United States Government Accountability Office

GAO

Report to Congressional Committees

May 2012

DEFENSE INVENTORY

Actions Underway to Implement Improvement Plan, but Steps Needed to Enhance Efforts

GAO-12-493

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GAO Highlights

Accountability * Integrity * Reliability

Highlights of GAO-12-493, a report to congressional committees

Why GAO Did This Study

GAO has identified supply chain management as a high-risk area due in part to ineffective and inefficient inventory management practices that have caused DOD to accumulate billions of dollars worth of unneeded inventory. DOD reported that as of September 2010 it had $8.4 billion worth of on-hand excess inventory, categorized for potential reuse or disposal, and $940 million worth of on-order excess inventory, already purchased but likely to be excess due to changes in requirements. Under the National Defense Authorization Act for Fiscal Year 2010, GAO is required to assess DOD's implementation of the *Comprehensive Inventory Management Improvement Plan (Plan)* DOD submitted to Congress. GAO's objectives were to determine the extent to which DOD has (1) established and achieved targets for reducing excess inventory in the *Plan*, (2) made progress in implementing the overall *Plan*, (3) metrics to track progress in improving inventory management, and (4) identified and realized any cost savings or avoidance. GAO reviewed relevant data, assessed DOD's actions through January 1, 2012, and interviewed officials implementing the *Plan*.

What GAO Recommends

GAO recommends that DOD periodically re-examine its targets for on-hand and on-order excess inventory; and develop guidance to establish a set of metrics including standardized definitions and calculations that are then employed to monitor its inventory management practices. DOD concurs with GAO's recommendations.

View GAO-12-493. For more information, contact Zina Merritt at (202) 512-5257 or merrittz@gao.gov.

What GAO Found

The Department of Defense (DOD) set two goals—reducing on-order and on-hand excess inventory—with percentage targets for each based on the best available data in fiscal year 2009 as part of its *Comprehensive Inventory Management Improvement Plan (Plan)*. Sustained management oversight led to reductions in on-order and on-hand excess inventory in fiscal year 2010 prior to the *Plan*'s implementation, and thus DOD may find the current targets are not meaningful in guiding improvement. Specifically, at the end of fiscal year 2010, DOD had reduced its percentage of on-order excess inventory to 5.5 percent, thereby achieving its 2014 target 4 years early. It also revised the definition and calculation of on-hand excess inventory, which resulted in DOD being below the fiscal year 2012 target of 10 percent. It is DOD policy to conduct periodic evaluations of its inventory management, and results-oriented management practices emphasize validating performance measures to ensure they remain appropriate. Without challenging, yet achievable targets, DOD's *Plan* will not be effective in guiding further improvement.

DOD has made progress implementing its *Plan* since implementation began in late fiscal year 2010, but DOD is only 18 months into a 4-year implementation effort and many planned activities still remain. Most but not all of the progress to date has been in gathering and analyzing data, and reviewing guidance and practices. In addition, DOD has made progress in particular areas, such as developing tentative sub-categories to further clarify its existing inventory categories. Overall implementation is generally on schedule, but some of the *Plan*'s efforts have experienced delays. Moving forward, DOD faces such challenges as adjusting demand planning to changing circumstances, and enforcing consistent implementation of guidance at the military service level.

As part of the *Plan*, DOD is developing metrics to assess the effectiveness and efficiency of its inventory management, but it has not determined if it will incorporate these metrics into guidance. This may hamper its ability to assess inventory management performance and sustain management attention on improvement. Materiel managers should evaluate and be capable of reporting on the performance of inventory management. Based on previous reporting, GAO has found that such metrics should be reportable in a consistent fashion. DOD is currently developing a portfolio of metrics that fall under five key areas: readiness, responsiveness, reliability, cost, and planning and precision. Some metrics that have been identified—such as customer wait time—are currently reported by DOD, while others would be new metrics that would require establishing a data source and methodology. However, the *Plan* does not include steps to incorporate the metrics, including their methodologies, into DOD guidance. Without guidance specifying standardized definitions, methodologies, and procedures for data collection procedures, DOD's efforts to employ metrics to monitor and evaluate inventory management performance may be hampered.

Finally, DOD achieved about $710 million in cost avoidances reducing excess inventory in fiscal year 2010, and plans to reduce funding for the purchase of items by $365 million between fiscal year 2012 and 2016. Additionally, DOD completed about $140 million in lateral redistributions and procurement offsets in fiscal years 2010 and 2011, which prevented the acquisition of additional items.

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Abbreviations

DLA	Defense Logistics Agency
DOD	Department of Defense
NDAA	National Defense Authorization Act
OSD	Office of the Secretary of Defense

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Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

May 3, 2012

Congressional Committees

The Department of Defense (DOD) spends billions of dollars to purchase, manage, store, track, and deliver spare parts and other supplies needed to keep military equipment ready and operating. DOD manages more than 4 million secondary items and reported that as of September 2010 the value of its inventory was $95.6 billion.[1] However, DOD reported that $8.4 billion (8.3 percent) of its secondary inventory has been identified as excess and categorized for potential reuse or disposal (i.e., potential reutilization stock or on-hand excess). According to DOD, another $15.6 billion (15.8 percent) of its secondary inventory exceeds the approved acquisition objective[2] and is being retained because either it was determined to be more economical to retain than to dispose of it or it might be needed for a contingency in the future.[3] As we have emphasized in previous reports, the federal government is facing serious long-term fiscal challenges, and DOD may confront increased competition over the next decade for federal discretionary funds.[4] Strategic guidance released

[1]DOD defines secondary inventory items to include reparable components, subsystems, and assemblies other than major end items (e.g., ships, aircraft, and helicopters), consumable repair parts, bulk items and materiel, subsistence, and expendable end items (e.g., clothing and other personal gear). We use secondary inventory items and secondary inventory interchangeably in this report.

[2]The approved acquisition objective incorporates both materiel needed to meet the requirements objective and two years of estimated future demand. The requirements objective is the maximum authorized quantity of stock for an item for wholesale replenishment. It consists of the sum of stock represented by the economic order quantity, the safety level, the repair-cycle level, and the authorized additive levels. While inventory held for economical reasons or future use is not part of the approved acquisition objective DOD states that retention of this inventory is necessary for the military mission. For further definitions see the background section and the glossary.

[3]Economic retention stock is materiel that has been deemed more economical to keep than to dispose of because it is likely to be needed in the future. Contingency retention stock is materiel that is retained to support specific contingencies, such as to support foreign military sales, future military operations, disaster relief or civil emergencies, or to mitigate risk associated with diminished manufacturing sources or non-procurable stock.

[4] GAO, *The Federal Government's Long-Term Fiscal Outlook: January 2010 Update*, GAO-10-468SP (Washington, D.C.: March 2010); and *21st Century Challenges: Reexamining the Base of the Federal Government*, GAO-05-325SP (Washington, D.C.: February 2005).

by the President of the United States and the Secretary of Defense in January 2012 emphasized that DOD must continue to reduce the cost of doing business, in particular finding further efficiencies in overhead, business practices, and support activities.[5] Inventory management, a key support activity that affects the readiness of the force, must be conducted effectively and efficiently to avoid expending resources and accumulating wasteful inventory that could prevent the dedication of resources to other defense or national priorities.

Since 1990, we have identified DOD supply chain management as a high-risk area due in part to ineffective and inefficient inventory management practices and procedures, weaknesses in accurately forecasting the demand for spare parts, and challenges in achieving widespread implementation of key technologies aimed at improving asset visibility. These factors have contributed to the accumulation of billions of dollars in spare parts that are excess to current requirements.[6] Moreover, we have recently reported on the inventory management practices of the military departments and the Defense Logistics Agency (DLA) and recommended DOD take steps to improve demand forecasting, ensure proper reviews are conducted and documented, validate methodologies for making retention decisions, and establish goals and metrics for assessing the

[5]Secretary of Defense, Department of Defense, *Sustaining U.S. Global Leadership: Priorities for 21st Century Defense*, Jan. 5, 2012.

[6]GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.: March 1, 2011); *High-Risk Series: An Update*, GAO-11-278 (Washington, D.C.: February 2011); *High-Risk Series: An Update*, GAO-09-271 (Washington, D.C.: January 2009); *High-Risk Series: An Update*, GAO-07-310 (Washington, D.C.: January 2007); and *High Risk-Series: An Update*, GAO-05-207 (Washington, D.C.: January 2005).

efficiency of inventory management.[7] DOD concurred with 38 of the 39 recommendations. A list of related products is at the end of this report.

Section 328 of the National Defense Authorization Act (NDAA) for Fiscal Year 2010 required the Secretary of Defense to submit to congressional defense committees a comprehensive plan for improving the inventory management systems of the military departments and DLA with the objective of reducing the acquisition and storage of secondary inventory that is excess to requirements.[8] For purposes of section 328, the NDAA defines inventory that is excess to requirements as inventory that is excess to the approved acquisition objective and not needed for economic or contingency retention. DOD submitted its *Comprehensive Inventory Management Improvement Plan (Plan)* on November 8, 2010, and as also required by Section 328, we reported our assessment of the *Plan* on January 7, 2011.[9]

Additionally, section 328 requires us to assess the extent to which the *Plan* has been effectively implemented by each military department and DLA and report to the congressional defense committees not later than 18 months after the *Plan* is submitted. Accordingly, our objectives for this report were to determine the extent to which DOD has (1) established and achieved targets for reducing excess inventory in the *Plan*, (2) made progress in implementing the overall *Plan*, (3) established and implemented standardized metrics to track their progress in improving

[7]See GAO, *Defense Inventory: Defense Logistics Agency Needs to Expand on Efforts to More Effectively Manage Spare Parts*, GAO-10-469 (Washington, D.C.: May 11, 2010); *Defense Inventory: Army Needs to Evaluate Impact of Recent Actions to Improve Demand Forecasts for Spare Parts*, GAO-09-199 (Washington, D.C.: Jan. 12, 2009); *Defense Inventory: Management Actions Needed to Improve the Cost Efficiency of Navy's Spare Parts Inventory*, GAO-09-103 (Washington, D.C.: Dec. 12, 2008); *Defense Inventory: Opportunities Exist to Save Billons by Reducing Air Force's Unneeded Spare Parts Inventory*, GAO-07-232 (Washington, D.C.: Apr. 27, 2007); *Defense Inventory: Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts*, GAO-07-281 (Washington, D.C.: March 2, 2007); and *Defense Inventory: Actions Needed to Improve Inventory Retention Management*, GAO-06-512 (Washington, D.C.: May 25, 2006).

[8]Pub. L. No. 111-84 § 328 (2009).

[9]GAO, *DOD's Comprehensive Inventory Management Improvement Plan Addressed Statutory Requirements, But Faces Implementation Challenges*, GAO-11-240R (Washington, D.C.: Jan. 7, 2011).

inventory management, and (4) identified and realized any cost savings or cost avoidance from implementing the *Plan*.

