redistribution process regarding each service's excess inventory.⁵⁰ During the fiscal year 2012 redistribution process, DOD transferred

⁴⁷The owning military service decides the final availability of the economic retention and contingency retention munitions stock after assessing the acceptability of risk associated with drawdown of the stockpile.

⁴⁸As noted previously, specific information pertaining to the active Navy inventory is classified and is not included in this GAO report. Information on ammunition items that were available for redistribution is not classified.

⁴⁹See Department of Defense, Regulation 4140.1-R, para. C9.3.1.1.2 (May 23, 2003). After the ammunition is screened by the military services, it is then considered for trade to other government agencies or for foreign military sales.

⁵⁰We did not independently verify these estimates.

approximately 44 million items, of which approximately 32 million were small-caliber items such as ammunition for machine guns or pistols, 11 million were demolition materials such as detonation cords, fuses and pyrotechnic initiators,⁵¹ 1 million were ground defense items such as grenades used for riot control, and the remaining 2 million were a mixture of other various types of ammunition.

Army's Aviation and Missile Command Does Not Contribute to Required Annual Report

The Navy, the Marine Corps, and the Air Force share information on the availability of missiles and missile support material⁵² that exceed their requirement-related munitions stock, but the Army's Aviation and Missile Command does not report annually about the same information. DOD Regulation 4140.1-R requires that the services include all conventional ammunition, including tactical missiles, in their annual report.⁵³ The Logistics Center under the Army Aviation and Missile Command manages the inventory of certain missile items—including Stinger, Javelin, and Hellfire missiles—and the Joint Munitions Command manages all other ammunition items, including small rockets such as shoulder-launched ammunition. The Army's annual report does not include reference to the tactical missile inventory that is managed by the Aviation and Missile Command. According to Army officials, the Aviation and Missile Command does not contribute to the annual report on inventory because the missile stockpile rarely has items to offer for redistribution. The Navy, the Marine Corps, and the Air Force all include information in their annual reports on the various types of missiles that they manage. Some of the missiles that are included in their reports are the same kind of missiles that are managed by the Aviation and Missile Command's Logistics Center. According to Army officials, the Aviation and Missile Command does not contribute to the annual reporting or redistribution process, but

⁵¹Pyrotechnics are compounds of chemicals that produce a smoke or brilliant light in burning and are used for signaling or lighting up the night. Initiators are the device used to set off the combustion of low explosives or to detonate high explosives.

⁵²Missile support material refers to component parts used to fully assemble the missile for firing—such as fins or wings.

⁵³The regulation requires the military services to apply the requirements and procedures related to ammunition stratification, reporting, and cross-leveling to all conventional ammunition, including ammunition managed by the Single Manager, tactical missiles, and all other military service-managed conventional munitions. It excludes toxic chemical and special weapons. See Department of Defense, Regulation 4140.1-R, para. C9.3.1.2.1 (May 23, 2003).

the Army has engaged in an internal process that annually reviews the missile inventory separately from the annual ammunition reporting process. In the course of our review, an Army headquarters official indicated that the Army was planning to take steps to include information from the Aviation and Missile Command for future annual ammunition reports. However, the Army had not yet articulated a plan of action for making this change. If the Army and its missile command do not annually report any missiles, including missiles excess to the service's requirements, it risks other services spending additional funds to procure missiles that already are unused and usable in the Army's stockpile. Also, without such annual reporting, the information DOD obtains lacks full transparency about missiles that could be used to support some of the other services' requirements. Therefore, it will be important for the Army to ensure that the Aviation and Missile Command implement its direction in fiscal year 2014 and beyond.

Army's Annual Reports Do Not Include Information on All Usable Ammunition

The Army's annual stratification report includes current ammunition inventory levels and does not include information from prior years about usable ammunition that was unclaimed by another service and stored for potential foreign military sales or slated for potential disposal. DOD Regulation 4140.1-R directs the military services to assess the ability of the ammunition inventory to meet stated requirements by stratifying inventory into categories.⁵⁴ It also directs the preparation of annual reports that list the current inventory levels for ammunition items. The annual internal report divides the inventory into requirement-related, retention, and potential reutilization and disposal stocks. The regulation also directs the services to use the annual reporting process to identify potential opportunities for redistributing potential reutilization and disposal stocks, inventory that exceeded—was greater than—the requirements of an individual military service, but may not exceed the requirements of DOD.