To assess the extent to which DOD's *Plan* has established and its implementation has achieved targets for reducing excess inventory, we reviewed the targets established by DOD, the process used to establish the targets, and DOD's progress achieving the targets. To determine the extent to which DOD has made progress in implementing the *Plan*, we reviewed the *Plan*'s actions, milestones, and implementation steps and evaluated implementation status reports and actions from the Deputy Assistant Secretary of Defense for Supply Chain Integration, the services, and DLA. To determine the extent to which DOD has established and implemented standardized metrics to track their progress in improving inventory management across the department, we reviewed DOD's process for developing a comprehensive set of metrics, DOD's progress in identifying metrics to assess the performance of inventory management, and DOD's plans to incorporate the metrics into DOD guidance for the services and DLA. To determine the extent to which DOD has identified and realized any cost savings or cost avoidance associated with implementation, we reviewed the *Plan* and associated documentation to identify any documented cost savings or cost avoidance, DOD's methodology for calculating any cost savings or cost avoidance, and DOD's implementation of any cost savings or cost avoidances. We also interviewed Office of the Secretary of Defense (OSD), service, and DLA officials to discuss progress in implementing the *Plan* and achieving the established targets, efforts to develop metrics to track progress in improving inventory management, and implementation of any cost savings or cost avoidance. We examined the reliability of data used in this report by reviewing DOD policy and procedures for the collection of the data used for inventory reporting and interviewing officials about their methods for quality control and found that the data were sufficiently reliable to address our objectives. See appendix I for a more detailed description of our scope and methodology. In addition, appendix II provides the implementation status of recommendations from our most recent inventory management reports.

We conducted this performance audit between August 2011 and May 2012, 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

Categories of DOD's Inventory

DOD guidance requires that the services and DLA report the current and projected status of their secondary item inventories to support OSD's oversight responsibilities and for use in its procurement and repair budget deliberations.[10] To ensure the department has consistent data, the services and DLA are required, among other things, to group their secondary item inventories into several specific categories, according to the purpose for which they are held (see figure 1). The reporting categories include the approved acquisition objective and three inventory categories that exceed the approved acquisition objective—economic retention stock, contingency retention stock, and potential reutilization stock (i.e., on-hand excess inventory). The approved acquisition objective incorporates both materiel needed to meet the requirements objective (i.e., the sum of stock represented by the economic order quantity,[11] the safety level,[12] the repair-cycle level,[13] and the authorized additive levels[14]) and 2 years of estimated future demand. DOD purchases inventory to meet the approved acquisition objective, according to DOD officials. Secondary item inventory that exceeds the approved acquisition objective is categorized as retention stock or potential reutilization stock.[15] Retention stock includes economic retention stock, which is materiel that has been deemed more economical to keep than to dispose of because it is likely to be needed in the future, and contingency retention stock, which is materiel retained to support specific contingencies.[16] Potential

[10]DOD 4140.64-M, Secondary Item Stratification Manual (Aug. 24, 2009).

[11]Economic order quantity is the quantity derived from a mathematical technique used to determine the lowest total variable costs to order and hold inventory.

[12]Safety levels are the amount of stock that is to be kept on hand in case of minor interruptions in the resupply process or fluctuations in demand.

[13]Repair-cycle level is the quantity of reparable items required to sustain operations during the repair cycle that commences when a maintenance replacement takes place and ends when the unserviceable asset is returned to stock in a serviceable condition.

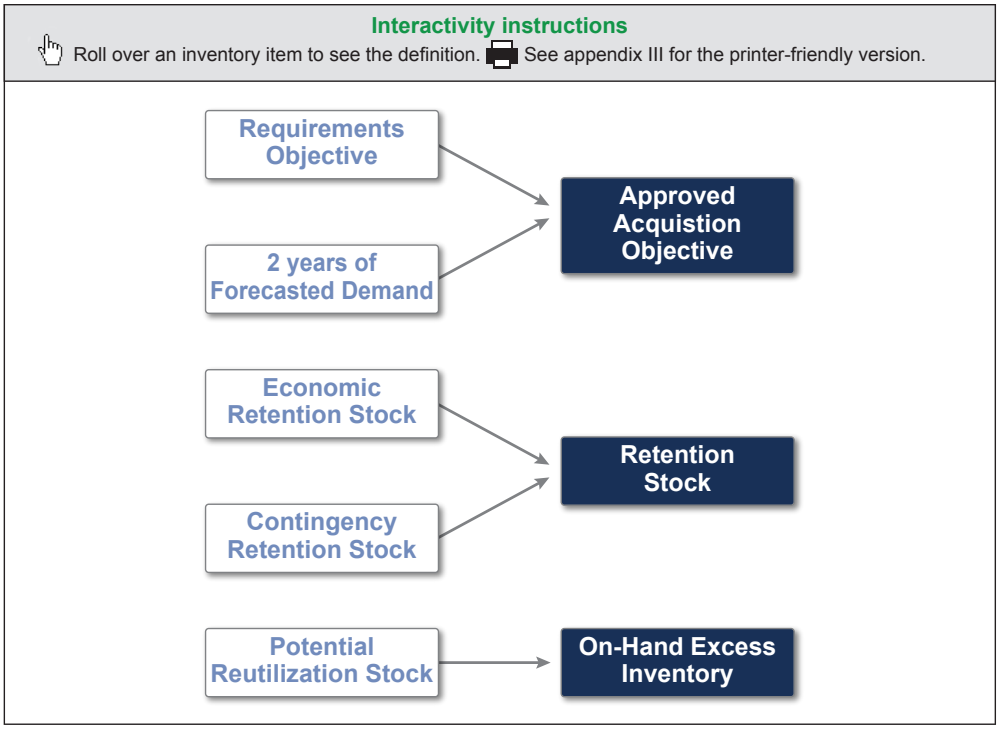
[14]Authorized additive levels include materiel held as wartime reserve stock and inventory for acquisition lead times.

[15]Inventory that is in DOD's possession is considered to be on-hand.

[16]The contingencies include, but are not limited to, supporting foreign military sales, future military operations, disaster relief or civil emergencies, or mitigating risk associated with diminished manufacturing sources or nonprocurable stock.

reutilization stock has been identified for possible disposal but has potential for reutilization. Potential reutilization stock is also referred to as on-hand excess inventory. Additionally, OSD, the services, and DLA track on-order excess inventory, which are items for which a contract has been awarded or funds have been obligated, but due to subsequent changes in requirements would be categorized as potential reutilization stock upon arrival. Figure 1 summarizes how DOD inventory categories are aggregated for reporting. Appendix III provides a printer-friendly version of figure 1. Additionally, see the glossary for key inventory management terms.

Figure 1: Select DOD Categories of Secondary Inventory Items



Source: GAO analysis of DOD guidance and inventory practices.

Structure of the *Plan*

The objective of DOD's *Plan* is to achieve a prudent reduction in current inventory excesses as well as a reduction in the potential for future excesses without degrading materiel support to the customer. The *Plan* has two overarching goals, which are to reduce (1) total on-order excess inventory from 8.5 percent of total obligated on-order dollars in fiscal year 2009 to a target of 6 percent by the end of fiscal year 2014 and 4 percent by the end of fiscal year 2016 and (2) on-hand excess inventory from 11.3 percent of the total value of inventory in fiscal year 2009 to a target of 10 percent by the end of fiscal year 2012. DOD developed nine sub-plans, which are designed to assist in reducing excess inventory and improve inventory management practices across DOD. Each of the nine sub-plans focuses on a particular inventory management area and includes an objective, as identified in table 1. Additionally, see appendix IV through XII for detailed information for each sub-plan.

Table 1: The Nine Sub-plans and Corresponding Objectives

Sub-plans	Objective of the sub-plan	Appendix
1. Demand forecasting[a]	To improve the prediction of future demand so that inventory requirements more accurately reflect actual needs.	IV
2. Total asset visibility[b] and multi-echelon modeling[c]	To minimize the size of purchases by considering all accessible inventories.	V
3. On-order excess inventory	To reduce or terminate purchases that result in inventory excesses due to a decrease in requirements.	VI
4. Economic retention stock	To ensure economic retention decisions are based on current cost factors and economic principles.	VII
5. Contingency retention stock	To ensure the services and DLA justify the retention of contingency stock.	VIII
6. Storage and direct vendor delivery[d]	To use commercial vendors to store items when use of those vendors represents the best value to the government.	IX
7. Items with no demand[e]	To eliminate items with a history of no recurring demand and a low probability of future demand, unless there is sufficient justification for the retention of the item.	X
8. Disposition of potential reutilization stock (i.e., on-hand excess inventory)	To ensure timely disposition of items categorized as potential reutilization stock.	XI
9. Other inventory improvement actions	To accomplish several cross-functional improvements, including revising current inventory categories to better reflect the rationale behind retaining the inventory, improving acquisition lead times, and establishing departmentwide metrics for inventory management.[f]	XII

Source: DOD's *Plan* and its supporting documents.

[a]Demand forecasting is predicting future customer demands so inventory managers can develop inventory requirements to satisfy demands when they occur. Inaccurate forecasts lead to either excess inventory or shortfalls.

[b]Total asset visibility is the capability to provide all users with timely and accurate information about the location, movement, status, and identity of supplies and the capability to act on this information.

[c]Multi-echelon modeling is the use of mathematical models that compute the optimal number and type of parts needed at the wholesale and retail levels to achieve readiness and cost goals.

[d]Direct vendor delivery is a materiel acquisition and distribution method that requires supplier delivery directly to the customer, which can reduce the storage of items by the services and DLA.

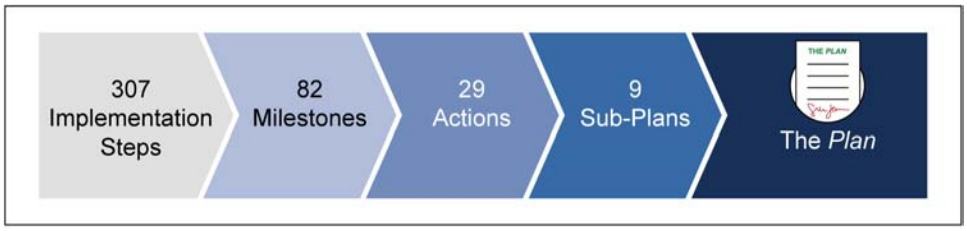
[e]Items with no recurring demand are items that have not been needed over a specified period. Although the services and DLA time periods vary, the *Plan* intends to implement a DOD-wide standard of greater than 5 years.

[f]Acquisition lead time, also known as procurement lead time, measures the length of time between the identification of a materiel requirement and the receipt of that materiel into the supply system. Acquisition lead time is the sum of administrative lead time and production lead time. Administrative lead time is the time interval between identifying a need to purchase an item and the award of a contract. Production lead time is the time interval between the award of a contract and receiving the purchased materiel into the supply system.

Each of these nine sub-plans include actions, milestones, and implementation steps. See figure 2 for a depiction of the *Plan*'s implementation structure. OSD, the services, and DLA use a plan of action and milestones to manage the *Plan*'s implementation, which

includes steps for each of the nine sub-plans and tracks the status of the implementation.

Figure 2: The *Plan*'s Implementation Structure



Source: GAO analysis of the *Plan* and its supporting documents.

Performance Management Structure of the *Plan*'s Implementation

The *Plan* outlines the roles and responsibilities of key stakeholders, including those of the Deputy Assistant Secretary of Defense for Supply Chain Integration, the Supply Chain Executive Steering Committee, the services, and DLA. The Deputy Assistant Secretary of Defense for Supply Chain Integration oversees the *Plan*'s implementation through progress review meetings held about every month. The Supply Chain Executive Steering Committee, which is comprised of executive-level members from the services and DLA, advises the Deputy Assistant Secretary of Defense for Supply Chain Integration on matters related to supply chain management, including the implementation of the *Plan*, and typically receives a briefing on the *Plan*'s implementation every three months.[17] Also, the Supply Chain Executive Steering Committee is used to resolve issues encountered in implementation that cannot be resolved at a lower level. Any unresolved issues are discussed and resolved at the Joint Logistics Board, which is comprised of senior-level participants from the services, combatant commands, and DLA, and is responsible for

[17]According to DOD officials, the Supply Chain Executive Steering Committee is an executive-level governance body for oversight of improvement efforts. The Executive Steering Committee is chaired by the Deputy Assistant Secretary of Defense for Supply Chain Integration.

reviewing the status of the logistics portfolio and the effectiveness of the defense-wide logistics chain in supporting to the warfighter.[18]

Three groups—forecasting and demand planning, inventory and retention, and supply chain metrics—are responsible for managing the day-to-day actions in the *Plan*. Representatives from OSD, the services, and DLA comprise the groups. Each group has responsibility for particular sub-plans as follows:

- **Forecasting and demand planning group:** Responsible for the sub-plans on demand forecasting and total asset visibility and multi-echelon modeling[19] and a section of the sub-plan on other inventory improvement actions, specifically actions associated with reducing acquisition lead times for spare parts.[20]

- **Inventory and retention group:** Responsible for the sub-plans on on-order excess inventory, economic retention, contingency retention, storage and direct vendor delivery, no-demand items, and disposition of potential reutilization stock and the section of the sub-plan on other inventory improvement actions associated with inventory segmentation, inventory systems modernization, and efficiency metrics.

- **Supply chain metrics group:** Responsible for leading efforts to standardize the definitions and computation of metrics across DOD, validating the effectiveness of measures as indicators of progress, translating metrics to inform future decisions, and integrating the

[18]The Joint Logistics Board is co-chaired by the Assistant Secretary of Defense for Logistics and Materiel Readiness and the Joint Staff Director of Logistics. It meets bi-monthly and the discussion topics vary with each meeting and are focused on providing overall direction and guidance with respect to supply chain management across DOD.

[19]Multi-echelon modeling is the use of mathematical models that compute the optimal number and type of parts needed at the wholesale and retail levels to achieve readiness and cost goals.

[20]Acquisition lead time, also known as procurement lead time, measures the length of time between the identification of a materiel requirement and the receipt of that materiel into the supply system. Acquisition lead time is the sum of administrative lead time and production lead time. Administrative lead time is the time interval between identifying a need to purchase an item and the award of a contract. Production lead time is the time interval between the award of a contract and receiving the purchased materiel into the supply system.

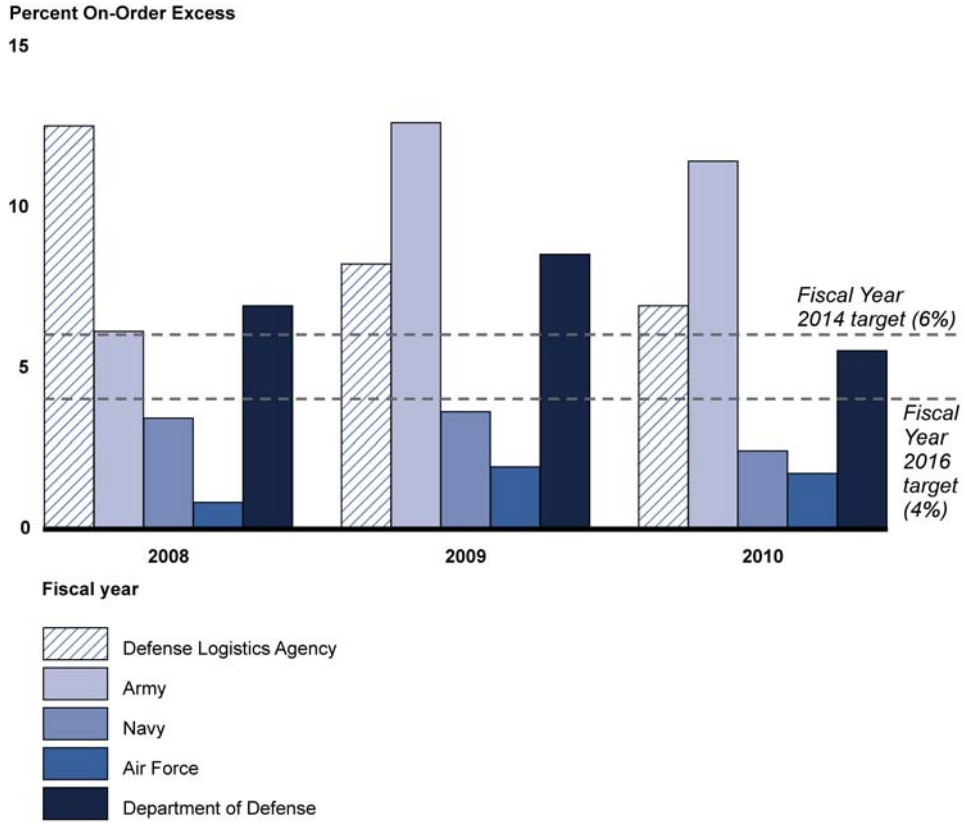
metrics in the *Plan* into the DOD performance measurement framework.

DOD Established Targets for Reducing Excess Inventory Based on the Best Data Available, but Its Targets May Not Effectively Guide Continued Improvement

DOD may find that the two targets for reducing on-order and on-hand excess inventory that it established when developing the *Plan* in fiscal year 2010 are ineffective in guiding future inventory management improvement efforts. DOD set measurable targets for each of its goals based on the best data available according to DOD officials, but since that time more recent data revealed that the on-order excess inventory target was met 4 years early and prior to the *Plan*'s implementation efforts' beginning. Additionally, the on-hand excess inventory target was surpassed because DOD revised the definition and calculation of on-hand excess inventory.

DOD's target for the on-order excess inventory goal is to reduce, collectively among the services and DLA, the percentage of total obligated on-order dollars to 6 percent by end of fiscal year 2014 and 4 percent by the end of fiscal year 2016. Reducing the percentage of on-order excess inventory would result in less economic or contingency retention stock being held by the department and/or less potential on-hand excess inventory that must be disposed of by the department since there is not a need for the item. DOD reduced its percentage of on-order excess inventory from 8.5 percent, or approximately $1.15 billion, in fiscal year 2009 to 5.5 percent, or about $940 million, at the end of fiscal year 2010, thereby achieving its 2014 target 4 years early. The Air Force and Navy (including the Marine Corps), as of fiscal year 2010, were below the 6 percent on-order excess inventory target for fiscal year 2014, whereas the Army and DLA were above the target. (See figure 3 for the percentage of on-order excess inventory for fiscal years 2008 to 2010 across DOD.) DOD achieved its fiscal year 2014 target for on-order excess inventory prior to the implementation of the *Plan*, which began in fiscal year 2011.

Figure 3: Percentage of On-Order Excess Inventory, Fiscal Years 2008 - 2010

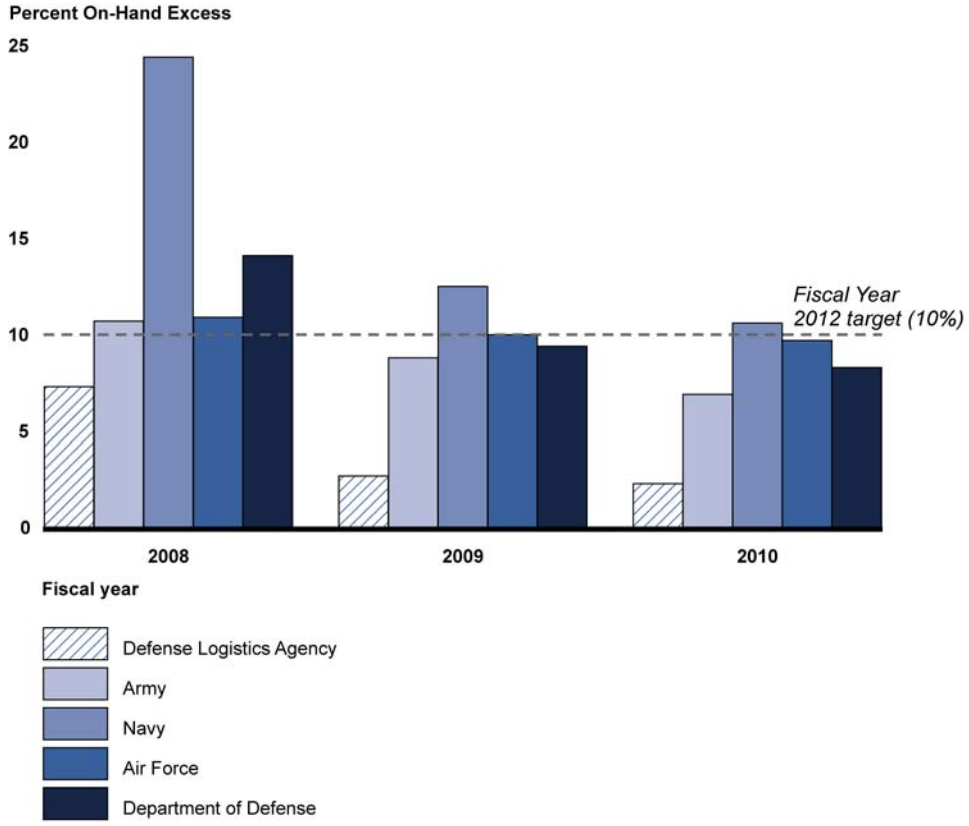


Source: DOD's inventory reporting data.

DOD's target for the on-hand excess inventory goal is to reduce, collectively among the services and DLA, the percentage of the total value of secondary item inventory designated as excess to 10 percent by the end of fiscal year 2012. Reducing the percentage of on-hand excess inventory is an indicator of a more effective and efficient inventory management system, according to DOD officials. In fiscal year 2011, based on further analysis of the inventory data, DOD revised the definition of on-hand excess inventory, which resulted in a reduction in its percentage of on-hand excess from 9.4 percent, or $8.9 billion, in fiscal year 2009 to 8.3 percent, or $8.4 billion, in fiscal year 2010, which is well below its fiscal year 2012 target of 10 percent. DOD revised the definition of on-hand excess inventory to exclude the projected number of condemned items, which are unserviceable assets that are determined to be beyond the point of economic repair during the repair process. OSD officials stated they, in collaboration with the services and DLA, decided

that the projected number of condemnations would not be included in the on-hand excess inventory calculation because the services and DLA have no way to dispose of future condemned items, and therefore these items should not be counted as on-hand excess inventory. In addition, they stated inclusion of the condemned items would inflate the amount of on-hand excess inventory, thus DOD plans to report projected condemned items as a separate inventory category in the future. The Army, Air Force, and DLA are below the 10 percent on-hand excess inventory target for fiscal year 2012, whereas the Navy (including the Marine Corps) is slightly above the target. (See figure 4 for the percentage of on-hand excess inventory for fiscal years 2008 to 2010 across DOD.)

Figure 4: Percentage of On-Hand Excess Inventory, Fiscal Years 2008 - 2010



Source: DOD's inventory reporting data.