As the Single Manager, the Secretary of the Army is disposing of serviceable or unserviceable conventional ammunition that is obsolete—inventory that is no longer needed due to changes in technology, laws, customs, or operations—or in excess to requirements of the department—inventory that has completed reutilization screening within

⁵⁴ See, e.g., Department of Defense, Regulation 4140.1-R, para. C9.3.1 (May 23, 2003).

DOD and is not required for the needs of any DOD activity. According to an Army financial statement in June 2013, the Army had about 39 percent of its total inventory (valued at about \$16 billion) in a storage category for ammunition items that were excess to all the services' requirements in a prior year and could be disassembled or destroyed in the future. However, a service may decide in a subsequent year that it needs additional ammunition of some type and check with the Army for availability before starting a procurement or to meet an emergent need. Officials told us that since October 2012 the Army has reclaimed at least 44 missiles from the disposal stockpile to meet its needs—such as fulfilling a testing requirement. Also, in 2012, the Marine Corps reclaimed ammunition storage components to meet a service need. In another example, Navy officials told us that a functional ammunition component, called sonobuoys, was reclaimed from the disposal stockpile when a need arose for the ammunition component.⁵⁵

The Army is not sharing information on all usable ammunition that previously was unclaimed by another service and stored as part of the disposal stockpile. This information is not routinely shared with all services in the annual reports on ammunition inventory because DOD guidance does not require reporting this type of inventory as part of the stratification process. Officials told us that prior to the annual redistribution meeting, the Office of the Executive Director for Conventional Ammunition reviews the stockpile of usable ammunition that was previously unclaimed by any other service and stored as part of the disposal stockpile. However, this information is not included in the annual reports and shared with the services as part of the redistribution process. Without guidance to require that the Army's annual reports or another report used as part of the redistribution process include all information about available and usable inventory—comprehensive information from multiple years—there is risk that the services may budget for funds to procure new supplies of conventional ammunition to meet a requirement when the ammunition items already are available in the DOD inventory but categorized for demilitarization or disposal.

⁵⁵Sonobuoys are sensors used for surveillance and reconnaissance of underwater threats.

Conclusions

DOD policy requires the highest possible degree of efficiency and effectiveness in wholesale conventional ammunition logistics functions for the inventory, but DOD's systems have some limitations that hamper the department's ability to manage this inventory efficiently. The use of outdated data exchange standards by Navy, Marine Corps, and Air Force ammunition systems makes it difficult for them to efficiently share data with LMP, the only system using the updated standards. In addition, while the Army has made progress in improving LMP data overall, ammunition-related functionality continues to have challenges that affect the accuracy and completeness of LMP ammunition data used by the services for ammunition management. The Army is aware of these challenges but has not developed a plan to address them. A comprehensive plan, with time frames and costs, for resolving limitations in LMP ammunition-related functionality could provide DOD reasonable assurance that its efforts to upgrade this functionality in LMP are making progress. Further, efforts to achieve DOD-wide visibility of ammunition assets are hampered because the existing data repository, NLAC, lacks some checks and controls that could improve the reliability of data from source systems. Moreover, DOD has not designated an authoritative source of data on conventional ammunition DOD-wide, whether NLAC or through some other means. By designating an authoritative source, DOD could have a means to provide better visibility of conventional ammunition department-wide.

The services use the stratification and redistribution process to better optimize the department's ammunition inventory by collecting and sharing information on available inventory that could meet the requirement of another service. However, the Army does not provide information on missiles in the annual reports that it prepares as part of this process. Also, the Army does not share information on usable inventory in a storage category for ammunition items that were excess to all the services' requirements in a prior year and placed into storage in preparation for disassembly or disposal. Without such annual reporting, the information DOD obtains may lack full transparency about all available items and may miss opportunities to avoid procurement costs for certain usable items that may already be available in the Army's stockpile.