The Standards for Internal Control in the Federal Government[21] and results-oriented management practices[22] emphasize the importance of reviewing and validating performance measures to ensure these measures remain appropriate. Specifically, we have reported that without

[21]GAO/AIMD-00-21.3.1, November 1999.

[22]See GAO, *Results-Oriented Management: Strengthening Key Practices at FEMA and Interior Could Promote Greater Use of Performance Information*, GAO-09-676 (Washington, D.C.: Aug. 17, 2009); *International Food Assistance: USAID Is Taking Actions to Improve Monitoring and Evaluation of Nonemergency Food Aid, but Weaknesses in Planning Could Impede Efforts*, GAO-09-980 (Washington, D.C.: Sept. 28, 2009); and Managing for Results: Enhancing Agency Use of Performance Information for Management Decision Making, GAO-05-927 (Washington, D.C.: Sept. 9, 2005).

sufficiently ambitious goals or targets, managers may not have incentives to use performance information to identify opportunities for significant improvement.[23] A critical factor in the success of goal-setting is developing ambitious, but realistic "stretch" goals that challenge the organization to achieve performance improvements.[24] DOD inventory management guidance states that the Assistant Secretary of Defense for Logistics and Materiel Readiness is responsible for monitoring the overall effectiveness and efficiency of DOD's materiel management systems and continually developing improvements.[25] It also notes that it is DOD policy to periodically conduct performance evaluations of its supply chain operations and inventory.

Officials stated that prior to developing the *Plan* in fiscal year 2010, DOD had not established departmentwide targets for on-hand and on-order excess inventory, therefore establishing these targets was a new endeavor for DOD. According to DOD officials, establishing optimal targets for excess inventory is challenging and must consider on-going operational challenges, such as the potential impact of the reset of military equipment returning from Iraq and Afghanistan as well as the need to meet service readiness rates. DOD's targets in the *Plan* were set based on an analysis of trends in the inventory data prior to and including fiscal year 2009. OSD officials described the process used to establish the targets as one in which OSD, service, and DLA senior officials reviewed inventory data trends and exercised professional judgment to select challenging, yet achievable targets to focus the reduction of excess inventory. When developing the *Plan* DOD did not know that its on-order excess inventory target had already been met because departmentwide inventory data is not available until approximately 6 months after the end of the fiscal year, which meant the fiscal year 2010 data was not available until approximately 6 months into the *Plan*'s implementation. Furthermore, additional analysis of the inventory data led DOD officials to make adjustments to the definition and calculation of on-hand excess inventory, which made the targets for on-hand excess inventory less meaningful.

[23]GAO-09-676.

[24]GAO, *Government Reform: Goal-Setting and Performance*, AIMD/GGD-95-130R (Washington, D.C.: Mar. 27, 1995).

[25]DOD Instruction 4140.01, DOD Supply Chain Materiel Management Policy (Dec. 14, 2011).

DOD officials attribute the reduction in excess inventory to increased management oversight on the part of OSD, the services, and DLA leadership, which was prompted by increased congressional oversight through GAO reviews and the congressional mandate to develop a comprehensive plan to improve inventory management. OSD officials stated they intend to review the on-order excess inventory target for fiscal year 2014 and the on-hand excess inventory for future years after the fiscal year 2011 data is available. Through such a review, DOD may find the *Plan*'s existing targets for its two goals—reducing on-order and on-hand excess—are no longer effective in guiding and monitoring continuous improvement for the remainder of the *Plan*'s implementation given DOD's progress in these areas.

DOD Has Made Progress in the Early Stages of the *Plan*'s Implementation, but Has Experienced Delays and Challenges Remain in Implementation

In addition to making progress toward achieving the targets discussed above, DOD has made progress implementing the *Plan*'s actions for improving inventory management, which began in late fiscal year 2010. However, DOD is only 18 months into a 4-year implementation effort and has experienced some delays and faces continued challenges during the remainder of implementation. Specifically, DOD is implementing a series of actions focused at improving policies, procedures, and processes for inventory management that require collaboration among OSD, the services, and DLA and a coordinated implementation approach. DOD's progress included reviewing department, service, and DLA inventory management guidance, and drafting revisions scheduled to be issued by the end of fiscal year 2012. The *Plan*'s overall implementation schedule has slipped only 1 month since the effort began; however, as of January 1, 2012, a number of the *Plan*'s actions and milestones were delayed based on original estimated completion dates. Over the next 3 years of implementation efforts, OSD, the services, and DLA will confront several key challenges in their efforts to implement the remainder of the *Plan*, such as improving demand forecasting, accelerating multi-echelon modeling, and ensuring effective execution of DOD guidance by the services and DLA for the management of on-order excess, retention stocks, and potential reutilization stocks.

DOD Has Made Progress In the Early Stages of the *Plan*'s Implementation

During the initial implementation effort, OSD, the services, and DLA have made progress in implementing the actions associated with the *Plan*. Much of the progress thus far has involved OSD, the services, and DLA gathering and analyzing data, such as reviewing DOD, service, and DLA inventory management guidance and practices and making revisions where appropriate. For example, in collaboration with the services and

DLA, OSD is in the process of revising DOD guidance to standardize and strengthen inventory management practices.[26] To inform those changes, OSD, the services, and DLA have conducted reviews of guidance and practices for demand forecasting, on on-order excess inventory, economic retention stock, contingency retention stock, potential reutilization stock, and storage and direct vendor delivery in the *Plan*'s first 18 months of implementation. According to OSD officials, this revision is scheduled to be finalized and issued by the end of fiscal year 2012. They also stated that once the revised DOD guidance is finalized and issued the process of implementing the guidance at the service and DLA level will require time and sustained leadership focus.

According to DOD officials, in some areas, the services and DLA already have service or agency-specific guidance that addresses some of the proposed requirements of the revised departmentwide draft guidance, but in other areas work remains for the services and DLA to ensure that the draft DOD guidance is reflected, as needed, in organizational guidance and implemented consistently. Furthermore, according to service and DLA officials, the services and DLA have been proactively updating or revising their procedures and practices based on the proposed revisions to DOD inventory management guidance in some cases. For example, the U.S. Army Materiel Command has implemented changes to its automated business system for managing inventory, commonly referred to as an enterprise resource planning system, to be able to categorize contingency retention stock according to the categories agreed upon by OSD, the services, and DLA as part of the contingency retention stock sub-plan implementation efforts. The U.S. Army Materiel Command also required contingency retention stock to be justified and documented on an annual basis. The Navy Supply System Command has developed guidance for the management of its on-order excess inventory and DLA is in the process of making changes to its procedures for on-order excess management.

In addition to revising guidance and procedures, OSD, the services, and DLA are also developing and implementing metrics associated with each

[26]DOD Instruction 4140.01, DOD Supply Chain Materiel Management Policy (Dec. 14, 2011) is the current policy for supply chain materiel management. DOD is currently developing a manual to provide more detailed guidance in support of DOD Instruction 4140.01. The manual, once issued, will replace DOD 4140.1-R, *DOD Supply Chain Materiel Management Regulation* (May 23, 2003).

sub-plan to assist in monitoring the status of DOD's inventory in conjunction with the *Plan*'s implementation. Many of the metrics are established, but a few of the metrics, such as forecasting error, are under development and OSD, the services, and DLA are working to agree on the methodology for calculating these particular metrics.[27] See appendix IV through XII for detailed information for each sub-plan.

OSD, the services, and DLA have demonstrated progress in other areas of the *Plan*'s implementation as well. These areas include, but are not limited to, the following:

- **Automated access to inventory.** OSD, the services, and DLA determined that 95 percent of DOD's inventory is accessible by automated means to the services and DLA, which exceeded the *Plan*'s goal of achieving automated accessibility to 90 percent of its inventory within 5 years.

- **DLA's in-storage visibility program.** OSD, the services, and DLA have increased participation in the in-storage visibility program, which allows services and DLA to obtain consumable items from another service or DLA through established business rules. For example, the Air Force had 145 sites participating in fiscal year 2010 and increased the number to 190 sites. The Army and Navy increased the number of sites also. The program conducted $73.8 million lateral redistributions and procurement offsets in fiscal year 2010 and $68.3 million in fiscal year 2011.

- **No demand items.** OSD, the services, and DLA have begun reviewing their inventories for items that have not had any orders for 5 or more years to reevaluate the justification for retaining these items, even if the items are within the approved acquisition objective. For example, the Army has been reviewing no demand items since 2006 and has been successful at reducing storage space and storage costs associated with these items.

- **Inventory categorization.** OSD, the services, and DLA have reviewed existing categories of inventory (i.e., the approved acquisition objective, economic retention stock, contingency retention

[27]Demand forecast error is the difference between actual demand and forecasted demand, stated in a manner that quantifies any bias towards over or under forecasting.

stock, and potential reutilization stock) and developed tentative sub-categories that provide further clarification as to the make-up of each category. DOD's *Plan* includes steps to incorporate this information into its guidance on inventory management, specifically a revision of DOD 4140.64-M Secondary Item Stratification Manual (August 24, 2009).

Implementation Is Generally on Schedule, but Some of the *Plan*'s Actions and Milestones Are Delayed

After 18 months, DOD's implementation of its *Plan* is generally on schedule, having slipped 1 month, although a number of actions and milestones have experienced delays. Each of the nine sub-plans includes actions, which are each supported by a number of milestones. OSD, the services, and DLA have begun implementing all 29 actions in the *Plan* and completed 3 of these actions, as of January 1, 2012. Our analysis shows that about half of the remaining actions are on schedule, while half are delayed. Our analysis also shows that of the 82 milestones that support the actions, OSD, the services, and DLA have completed 28, started 39, and have not yet started 15. About a third of the milestones are delayed. Implementation of all actions and milestones are scheduled to be complete the first month of fiscal year 2015, rather than the end fiscal year 2014 as originally scheduled. Tables 2 and 3 provide the status, by sub-plan, of actions and milestones, respectively. Additionally, see appendix IV through XII, for detailed information on the status of individual actions and milestones for each sub-plan.

Table 2: Summary of Implementation Status of Actions as of January 1, 2012

Sub-plan	Completed	Started, on schedule	Started, completion delayed	Total
Demand forecasting (appendix IV)	0	0	5	5
Total asset visibility and multi-echelon modeling (appendix V)	0	3	0	3
On-order excess (appendix VI)	0	0	2	2
Economic retention stock (appendix VII)	0	3	0	3
Contingency retention stock (appendix VIII)	1	1	1	3
Storage and direct vendor delivery (appendix IX)	2	1	1	4
No demand items (appendix X)	0	1	1	2
Potential reutilization stock (appendix XI)	0	3	0	3
Other inventory improvements (appendix XII)	0	2	2	4
Total	**3**	**14**	**12**	**29**

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Table 3: Summary of Implementation Status of Milestones as of January 1, 2012

Sub-plan	Completed	Started, on schedule	Started, completion delayed	Not started, on schedule	Not started, completion delayed	Total
Demand forecasting (appendix IV)	3	1	6	0	2	12
Total asset visibility and multi-echelon modeling (appendix V)	2	1	3	6	0	12
On-order excess (appendix VI)	2	0	2	0	0	4
Economic retention stock (appendix VII)	2	2	1	2	0	7
Contingency retention stock (appendix VIII)	4	1	3	0	0	8
Storage and direct vendor delivery (appendix IX)	7	1	1	0	0	9
No demand items (appendix X)	4	2	1	0	0	7
Potential reutilization stock (appendix XI)	1	3	1	2	0	7
Other inventory improvements (appendix XII)	3	4	6	0	3	16
Total	**28**	**15**	**24**	**10**	**5**	**82**

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

OSD, the services, and DLA regularly review the status of the actions and milestones and make adjustments as needed, and we found the reasons for delays in completing the *Plan*'s actions and milestones are varied and do not appear to involve a systemic problem. Several milestones across several sub-plans are delayed pending the issuance of revised inventory management guidance, which according to OSD officials is now scheduled for the end of fiscal year 2012. Other milestones have been delayed due to funding and contract issues. For example, one milestone was postponed due to delays in awarding a contract to evaluate improved demand forecasting methods and techniques for spare parts by taking into consideration the life cycle—initial provisioning, sustainment, and end-of-life—of a weapon system. In other cases, additional implementation steps were added to milestones to better focus and address an effort, lengthening the original planned time frame. For example, a milestone in the contingency retention stock sub-plan focused on assessing results of an independent review of contingency retention stock, making necessary policy changes, and implementing those changes, but after analyzing the results of the review, OSD, the services and DLA determined additional steps were needed to guide the implementation of the approved recommendations. Since we believe

these delays do not indicate an underlying issue and DOD is making adjustments to the *Plan* based on its experience to date, we are not making recommendations.

DOD Faces Several Implementation Challenges Going Forward

Over the next 3 years, OSD, the services, and DLA will confront four key challenges in their efforts to implement the remainder of its *Plan*. First, the drawdown of forces and equipment from Afghanistan over the coming years as well as the reset of the forces and equipment returning from Iraq and Afghanistan will make inventory management more difficult. DOD will need to effectively adjust demand planning to reflect changes in operational tempo associated with the drawdown as well as account for spare part needs associated with the reset of equipment to avoid the creation of inventory excesses. Additionally, the return of materiel from Afghanistan will require effective planning and may result in excess inventory. Second, the services and DLA are in varying stages of implementing their respective automated business systems for managing inventory, which are referred to as enterprise resource planning systems, which may make consistent data collection difficult and pose continuing challenges to implementing some areas of the *Plan*. While DLA has completely implemented its system, the services are at varying stages of implementing their systems. As part of the *Plan*, OSD, the services, and DLA are working together to monitor potential impacts on the *Plan*'s implementation. Third, several areas of the *Plan* moving forward present considerable implementation challenges due to the complexity of the issues. Some examples of complex issues in the *Plan* that pose implementation challenges include:

- **Improving demand forecasting.** Improving demand forecasting is difficult because it involves materiel managers having the most up-to-date operational planning information to adequately plan the stocking of materiel for the customer. The demand forecasting sub-plan focuses on putting in place more automated methods for exchanging information that can be used to improve forecasts between inventory managers and customers, but these efforts are only in the initial stages.

- **Accelerating the use of multi-echelon modeling.** DOD set a target to use multi-echelon modeling on 90 percent of targeted inventories by the end of fiscal year 2015. As part of its analysis, OSD, the services, and DLA determined that its targeted inventory is defined as that portion of the total inventory that includes inventory levels already set using multi-echelon modeling plus opportunities for additional

application. The targeted inventory is approximately 65 percent of DOD's inventory, or $61 billion of DOD's approximately $95 billion in inventory for fiscal year 2010. OSD, the services, and DLA are currently working to identify criteria and business rules for the targeted inventory that currently uses multi-echelon modeling to be able to develop opportunities for additional application to accelerate the use of multi-echelon modeling.

- **Implementing revised DOD guidance on retention management.** OSD, the services, and DLA have reviewed existing DOD and service guidance for the management of on-order excess, economic retention stock, contingency retention stock, and potential reutilization stock and are in the process of finalizing revisions to the guidance to be issued by the end of fiscal year 2012. However, the full implementation of the revised guidance will occur largely within the materiel and logistics commands of the services and at DLA.[28] As reported in our previous reports, existing policies and procedures to justify and review retention decisions were not implemented appropriately and consistently within the services and DLA.[29] While the collaborative review and revision of DOD guidance by OSD, the services, and DLA was an important first step, the standardized and effective implementation of these revised policies, once issued, in the services and DLA will be key to achieving the desired outcomes of the *Plan*.

Fourth, sustaining senior OSD, service, and DLA leadership and management attention through fiscal year 2015 will be important to effectively implement the remainder of the *Plan*. As we noted above, service and DLA officials told us that sustained leadership focus has been important thus far in DOD's implementation efforts. As implementation moves forward, addressing complex issues such as improving demand forecasting, accelerating multi-echelon modeling, and ensuring consistent implementation of DOD inventory management guidance will require continued management attention and focus. Furthermore, since implementation efforts are in the initial stages, sustaining leadership and management focus will be critical to guide improvement efforts for the remainder of the *Plan*'s implementation.

[28]These commands include the U.S. Army Materiel Command, Navy Supply Systems Command, Air Force Materiel Command, and Marine Corps Logistics Command.

[29]See GAO-10-469, GAO-09-199, GAO-09-103, and GAO-07-232.

DOD Is Developing a Set of Metrics to Assess Inventory Management Effectiveness and Efficiency, but Has Not Determined If It Will Incorporate These Metrics into Guidance

As part of the *Plan*, DOD is developing a set of metrics to assess the effectiveness and efficiency of its inventory management beyond the percentage targets for on-order and on-hand excess inventory identified in the *Plan*, but it has not determined if it will incorporate the set of metrics into guidance. This may hamper its ability to assess inventory management performance and sustain management attention on improvement beyond the *Plan*'s implementation.

OSD is leading the development of a supply chain enterprise metrics strategy designed to identify key departmentwide metrics to monitor the performance of the supply chain, along with inventory management, and serve as a basis for making supply chain guidance and resource decisions. However, DOD has not made final decisions and the effort is a work in progress. DOD officials told us that a set of comprehensive, standardized metrics will allow OSD, the services, and DLA to assess and balance the effectiveness and efficiency of inventory management operations within the broader construct of the supply chain. They added that assessing the effectiveness and efficiency of inventory operations in isolation from the rest of the supply chain would not be prudent. Rather, the DOD officials believe an assessment of the effectiveness and efficiency of inventory management must be conducted more broadly and take into account additional supply chain metrics, such as the ability of the supply chain to support the readiness of the force in a timely manner. Thus, OSD, the services, and DLA are working collaboratively to identify or develop the appropriate metrics, including the data source and methodology for producing the metrics.

OSD, the services, and DLA are currently developing possible departmentwide supply chain metrics, including inventory management metrics, to monitor the performance of the supply chain. Specifically, the development of the departmentwide metrics is based on one outcome—readiness—and four attributes—responsiveness, reliability, cost, and planning and precision—of the supply chain. To support the measurement of the outcome and attributes, the supply chain metrics group identified potential departmentwide metrics to be collected and assessed. The potential metrics include, but are not limited to, metrics associated with inventory management. OSD, the services, and DLA have not made a final decision on which metrics to monitor. The attributes and associated examples of metrics are shown in table 4.

Table 4: Supply Chain Outcome and Attributes, and Examples of Potential Metrics

Outcome of supply chain	Definition of outcome	Example of a potential metric	Definition of potential metric
Readiness	The ability of the supply chain to support weapon systems in undertaking and sustaining their assigned missions at planned peacetime and wartime utilization rates.	Not mission capable rate for maintenance or supply	Materiel condition indicating that systems and equipment are not capable of performing any of their assigned missions because of maintenance requirements or a maintenance work stoppage due to a supply shortage.
Attributes of supply chain	**Definition of attribute**	**Examples of a potential metric**	**Definition of potential metric**
Responsiveness	The ability of the supply chain to respond to customer materiel requests according to priority by providing the right support when it is needed and where needed.	Customer wait time	A measurement of the total elapsed time between the issuance of a customer order from organizational maintenance and the satisfaction of the customer order.
		Acquisition lead time	The sum of administrative lead time plus production lead time.[a]
Cost	The amount of supply chain resources required to deliver a specific performance outcome.	Total supply chain costs	The total cost of the DOD supply chain including operating and materiel costs.
		Tiered inventory turns	The number of times that the inventory cycles or turns over in a year. A tiered approach looks at specific layers of inventory and their turn cycles.
		Inventory dollars with five or more years of no demand	Inventory dollars for items with five or more years of no demand segmented by the approved acquisition objective, economic retention stock, contingency retention stock, and potential reutilization stock.
Reliability	The dependability and consistency of the supply chain providers to deliver required materiel support at a time and destination specified by the customer.	Denial rates	The percent of items directed for shipment that distribution depots reported a failure to ship all or part of the quantity originally directed for shipment.
		Wholesale supply availability	The percent of demands that are not backordered, excluding future materiel obligations.
Planning and precision	The ability of the supply chain to accurately anticipate customer requirements and plan, coordinate, and execute accordingly.	Demand forecast error	The difference between actual demand and forecasted demand, stated in a manner that quantifies any bias towards over or under forecasting.
		On-hand excess inventory	The dollar amount and the percentage of the total value of the inventory considered potential reutilization stock (or on-hand excess).
		On-order excess inventory	The dollar amount and the percentage of total obligated on-order dollars above the approved acquisition objective.

Source: GAO analysis of DOD documents.

[a]Administrative lead time is the time interval between identifying a need to purchase an item and the award of a contract. Production lead time is the time interval between the award of a contract and receiving the purchased materiel into the supply system.

Some of the potential metrics are currently reported by OSD, while others would be new metrics that would require establishing a data source and methodology. For example, customer wait time, on-order excess inventory, and on-hand excess inventory are metrics that are currently reported to the DOD Deputy Chief Management Officer by the Deputy Assistant Secretary of Defense for Supply Chain Integration.[30] Other potential metrics, such as the "not mission capable rate for maintenance or supply" related to the readiness attribute, are reported within DOD by other entities.[31] On the other hand, there are metrics, such as the "tiered inventory turns" metric related to the cost attribute and "demand forecast error", for which business rules are being established for the computation and collection of the data for the metric.[32]

As we recently reported, DOD has been challenged by developing departmentwide performance measures for supply chain management, including inventory operations.[33] We have also noted that developing sets of performance goals and measures could provide a balanced perspective of the intended performance of a program's multiple priorities, such as timeliness, service quality, customer satisfaction, and program cost.[34] Thus, the development of metrics to assess inventory management performance within the broader construct of supply chain management through a set of departmentwide, comprehensive, and standardized metrics is appropriate and critical, but the *Plan* and its

[30]Customer wait time is a measure of the number of days from the issuance of a customer order to satisfaction of that order. On-order excess inventory is measured by the dollar amount and the percentage of total obligated on-order dollars above the approved acquisition objective and on-hand excess inventory is measured by the dollar amount and the percentage of the total value of the inventory considered potential reutilization stock.

[31]The "not mission capable rate for maintenance or supply" is a materiel condition indicating that systems and equipment are not capable of performing any of their assigned missions because of maintenance requirements or a maintenance work stoppage due to a supply shortage. Non-mission capable rates affect a unit's readiness rating.