Recommendations for Executive Action

We are making seven recommendations to improve the efficiency of DOD's systems for managing its conventional ammunition inventory and to improve data sharing among the services.

To improve the efficiency of data exchanges between LMP and other service ammunition systems, we recommend that the Secretary of Defense, in coordination with the Under Secretary of Defense for Acquisition, Technology, and Logistics, take the following two actions:

- Direct the Secretary of the Navy to (1) take steps to incorporate DLMS into the Ordnance Information System and (2) direct the Commandant of the Marine Corps to take similar steps with regard to the Ordnance Information System–Marine Corps.
- Direct the Secretary of the Air Force to assess the feasibility of accelerating the 2017 target date for incorporating DLMS into the Combat Ammunition System and, if determined to be feasible, take appropriate implementation actions.

To provide greater assurance that LMP is capable of maintaining accurate, timely, and more complete ammunition data in accordance with DOD supply chain materiel management and ammunition guidance, we recommend that the Secretary of Defense direct the Secretary of the Army to establish a plan, with timeframes and costs, for incorporating ammunition-related functionality into LMP, including functionality that is no longer being included in the planned ammunition-related upgrades for Increment 2.

To improve DOD's ability to provide total asset visibility over conventional ammunition, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics, in conjunction with the Secretaries of the Army, the Air Force, and the Navy, to take the following two actions:

- Identify and implement internal controls, consistent with federal internal control standards, that will provide reasonable assurance that NLAC collects comprehensive, accurate data from other service ammunition systems.
- Designate an authoritative source of data on conventional ammunition DOD-wide—whether NLAC or through some other means—and issue guidance to implement this decision.

To enable the military services to make maximum use of ammunition in the inventory, we recommend that the Secretary of Defense take the following two actions:

- Direct the Secretary of the Army to ensure that annual stratification reports on conventional ammunition include missiles managed by the Army Aviation and Missile Command.
- Direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to revise guidance to require the Secretary of the Army to include in its annual reports, or another report, as appropriate, information on all available ammunition for use during the redistribution process—including ammunition that in a previous year was unclaimed by another service and categorized for disposal.

Agency Comments and Our Evaluation

In written comments on a draft of this report, DOD concurred with our seven recommendations and provided additional comments describing actions underway or planned to address them. DOD also provided technical comments, which we incorporated as appropriate. The full text of DOD's comments is reprinted in appendix III.

With regard to the first recommendation, that the Navy and Marine Corps take steps to incorporate DLMS into their ammunition systems to improve the efficiency of data exchanges with the Army's LMP, DOD concurred and cited several examples of DOD guidance that underscore the importance of DLMS and use of the standard for logistics systems and data exchanges. Further, DOD stated that recent guidance related to materiel management directs DOD components to use standard logistics data exchanges. Taking actions to implement this guidance, as we recommended, would better position the Navy and Marine Corps ammunition systems to efficiently exchange data with LMP.

With regard to the second recommendation, that the Air Force assess the feasibility of accelerating the 2017 target date for incorporating DLMS into the Combat Ammunition System, DOD concurred and stated that incorporation of DLMS is tied to overall development efforts planned for the system. While DOD noted that the DLMS capability cannot be incorporated into the Air Force's existing ammunition system independently, DOD stated that the Air Force expected to be able to incorporate DLMS by fiscal year 2017 with the possibility of earlier implementation based on contract performance. If fully implemented as planned, this action should help address the intent of the

recommendation to ensure that the Air Force incorporates DLMS into the Combat Ammunition System on or before its target fiscal year 2017 timeframe.

With regard to the third recommendation, that the Army take steps to establish a plan, with timeframes and costs, for incorporating ammunition-related functionality into LMP, including functionality no longer included in the planned ammunition-related upgrades for Increment 2, DOD concurred and noted that the Army has taken a phased approach to LMP implementation. DOD stated that some additional ammunition-related functionality is scheduled for deployment as part of Increment 2 in fiscal year 2016, and additional functionality will be evaluated for potential inclusion in follow-on increments of LMP. Given the schedule delays in incorporating needed ammunition-related functionality in LMP, as discussed in the report, we continue to believe that the Army should establish a plan with timeframes and costs for incorporating this functionality. Such a plan could provide DOD with reasonable assurance that the Army's efforts to upgrade ammunition-related functionality in LMP are making progress and, moreover, provide greater assurance that LMP is capable of maintaining accurate, timely, and more complete ammunition data in accordance with DOD supply chain materiel management and ammunition management guidance.