[32]"Tiered inventory turns" are the number of times that the inventory cycles or turns over in a year. A tiered approach looks at specific layers of inventory and their turn cycles.

[33]See GAO, *Defense Logistics: DOD Needs to Take Additional Actions to Address Challenges in Supply Chain Management*, GAO-11-569 (Washington, D.C.: July 28, 2011).

[34]See GAO, *Agency Performance Plans: Examples of Practices That Can Improve Usefulness to Decisionmakers*, GAO/GGD/AIMD-99-69 (Washington, D.C.: Feb. 26, 1999).

implementation actions do not include steps to incorporate the inventory management metrics, including the methodologies, into DOD guidance. When we spoke with DOD officials they told us they agree that the *Plan* and its implementation actions do not address implementing the comprehensive set of metrics in guidance and added that they agree it would be a good idea to do so.

DOD inventory management policy states that performance and cost evaluations of supply chain operations and inventory shall be conducted periodically.[35] The policy also states that the Assistant Secretary of Defense for Logistics and Materiel Readiness is responsible for monitoring the overall effectiveness and efficiency of its materiel management systems and continually developing improvements and that materiel managers should evaluate and be capable of reporting on the performance of inventory management, and more broadly supply chain operations. Based on our previous reporting, we have found that such metrics should be reportable in a consistent fashion and used to evaluate performance.[36] Further, we have found establishing metrics, and monitoring and evaluating program performance are key practices in results-oriented-management.[37]

A key part of metrics being reportable in a consistent fashion is ensuring that standardized definitions, methodologies, and procedures will be used. The services and DLA will be relied upon to generate the data for some of the departmentwide inventory management metrics; thus, efforts to monitor and evaluate inventory management performance may be hampered without standardized definitions, methodologies, and procedures for the consistent collection of data for the metrics. In the past, DOD has institutionalized supply chain metrics through guidance. For example, OSD issued guidance to the services and DLA that provided a standardized definition and procedures for measuring and

[35]DOD Instruction 4140.01, DOD Supply Chain Materiel Management Policy (Dec. 14, 2011).

[36]For information on results-oriented management practices and metrics, see GAO-09-676, GAO-09-980, and GAO-05-927.

[37]We have previously found that organizations should establish and periodically review and validate performance measures so that comparisons can be made relating different sets of data to one another to allow for corrective actions if necessary. See GAO, *Internal Control Management and Evaluation Tool,* GAO-01-1008G (Washington, D.C.: August 2001).

reporting the "customer wait time" metric to OSD.[38] This guidance helps ensure that the services and DLA collect the data needed on a standardized basis for the departmentwide metric so that decision makers can evaluate performance across the department. Furthermore, incorporating the inventory management metrics into the department's guidance and procedures would result in the institutionalization of the metrics and assist in sustaining a results-oriented management framework for inventory management beyond the *Plan*'s implementation. Without the institutionalization of the metrics, DOD may be hampered in its ability to assess the performance of inventory management and sustain management attention on continuously improving its inventory management beyond the *Plan*'s implementation.

DOD Has Achieved Cost Avoidances Based on Fiscal Years 2009 and 2010 Inventory Data and Plans to Reduce Resources Available for the Purchase of Secondary Items

DOD officials emphasized that the reductions achieved in the amount of on-order and on-hand excess inventory represent about $710 million in cost avoidances on the part of the department. Additionally, as part of the *Plan*'s implementation, DOD reduced the resources available to its working capital funds to purchase secondary inventory items.[39] Specifically, DOD reduced the departmentwide dollar value of on-order excess inventory from fiscal years 2009 to 2010, by approximately $210 million—a reduction from $1.15 billion, or 8.5 percent of total on-order dollars, to $940 million, or 5.5 percent. With respect to on-hand excess inventory, DOD reduced the departmentwide dollar value of on-hand excess inventory from fiscal years 2009 to 2010, by approximately $500 million—a reduction from $8.9 billion, or 9.4 percent of the total value of the inventory, to $8.4 billion, or 8.3 percent. According to OSD officials, reducing the percentage of on-order and on-hand excess inventory from fiscal year 2009 to 2010 indicates that the department's focused management efforts have started to yield cost avoidances and more effective inventory management operations. Lower levels of on-order excess mean that DOD is purchasing items that are needed to meet the approved acquisition objective rather than items that will be classified as

[38]DOD Instruction 4140.61, Customer Wait Time and Time Definite Delivery (Dec. 14, 2000).

[39]A working capital fund relies on sales revenue rather than direct appropriations to finance its continuing operations and is intended to (1) generate sufficient resources to cover the full costs of its operations and (2) operate on a break-even basis over time—that is, neither make a gain nor incur a loss. Customers use appropriated funds to finance orders placed with the working capital fund.

potential reutilization stock, or on-hand excess, upon arrival. Reducing the level of on-hand excess means that DOD is purchasing items that are needed, retaining items as economic or contingency retention stock, and/or disposing of items more efficiently that are no longer needed by the department. Additionally, OSD, the services, and DLA have increased participation in the in-storage visibility program, which allows services and DLA to obtain consumable items from another service or DLA to prevent the procurement of additional items. The program completed $73.8 million lateral redistributions and procurement offsets in fiscal year 2010 and $68.3 million in fiscal year 2011, which prevented the acquisition of additional items.

DOD also plans to reduce the resources available in its working capital funds to purchase secondary inventory items by about $365 million over fiscal years 2012 to 2016 as part of the *Plan*'s implementation. As part of the fiscal year 2012 budget deliberations, OSD implemented a management decision that reduced the obligation authority for the Army and DLA working capital funds by $39 million in fiscal year 2012. DOD has identified further reductions of obligation authority to the respective working capital funds for fiscal years 2013 to 2016, which are displayed in table 5. The reductions only impact the Army and DLA because neither met the percentage targets established for on-order excess inventory in the *Plan*—6 percent by fiscal year 2014 and 4 percent by fiscal year 2016.[40] According to OSD officials, these reductions in obligation authority are intended to heighten management attention on efforts to reduce the Army and DLA's on-order excess inventory. The Navy (including the Marine Corps) and Air Force were below these targets; thus, no reductions are currently planned for their working capital funds as part of this effort.

[40]In order to calculate the reduction amounts, OSD assumed reductions in the departmentwide percentage of on-order excess from 8.5 percent in fiscal year 2009 to 4 percent in fiscal year 2016 with the largest percentage reductions occurring in fiscal years 2015 and 2016. OSD multiplied these assumed aggregate wide percentage reductions by a ratio of the DOD on-order excess dollar reduction (based on the assumed departmentwide percentage reductions) to the Army and DLA's previous year total on-order excess dollars to determine the yearly reduction amount. The calculations were based on fiscal year 2009 stratification reporting data, which was the best available data at the time.

Table 5: Army and DLA Working Capital Fund Reductions in Obligation Authority, Fiscal Years 2012 through 2016

Dollars in millions						
Service or Organization	**Fiscal Year 2012**	**Fiscal Year 2013**	**Fiscal Year 2014**	**Fiscal Year 2015**	**Fiscal Year 2016**	**Total**
Army	$23	$24	$24	$71	$72	$214
DLA	16	17	17	50	51	$151
Total	**$39**	**$41**	**$41**	**$121**	**$123**	**$365**

Source: Deputy Assistant Secretary of Defense for Supply Chain Integration.

Since the working capital funds generally rely on sales revenue (i.e., a military unit purchasing a spare part from the working capital fund with appropriated operation and maintenance funds), rather than direct annual appropriations to finance the purchase of secondary inventory items, these reductions to obligation authority are not directly reducing the expenditure of appropriated funds. Rather, the reductions to obligation authority mean that the working capital fund has reduced purchase authority for additional secondary items for the inventory, resulting in a lower inventory replenishment rate. While these reductions will not directly result in savings to direct appropriation accounts, OSD, Army, and DLA officials told us that the reduction of obligation authority will require the Army and DLA to better manage its available resources for purchasing new secondary items.

Conclusions

Effective and efficient management of DOD's inventory is critical to supporting the readiness of the force, and requires a balanced approach. To be effective DOD must have the correct amount of spare parts on-hand at the correct time to support the fighting force, but DOD must also manage its inventory efficiently to avoid the unnecessary and wasteful accumulation of secondary inventory that could divert resources away from defense priorities. With consistent and heightened visibility to Congress and committed leadership on the part of OSD, the services, and DLA, DOD has made progress improving its inventory management. DOD is currently 18 months into a 4-year implementation process, and is making progress towards reducing excess inventory, implementing its *Plan*, and establishing a departmentwide set of standardized metrics for inventory management. Moving forward, DOD's inventory management improvement efforts would benefit from challenging, but achievable targets for reducing its on-order and on-hand excess inventory. OSD's stated intention to review the targets would help ensure that DOD's progress is not hampered because of a lack of meaningful targets to

guide its efforts. Additionally, while DOD has begun developing a departmentwide set of standardized inventory management metrics as part of the *Plan*'s implementation, formalizing the set of metrics in guidance would allow DOD, services, and DLA to institutionalize the metrics in a results-oriented management framework beyond the *Plan*'s implementation. To continue progress, committed and sustained leadership on the part of OSD, the services, and DLA will be key as DOD implements the remainder of the *Plan* and institutionalizes a results-oriented management framework.

Recommendations for Executive Action

To improve implementation of the Comprehensive Inventory Management Improvement *Plan* and ensure sustained management attention beyond the *Plan*'s implementation consistent with results-oriented management practices, we recommend the Secretary of Defense direct the Assistant Secretary of Defense for Logistics and Materiel Readiness to take the following three actions:

- conduct and document periodic re-examinations of its existing on-order and on-hand excess inventory percentage targets (such as those officials say are planned) and update the targets and associated timelines, if necessary, to guide continued improvement in its inventory management through the *Plan*'s implementation;
- develop and implement guidance that establishes a comprehensive, standardized set of departmentwide inventory management metrics, including standardized definitions and procedures for measuring and reporting the metrics; and
- employ these metrics in periodically monitoring the effectiveness and efficiency of its inventory management practices.

Agency Comments and Our Evaluation

We provided a draft of this report to DOD for comment. In written comments, DOD concurred with our recommendations. DOD's comments are reprinted in their entirety in appendix XIII. DOD also provided technical comments, which we incorporated into the report as appropriate.

DOD concurred with our recommendation to conduct and document periodic re-examinations of its existing on-order and on-hand excess inventory percentage targets (such as those officials say are planned) and update the targets and associated timelines, if necessary, to guide continued improvement in its inventory management through the *Plan*'s implementation. DOD stated that it will re-examine the on-order and on-

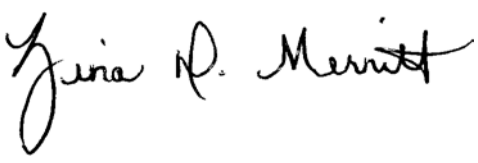
hand excess percentage targets as part of its ongoing review of existing inventory management metrics. Furthermore, DOD stated that the on-hand excess inventory percentage target is currently being revised, taking into consideration current performance and anticipated operational conditions that may affect this target.

DOD concurred with our recommendation to develop and implement guidance that establishes a comprehensive, standardized set of department-wide inventory management metrics, including standardized definitions and procedures for measuring and reporting the metrics. Specifically, DOD stated that it is continuing to identify and develop a set of department-wide inventory management metrics. We acknowledge the department's planned actions and want to reiterate the need for standardized definitions and procedures for measuring and reporting them as a means for supporting a results-oriented management framework beyond the *Plan*'s implementation.