With regard to the fourth recommendation, that DOD identify and implement internal controls, consistent with federal internal control standards, that will provide reasonable assurance that NLAC collects comprehensive, accurate data from other service ammunition systems, DOD concurred and stated that the Army updated the performance work statement for NLAC to include analyzing new data sources to identify improved system interfacing that will improve data accuracy, completeness, quality assurance, and auditability. If implemented as planned, this action should help to address the intent of the recommendation.

With regard to the fifth recommendation, that DOD designate an authoritative source of data on conventional ammunition DOD-wide and issue guidance to implement this decision, DOD concurred and stated that it would assess the alternatives and designate the appropriate solution by the fourth quarter of fiscal year 2015. We are encouraged that DOD will seek to identify an authoritative source of data and reiterate that, at that time, DOD should also issue implementing guidance.

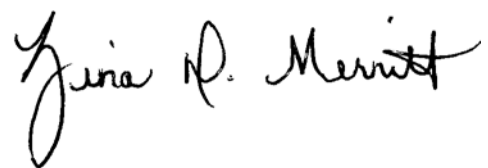
With regard to the sixth recommendation, that annual stratification reports on conventional ammunition include missiles managed by the Army Aviation and Missile Command, DOD concurred and stated that it would clarify direction in its recently issued guidance to ensure that this happens. DOD added that the Army had already begun to provide missile information during the 2014 stratification meeting. We are encouraged by this step and believe that DOD will benefit by ensuring that the Army continues to provide this information.

With regard to the seventh recommendation, that the Under Secretary of Defense for Acquisition, Technology, and Logistics revise guidance to require the Secretary of the Army to include information on all available ammunition for use during the redistribution process, including ammunition that in a previous year was unclaimed by another service and categorized for disposal, DOD concurred and noted that the Under Secretary would clarify direction in recently issued guidance that the military departments will use information on all available ammunition categorized for disposal. This is a positive step, but DOD does not state in its response how such information will be reported for use in the redistribution process. Requiring the Army to include this information as part of the redistribution process, as we recommended, would increase transparency about all available items and potentially help DOD avoid procurement costs for certain usable items that may already be available in the Army's stockpile.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to appropriate congressional committees; the Secretary of Defense; the Secretaries of the Army, the Navy, and the Air Force; and the Commandant of the Marine Corps. In addition, the report will be available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-5257 or merrittz@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff members who made key contributions to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink that reads "Zina D. Merritt". The signature is written in a cursive style with a large, looped initial "Z".

Zina D. Merritt
Director
Defense Capabilities and Management

Appendix I: Scope and Methodology

To determine the extent to which Department of Defense (DOD) systems facilitate efficient management of the conventional ammunition inventory, we reviewed DOD guidance on exchanging data, developing data systems, and maintaining department-wide ammunition visibility. We reviewed relevant documents, including memos from the Under Secretary of Defense for Acquisition, Technology, and Logistics and Defense Logistics Agency; technical guidance from the Defense Logistics Agency Management Standards Office (particularly Defense Logistics Manual 4000.25, Defense Logistics Management System); and discussed with Air Force officials their plans for updating their ammunition system. At the service level, we identified the services' systems, particularly the Logistics Modernization Program (LMP), which is the Army's system of record for Army wholesale inventory and wholesale ammunition belonging to all of the services; we reviewed documents pertaining to capabilities and limitations of these systems. In the case of LMP, these documents included: change requests indicating systems adjustments to improve ammunition management capabilities; requirements, business case, and cost estimate for the update known as Increment 2; and records of inspections at each of the eight depots at which the Army's Joint Munitions Command stores ammunition for the Army and the other services. At the DOD-wide level, we reviewed minutes of Joint Ordnance Commanders' Group (JOCG) meetings. The JOCG is an inter-service forum, among whose goals is to identify, implement or recommend for implementation joint opportunities to reduce cost, increase effectiveness and ensure interoperability and/or interchangeability of munitions systems.

Also, we interviewed DOD officials responsible for inventory records at each of the services' ammunition system program offices to discuss the capabilities and limitations of each of the services' ammunition inventory systems of record. These included officials from the Army, Navy, and Air Force headquarters logistics staffs—Army Deputy Chief of Staff for Logistics (G-4); Deputy Chief of Naval Operations for Material Readiness and Logistics (N-4); and Deputy Chief of Staff of the Air Force for Logistics, Installations, and Mission Support (A-4/7). For the Army, we interviewed officials from the Army Materiel Command and two of its subordinate commands (Joint Munitions Command and Aviation and Missile Command) that have responsibilities for ammunition management. We also interviewed officials from the services' ammunition systems program offices, including the Army's LMP Product Management Office; the Naval Supply Systems Command and Ordnance Information System program office in Mechanicsburg, Pennsylvania; the Marine Corps Systems Command, Program Manager - Ammunition in Stafford,

Virginia; the Air Force Global Ammunition Control Point at Hill Air Force Base, Utah; and the Air Force Combat Ammunition System program office. In order to better understand inventory management challenges at the depot level, we met with logistics specialists at two depots: Tooele Army Depot, Utah; and Letterkenny Ammunition Center, Pennsylvania. We selected these depots primarily based on their proximity to other ammunition management locations.

We reviewed National Level Ammunition Capability (NLAC) documents, including performance work statements and requirements documents, usage statistics, and interface testing results; and reviewed memorandums of agreement and interface documents to assess how the services and NLAC exchange data. We obtained access to NLAC, and developed and executed queries to compare whether its data were consistent with Army and Air Force source data. Because this report focused on wholesale ammunition stocks, we did not gather information about all systems that provide information to NLAC. For example, we did not attempt to study the extent to which systems containing information about retail or in-transit ammunition stocks are complete and accurate. We conducted telephone interviews with NLAC program management officials at Army Materiel Command headquarters in Huntsville, Alabama and Joint Munitions Command headquarters in Rock Island, Illinois, and met with NLAC contractor personnel in Chambersburg, Pennsylvania. To learn more about the interface between NLAC and the Global Combat Support System-Joint, we also reviewed the memorandum of agreement between the Program Management Offices for those systems and interviewed an official from the Defense Information Systems Agency, which oversees that system.

To determine the extent to which the military services collect and share inventory data to help them meet their stated requirements, we reviewed policies, procedures, and other guidance, as well as reports related to conventional ammunition reporting requirements for the services, including DOD Regulation 4140.1-R and the *Joint Conventional Ammunition Policies and Procedures*. We examined DOD Regulation 4140.1-R to gain an understanding of the responsibility of the services to report inventory levels for items in long-supply retention categories to the other services. We examined the *Joint Conventional Ammunition Policies and Procedures* to gain an understanding of the responsibility of the Office of the Executive Director for Conventional Ammunition and its role in the annual redistribution process.

Also, we obtained annual stratification reports—DOD’s term for each service’s list of items in the current inventory—from the Army, Navy, Marine Corps, and Air Force.¹ These reports list items in the current inventory (as of the date of the report) and display how much meets or exceeds service requirements. We reviewed these reports to gain an understanding of the size and scale of the inventory and to determine the percentage of items in each category for fiscal years 2009 through 2013.² We interviewed officials knowledgeable about the annual ammunition report process and determined that the information included in those reports was sufficiently reliable for the purposes of our report. Also, we attended the March 2013 annual meeting at Picatinny Arsenal, New Jersey, at which service representatives met to discuss these reports and redistribute ammunition excess to service needs to help other services to meet their requirements. We obtained and reviewed the records of results from the redistribution meeting for fiscal years 2009 through 2013. We discussed the process for collecting, reviewing and categorizing the inventory data with officials responsible for compiling these reports. We also met with officials from Army Materiel Command’s Office of the Executive Director for Conventional Ammunition to understand its processes for preparing for the redistribution meeting and for reporting on the results of the meeting.