Finally, DOD concurred with our recommendation to employ the metrics in periodically monitoring the effectiveness and efficiency of its inventory management practices. Specifically, DOD stated they will continue to monitor existing inventory management metrics and include additional metrics approved for its department-wide assessments of inventory management.

We are sending copies of this report to the appropriate congressional committees, the Secretary of Defense, the Secretaries of the Army, Navy, and Air Force, and the Director of DLA. In addition, the report is available at no charge on the GAO website at http://www.gao.gov.

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



Zina D. Merritt
Director
Defense Capabilities and Management

List of Committees

The Honorable Carl Levin
Chairman
The Honorable John McCain
Ranking Member
Committee on Armed Services
United States Senate

The Honorable Daniel K. Inouye
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The Honorable Thad Cochran
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Subcommittee on Defense
Committee on Appropriations
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The Honorable Howard P. “Buck” McKeon
Chairman
The Honorable Adam Smith
Ranking Member
Committee on Armed Services
House of Representatives

The Honorable C.W. “Bill” Young
Chairman
The Honorable Norman D. Dicks
Ranking Member
Subcommittee on Defense
Committee on Appropriations
House of Representatives

Appendix I: Objectives, Scope, and Methodology

The objectives of our work were to determine the extent to which (1) the Department of Defense (DOD) established and achieved targets for reducing excess inventory in the *Comprehensive Inventory Management Improvement Plan (Plan)*, (2) DOD made progress in implementing the *Plan*, (3) DOD has established and implemented standardized metrics to track their progress in improving inventory management, and (4) DOD has identified and realized any cost savings or cost avoidance from implementing the *Plan*. To gather information for these objectives, we reviewed documentation and interviewed officials from:

- Office of the Under Secretary of Defense (Comptroller);
- Office of the Deputy Assistant Secretary of Defense for Supply Chain Integration;
- Office of the Deputy Chief Management Officer;
- Headquarters Army, Office of the Deputy Chief of Staff of the Army, Logistics;
- Headquarters Navy, Deputy Assistant Secretary of the Navy, Acquisition & Logistics Management;
- Headquarters Air Force, Deputy Chief of Staff for Logistics, Installations, and Mission Support, Directorate of Logistics Policy Division;
- Marine Corps Headquarters, Installations and Logistics Department;
- U.S. Army Materiel Command;
- Navy Supply Systems Command, Headquarters;
- Air Force Materiel Command, Headquarters;
- Marine Corps Logistics Command, Headquarters; and
- Defense Logistics Agency (DLA).

To assess the extent to which DOD's *Plan* has established and its implementation has achieved targets for reducing excess inventory, we evaluated Office of the Secretary of Defense's (OSD), the services', and DLA's progress in reaching the *Plan*'s two main targets for reducing on-order excess and on-hand excess inventory by comparing OSD's, the services', and DLA's reported progress in fiscal year 2009 and fiscal year 2010 when measured against the targets for these two main goals established in the *Plan*. Fiscal year 2011 data was not available by the end of our review to assess the department's progress in fiscal year 2011, the first year of implementing the *Plan*. We assessed OSD's, the services', and DLA's progress in reaching the targets of the *Plan* and the process DOD used to establish the targets by obtaining and reviewing OSD progress reports, and reviewing other supporting documentation from the services and DLA to corroborate the DOD's reported progress. To provide context, we interviewed OSD, service, and DLA officials to

discuss their interpretation of the data for the two goals. Additionally, we examined the reliability of data used for the targets by reviewing DOD policy and procedures for the collection of the data used for inventory reporting and interviewing officials about their methods for quality control and found that the data were sufficiently reliable to address our objectives.

To determine the extent to which OSD, the services, and DLA have made progress in implementing the *Plan*, we evaluated DOD's *Plan* and the plan of action and milestones, which includes actions, milestones, and implementation steps for each of the nine sub-plans and tracks the status of the implementation. Our analysis of the implementation of the *Plan* focused on actions and milestones that were started and underway by January 1, 2012 and we rated each action and milestone as either "completed," "started, on schedule," "started, completion delayed," "not started, on schedule," or "Not started, completion delayed." These categories were defined as follows:

- Completed: Action or milestone was completed, irrespective of whether or not the task was completed on-schedule.
- Started, on schedule: Action or milestone can be verified as underway, but is not complete and scheduled completion date has not slipped.
- Started, completion delayed: Action or milestone can be verified as underway, but is not complete and the team has determined the scheduled completion date has slipped.
- Not started, on schedule: Action or milestone planned to begin after January 1, 2012, and the expected completion date is unchanged from the *Plan*.
- Not started, completion delayed: Action or milestone planned to begin after January 1, 2012, and the expected completion date has slipped from the *Plan*.

Specifically, a GAO analyst reviewed and compared the schedule and content of the actions and milestones in the plan of actions and milestones with the status of implementation efforts as reported in the progress reviews conducted by OSD and briefings provided to the Supply Chain Executive Steering Committee; assessed the status of each action and milestone by the categories above; and recorded the assessment and the basis for the assessment. A second analyst then reviewed the documentation and assessment and either confirmed the assessment or proposed a different assessment. The final assessment reflects the

analysts' consensus. In addition we interviewed DOD officials as needed to clarify the status of any efforts where the documentation was unclear.

To determine the extent to which DOD has established and implemented standardized metrics to track the effectiveness and efficiency of inventory management, we reviewed all documents related to the *Plan*, its plan of actions and milestones, and the progress reviews conducted by OSD to identify any performance metrics associated with the implementation of the *Plan*. We reviewed the actions and milestones associated with establishing metrics to evaluate the effectiveness and efficiency of inventory management across the department. We interviewed OSD, service, and DLA officials responsible for implementing the *Plan* to understand the status and maturity of the metrics DOD is considering and how the reporting of inventory management measures may change.

To determine the extent to which DOD has identified and realized any cost savings or cost avoidance associated with implementation, we reviewed the *Plan* and associated documentation to identify any efforts related to cost savings or cost avoidance. We also assessed the nature of the potential cost savings or cost avoidances associated with the implementation of the *Plan*'s actions and milestones. Specifically, we determined whether the projected cost savings and cost avoidances were the result of a reduction in obligations of directly appropriated funds (e.g., an operation and maintenance appropriation), changes to the working capital fund, or other factors, and determined whether these sources impact the validity of attributing these savings or cost avoidances to the *Plan*'s implementation. We also interviewed OSD, service, and DLA officials to discuss the rationale, and implementation of any cost savings or cost avoidance.

We conducted this performance audit between August 2011 and May 2012, 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: Implementation Status of Prior GAO Recommendations for DOD Inventory Management

Over the past 6 years, we issued six reports on different aspects of the Department of Defense's (DOD) inventory management. Table 6 summarizes the status of recommendations made in these six reports, which contained a total of 39 recommendations to improve DOD's inventory management. Twenty-nine of the recommendations have been implemented by the Offices of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA), five remain open for action, and five recommendations, related to improving acquisition lead time, were not implemented.[1] For each of the six reports, the specific recommendations, implementation status, and the related sub-plan of the *Comprehensive Inventory Management Improvement Plan* (*Plan*) are summarized in tables 7 through 12.

Table 6: Status of GAO Recommendations on Inventory Management Since 2006

		Number of recommendations		
Product date	**Product title and number**	**Open**	**Implemented**	**Not implemented**
May 2010	*Defense Inventory: Defense Logistics Agency Needs to Expand on Efforts to More Effectively Manage Spare Parts* (GAO-10-469)	2	6	-
January 2009	*Defense Inventory: Army Needs to Evaluate Impact of Recent Actions to Improve Demand Forecasts for Spare Parts* (GAO-09-199)	2	2	-
December 2008	*Defense Inventory: Management Actions Needed to Improve the Cost Efficiency of the Navy's Spare Parts Inventory* (GAO-09-103)	1	4	-
April 2007	*Defense Inventory: Opportunities Exist to Save Billions by Reducing Air Force's Unneeded Spare Parts Inventory* (GAO-07-232)	-	4	-
March 2007	*Defense Inventory: Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts* (GAO-07-281)	-	6	5
May 2006	*Defense Inventory: Actions Needed to Improve Inventory Retention Management* (GAO-06-512)	-	7	-
Total		**5**	**29**	**5**

Source: GAO analysis.

[1]Acquisition lead time, also known as procurement lead time, measures the length of time between the identification of a materiel requirement and the receipt of that materiel into the supply system. Acquisition lead time is the sum of the administrative lead time and production lead time. Administrative lead time is the time interval between identifying a need to purchase an item and the award of a contract. Production lead time is the time interval between the award of a contract and receiving the purchased materiel into the supply system.

Defense Inventory: Defense Logistics Agency Needs to Expand on Efforts to More Effectively Manage Spare Parts Recommendations for Executive Action

In our report issued in 2010, we found that DLA can enhance its efforts to manage spare parts more effectively primarily by focusing on the front end of the process when decisions are being made on what and how many items to buy in response to requirements. Our analysis of DLA data showed the agency had more spare parts secondary inventory than was needed to meet current requirements in fiscal years 2006 through 2008. Although DOD policy required DLA to minimize investment in inventory while also meeting requirements, seven factors were identified as causing DLA to order and stock parts that did not align with requirements. These seven factors were:

- inaccurate demand forecasting for parts;
- unresolved problems with accurately estimating lead times needed to acquire spare parts;
- challenges in meeting the military services' special requests to DLA for future spare parts support for weapon systems;
- closing gaps in providing accurate, timely data to inventory managers as input into purchase decisions;
- modifying or canceling planned purchases that may no longer be needed to meet currently estimated requirements;
- reducing contingency retention stock that may no longer be needed; and
- not tracking the overall cost efficiency of its inventory management

We made eight recommendations and as of January 1, 2012, six have been implemented and two remain open. Table 7 summarizes our recommendations and their implementation status.

Table 7: Status of Recommendations from Defense Inventory: Defense Logistics Agency Needs to Expand on Efforts to More Effectively Manage Spare Parts

Recommendation #1:	
To minimize investment in unneeded spare parts inventory, we recommend that the Secretary of Defense direct the Director, DLA, to establish an action plan for completing the agency's evaluation of identified demand planning issues, and include goals, objectives, resources, and time frames in this action plan.	**Status:** Implemented
	Related sub-plan of the *Plan*: Demand forecasting
	Comments: The demand forecasting sub-plan serves as the action plan for the services and DLA for improving demand forecasting. The plan includes goals, objectives, time frames, and the development of metrics for tracking forecasting error and bias.
Recommendation #2:	
To minimize investment in unneeded spare parts inventory, we recommend that the Secretary of Defense direct the Director, DLA, to develop an approach for working with suppliers to assess the root causes of inaccurate production lead time estimates and implement corrective actions linked to these root causes.	**Status:** Implemented
	Related sub-plan of the *Plan*: Other inventory improvement actions
	Comments: As part of the sub-plan focused on other inventory improvement actions, OSD, the services, and DLA are focusing on acquisition lead times, specifically evaluating existing initiatives departmentwide to reduce production and administrative lead times, improving lead time accuracy, and developing a standardized methodology to track and monitor changes to acquisition lead time.
Recommendation #3:	
To minimize investment in unneeded spare parts inventory, we recommend that the Secretary of Defense direct the Director, DLA, to reinforce and reinvigorate effective internal controls aimed at evaluating and making adjustments to the military services' estimated additional requirements, including both supply support requests and special program requirements.	**Status:** Implemented
	Related sub-plan of the *Plan*: Demand forecasting
	Comments: As part of the demand forecasting sub-plan, OSD, the services, and DLA have begun conducting analysis to determine needed policy changes for supply support requests.
Recommendation #4:	
To minimize investment in unneeded spare parts inventory, we recommend that the Secretary of Defense direct the Director, DLA, to conduct a program evaluation of the demand data exchange initiative to determine what, if any, additional actions should be taken to (1) improve communication and data exchange internally and with military customers and suppliers and (2) expand the initiative across the enterprise (for example, to other customers, items, and processes).	**Status:** Implemented
	Related sub-plan of the *Plan*: Demand forecasting
	Comments: DLA established a headquarters team in 2011 to better synchronize demand data exchange efforts. Additionally, the services and DLA are addressing the demand data exchange initiative during fiscal year 2012 as part of the efforts in the demand forecasting sub-plan.