We circulated a standard set of questions to each of the services and analyzed the results, and determined that the information was sufficiently reliable for the purposes for which we used it. That is, we determined that the services have established processes for collecting and reporting data into their own systems and for receiving information about stocks that are stored at Army depots. We did not attempt to verify figures about quantities, locations, or other attributes of the data. The standard set of questions we circulated to the services asks detailed and technical questions about the systems. For example, for system architecture we asked how and in what format does the Army’s LMP send data to the other services’ ammunition systems. Similarly, we asked how and in what format do the services’ systems send ammunition data to NLAC. We also asked about data quality controls and limitations and the services’ perception of LMP and NLAC’s data quality and limitations. We collected

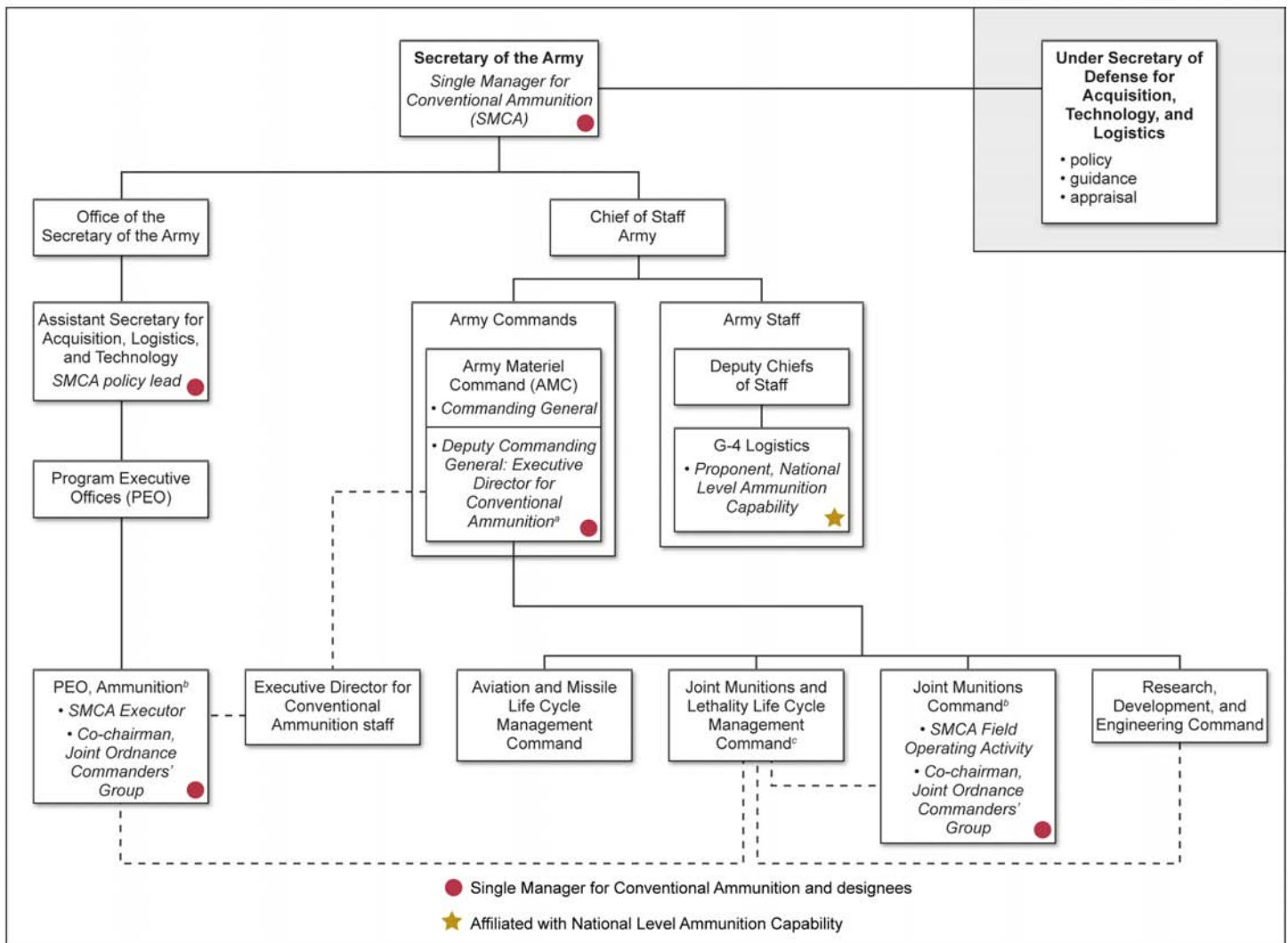
¹We received the Navy reports; however, due to their classification, we excluded information on Navy inventory from this report.

²The Marine Corps did not have a 2009 stratification report.

responses from each of the services regarding their ammunition systems and conducted interviews to gain further clarification on their responses.

We conducted this performance audit from December 2012 to March 2014 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 objectives.

Appendix II: Single Manager for Conventional Ammunition Organization



Source: GAO analysis of DOD information.

Notes:

This chart depicts the roles of various entities with respect to conventional ammunition. The connecting lines do not necessarily represent the complete administrative, operational, or reporting relationships for all purposes and functions.

^aThe Deputy Commanding General of AMC receives support for the role of Executive Director for Conventional Ammunition by a joint-staffed office of senior service military and civilian ammunition management specialists assigned to PEO Ammunition who report directly to the Executive Director.

^bAlthough the Joint Ordnance Commanders Group Charter identifies the Commander of the Joint Munitions Command as chair, the Joint Ordnance Commanders Group's Annual Report for 2012 was signed by Joint Munitions Command and PEO Ammunition as cochairmen.

^cThe Joint Munitions and Lethality Life-Cycle Management Command brings together the resources and expertise of three organizations: PEO Ammunition, Joint Munitions Command, and the Armament Research, Development, and Engineering Center.

Appendix III: Comments from the Department of Defense



LOGISTICS AND
MATERIEL READINESS

ASSISTANT SECRETARY OF DEFENSE
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

MAR 25 2014

Ms. Zina D. Merritt
Director, Defense Capabilities and Management
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Ms. Merritt:

This is the Department of Defense (DoD) response to the Government Accountability Office (GAO) Draft Report, GAO-14-182, "DEFENSE LOGISTICS: Actions Needed to Improve Department-Wide Management of Conventional Ammunition Inventory" dated February 26, 2014 (GAO Code 351778). Detailed comments on the report recommendations are enclosed.

Sincerely,

A handwritten signature in black ink, appearing to read "Paul Peters".

Paul Peters
Acting

Enclosure:
As stated

GAO Draft Report Dated February 26, 2014
GAO-14-182 (GAO CODE 351778)

**“DEFENSE LOGISTICS: Actions Needed to Improve Department-Wide
Management of Conventional Ammunition Inventory”**

**DEPARTMENT OF DEFENSE COMMENTS
ON THE GAO RECOMMENDATIONS**

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense, in coordination with the Under Secretary of Defense for Acquisition, Technology, and Logistics, direct the Secretary of the Navy to (1) take steps to incorporate DLMS into the Ordnance Information System and (2) direct the Commandant of the Marine Corps to take similar steps with regard to the Ordnance Information System - Marine Corps.

DoD RESPONSE: Concur. Direction is provided in DoD policy and the Acquisition and Logistics Functional Strategy. DoD Manual (DoDM) 4140.01, Volume 8, dated Feb 10, 2014, directs DoD Components to “Use standard logistics data exchanges, as noted in the DLMS procedures to implement DoD materiel management policy and the interfaces among the functional areas of supply, transportation, contract administration, pipeline measurement, physical inventory control and finance.” DoD Instruction 4140.01, Page 14, para 8 c. states “Standard logistics data exchanges under the defense logistics management systems (DLMS) shall be used to implement DoD materiel management policy and the interfaces among the functional areas of supply, transportation, acquisition (contract administration), maintenance, and finance.” DoD Directive 8190.02, para 4.3, states “It is DoD policy to use the DLMS as a process improvement enabler in new, replacement, and legacy logistics business systems as a part of the DoD Component ongoing and planned modernization programs.” In addition, the Department’s Acquisition and Logistics Functional Strategy, dated February 2013, identifies DLMS as an enterprise standard and sets the target for DLMS compliance by 2019.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense, in coordination with the Under Secretary of Defense for Acquisition, Technology, and Logistics, direct the Secretary of the Air Force to assess the feasibility of accelerating the 2017 target date for incorporating DLMS into the Combat Ammunition System and, if determined to be feasible, take appropriate implementation actions.

DoD RESPONSE: Concur. Incorporation of DLMS capability into the Combat Ammunition System (CAS) is tied to the base performance period of the CAS development effort. It, along with necessary Financial Improvement and Audit Readiness system changes, is expected to be delivered in FY17 but may be implemented earlier based on contract performance. DLMS capability cannot be incorporated into the existing CAS structure independently.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Secretary of the Army to establish a plan, with timeframes and costs, for incorporating

ammunition-related functionality into LMP, including functionality that is no longer being included in the planned ammunition-related upgrades for Increment 2.

DoD RESPONSE: Concur. Army/AMC has taken a phased approach to LMP implementation. It was recognized early on that not all desired capability would be available in the initial fielding. Additional ammunition functionality is scheduled for deployment as part of LMP increment 2 wave 3. Wave 3 full deployment is scheduled for FY16. Additional functionality not in increment 2 will be evaluated for follow on increments. All proposals for incorporation of functionality undergo rigorous analysis to ensure opportunities for business process engineering are identified.

RECOMMENDATION 4: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics, in conjunction with the Secretaries of the Army, the Air Force, and the Navy, identify and implement internal controls, consistent with federal internal control standards, that will provide reasonable assurance that NLAC collects comprehensive, accurate data from other service ammunition systems.

DoD RESPONSE: Concur. The Army updated the Performance Work Statement for National Level Ammunition Capability (NLAC) to include analyzing new data sources (systems) to identify improved system interfacing that will improve data accuracy, completeness, quality assurance and auditability.

RECOMMENDATION 5: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics, in conjunction with the Secretaries of the Army, the Air Force, and the Navy, designate an authoritative source of data on conventional ammunition DOD-wide—whether NLAC or through some other means—and issue guidance to implement this decision.

DoD RESPONSE: Concur. An authoritative source of data DOD-wide is desired. The Department will assess the alternatives and designate the appropriate solution by the 4th quarter of Fiscal Year 15.

RECOMMENDATION 6: The GAO recommends that the Secretary of Defense direct the Secretary of the Army to ensure that annual stratification reports on conventional ammunition include missiles managed by the Army Aviation and Missile Command.

DoD RESPONSE: Concur. USD (AT&L) will clarify direction in DoDM 4140.01, Volume 10 to ensure that annual stratification reports on conventional ammunition include missiles managed by the Army Aviation and Missile Command. Starting with the Mar 14 Annual Stratification Meeting, Army is providing missile information for the cross stratification process.

RECOMMENDATION 7: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to revise guidance to require the Secretary of the Army to include in its annual reports, or another report, as appropriate, information on all available ammunition for use during the redistribution process—

including ammunition that in a previous year was unclaimed by another service and categorized for disposal.

DoD RESPONSE: Concur. USD (AT&L) will clarify direction in DoDM 4140.01, Volume 10 that the Military Departments will use information on all available ammunition categorized for disposal. Although the Military Departments do not have visibility within their own systems, they all have visibility into the Army system that tracks disposal, and access to this information has not been an issue in the cross stratification process.

Appendix IV: GAO Contact and Staff Acknowledgments

GAO Contact

Zina D. Merritt, (202) 512-5257 or merrittz@gao.gov

Staff Acknowledgments

In addition to the contact named above, the following individuals made contributions to this report: Thomas W. Gosling, Assistant Director; Darreisha M. Bates; Richard D. Brown; Rebecca Guerrero; Sally Newman; Richard Powelson; Michael Shaughnessy; Michael Silver; and Amie Steele.

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