Recommendation #5:	
To minimize investment in unneeded spare parts inventory, we recommend that the Secretary of Defense direct the Director, DLA, to evaluate the effectiveness of the agency's process for identifying and reducing potential over-procurements and determine the feasibility of applying the process on a wider scale.	**Status:** Implemented **Related sub-plan of the *Plan*:** On-order excess inventory **Comments:** Based on evaluating the over-procurement process, DLA is redesigning its over-procurement process to establish certain requirements for review of decisions to retain on-order materiel in excess of the approved acquisition objective. Additionally, the on-order excess inventory sub-plan seeks to reduce over-procurements departmentwide by reducing the on-order and on-hand excess of the services and DLA.
Recommendation #6:	
We recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics, in conjunction with the Director, DLA, and the Secretaries of the Army, the Navy, and the Air Force, to formally evaluate and report on the feasibility of requiring up-front military service funding for a portion of their supply support requests.	**Status:** Implemented **Related sub-plan of the *Plan*:** Demand forecasting **Comments:** OSD, the services, and DLA performed analysis as part of the demand forecasting sub-plan that showed there was not a need for service-DLA risk-sharing because supply support requests forecasts are not causing DLA to procure excess inventory.
Recommendation #7:	
We recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology and Logistics, in conjunction with the Director, DLA, and the Secretaries of the Army, the Navy, and the Air Force, to establish goals and metrics for tracking and assessing the cost efficiency of inventory management in accordance with DOD's policy requiring DLA and the services to minimize investment in secondary item inventory while providing inventory needed; develop and implement an approach for integrating these goals and metrics with inventory management improvement efforts; and incorporate the goals and metrics into existing management and oversight processes.	**Status:** Open **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** OSD, the services, and DLA have begun, but have not completed efforts to establish departmentwide cost efficiency metrics as part of the sub-plan focused on other inventory improvement actions.
Recommendation #8:	
We recommend that the Secretary of Defense direct the Secretaries of the Army, the Navy, and the Air Force to certify to DLA which items and what quantities of the contingency retention stock should be retained, in response to DLA's requests that they do so, and direct the Under Secretary of Defense for Acquisition, Logistics and Technology to provide guidance and oversight of this certification process.	**Status:** Open **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** OSD, the services, and DLA, as part of the contingency retention stock sub-plan, have begun, but have not completed efforts to revise policy and procedures for the services to certify the quantities of items to be held as contingency retention stock given the volume of items managed by DLA for the services.

Source: GAO analysis.

Defense Inventory: Army Needs to Evaluate Impact of Recent Actions to Improve Demand Forecasts for Spare Parts Recommendations for Executive Action

In our report issued in 2009, we found the Army had more inventory than was needed to support current requirements. At the same time, the Army had substantial inventory deficits. Based on Army demand forecasts, inventory that exceeded current requirements had enough parts on-hand for some items to satisfy several years, or decades, of anticipated supply needs. Also, a large proportion of items that exceeded current requirements had no projected demand. Army inventory also did not align with current requirements over this period because of a lack of cost-efficiency metrics and goals and inaccurate demand forecasting. We made four recommendations and two of these recommendations have been implemented and two remain open. Table 8 summarizes our recommendations and their implementation status.

Table 8: Status of Recommendations from Defense Inventory: Army Needs to Evaluate Impact of Recent Actions to Improve Demand Forecasts for Spare Parts

Recommendation #1:	
To improve the management of the Army's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Army to establish metrics and goals for tracking and assessing the cost efficiency of inventory management and incorporate these into existing management and oversight processes.	**Status:** Open
	Related sub-plan of the *Plan*: Other inventory improvement actions
	Comments: OSD, the services, and DLA have begun, but have not completed efforts to establish departmentwide cost-efficiency metrics as part of the sub-plan focused on other inventory improvement actions.
Recommendation #2:	
To improve the management of the Army's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Army to evaluate the effectiveness of changes to demand forecasting procedures that were set forth in the Army's October 2008 guidance, including measuring the impact on reducing inventory that exceeds requirements, and based on that evaluation, take additional actions as appropriate to identify and correct systemic weaknesses in forecasting procedures.	**Status:** Implemented
	Related sub-plan of the *Plan*: Demand forecasting
	Comments: None
Recommendation #3:	
To improve the management of the Army's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Army to monitor the effectiveness of providing item managers with operational information in a timely manner so they can adjust modeled requirements as necessary.	**Status:** Implemented
	Related sub-plan of the *Plan*: Demand forecasting
	Comments: None

Recommendation #4:	
We also recommend that the Secretary of the Army direct the Army's Chief Management Officer to exercise oversight of Army inventory management improvements to align improvement efforts with overall business transformation and to reduce support costs. This oversight role should not replace or eliminate existing operational oversight responsibilities for inventory management that are exercised by other Army offices, but should ensure that the Army maintains a long-term focus for making systemic improvements where needed and for strategically aligning such changes with overall transformation efforts.	**Status:** Open **Related sub-plan of the *Plan*:** None **Comments:** DOD non-concurred with this recommendation noting that inventory oversight is the operational responsibility of the Army's Life Cycle Management Commands and appropriately assigned under the combined oversight of the Army G-4; the Assistant Secretary of the Army, Financial Management and Comptroller; and the Army Materiel Command.

Source: GAO analysis.

Defense Inventory: Management Actions Needed to Improve the Cost Efficiency of the Navy's Spare Parts Inventory Recommendations for Executive Action

In our report issued in 2008, we found the Navy had more inventory than was needed to support current requirements and also experienced some inventory deficits, though to a far lesser extent. Based on Navy demand forecasts, inventory that exceeded current requirements was sufficient to satisfy several years, or even decades, of anticipated supply needs. Also, a large proportion of the items that exceeded current requirements had no projected demand because the Navy had not systematically evaluated the effectiveness of its demand forecasting. Navy inventory did not align with current requirements because (1) the Navy has not established the cost efficiency of its inventory management, (2) its demand forecasting effectiveness is limited and requirements for items may change frequently after purchase decisions are made, and (3) it has not adjusted certain inventory management practices in response to the unpredictability in demand. We made five recommendations and the Navy has implemented four of them and one remains open. Table 9 summarizes our recommendations and their implementation status.

Table 9: Status of Recommendations from Defense Inventory: Management Actions Needed to Improve the Cost Efficiency of the Navy's Spare Parts Inventory

Recommendation #1:	
To improve the management of the Navy's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Navy, in conjunction with the Commander, Navy Supply Systems Command, and the Commander, Naval Inventory Control Point, to establish metrics and goals for tracking and assessing the cost efficiency of inventory management and incorporate these into existing management and oversight processes.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** The Navy implemented a cost-efficiency metric, which is the rate at which obligation authority is being used to replenish inventory levels. Additionally, OSD, the services, and DLA are working to establish departmentwide cost-efficiency metrics as part of the sub-plan focused on other inventory improvement actions.
Recommendation #2:	
To improve the management of the Navy's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Navy, in conjunction with the Commander, Navy Supply Systems Command, and the Commander, Naval Inventory Control Point, to evaluate demand forecasting procedures to identify areas where forecasts have been consistently inaccurate, correct any systemic weaknesses in forecasting procedures, and improve communications among stakeholders, to include promptly relaying changes in programs and other decisions that affect purchases of spare parts. Further, the Commander, Naval Supply Systems Command, and the Commander, Naval Inventory Control Point, should develop an evaluation plan and interim milestones for assessing the impact of ongoing efforts and take additional corrective actions, if warranted, to improve demand forecasting for secondary inventory.	**Status:** Implemented **Related sub-plan of the *Plan*:** Demand forecasting **Comments:** The demand forecasting sub-plan serves as the action plan for OSD, the services, and DLA for improving demand forecasting through fiscal year 2015. The plan includes goals, objectives, time frames, and the development of metrics for tracking forecasting error and bias.
Recommendation #3:	
To improve the management of the Navy's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Navy, in conjunction with the Commander, Navy Supply Systems Command, and the Commander, Naval Inventory Control Point, to revise inventory management practices to incorporate the flexibility needed to minimize the impact of demand fluctuations. Specific attention should be given to revising practices regarding initial provisioning management, on-order management, and retention management. Further, the Commander, Naval Supply Systems Command, and the Commander, Naval Inventory Control Point, should develop an evaluation plan and interim milestones for assessing the impact of ongoing efforts and take additional corrective actions, if warranted, to incorporate flexibility into inventory management practices.	**Status:** Implemented **Related sub-plan of the *Plan*:** Demand forecasting, on-order excess inventory, economic retention stock, contingency retention stock, and disposition of potential reutilization stock **Comments:** OSD, the services, and DLA are working to revise inventory management practices in demand forecasting, on-order excess inventory, economic retention, and contingency retention through fiscal year 2015 as part of the *Plan*'s implementation.

Recommendation #4:	
To improve the management of the Navy's secondary inventory, we recommend that the Secretary of Defense direct the Secretary of the Navy, in conjunction with the Commander, Navy Supply Systems Command, and the Commander, Naval Inventory Control Point, to ensure that required annual reviews validating methodologies used for making retention decisions are performed and documented.	**Status:** Implemented **Related sub-plan of the *Plan*:** Economic retention stock and contingency retention stock **Comments:** The Navy Supply Systems Command in May 2009, issued guidance requiring annual reviews to validate methodologies used for making retention decisions and the Commander, Naval Inventory Control Point, certified the reviews were completed for the July 2009-June 2010 period.
Recommendation #5:	
We also recommend that the Secretary of the Navy direct that the Navy's Chief Management Officer and Deputy Chief Management Officer exercise appropriate oversight of Navy inventory management improvement to align improvement efforts with overall business transformation and to reduce support costs.	**Status:** Open **Related sub-plan of the *Plan*:** None **Comments:** None

Source: GAO analysis.

Defense Inventory: Opportunities Exist to Save Billions by Reducing Air Force's Unneeded Spare Parts Inventory Recommendations for Executive Action

In our report issued in 2007, we found that the Air Force purchased unneeded inventory because its policies do not provide incentives to reduce the amount of inventory on order that is not needed to support requirements. Additionally, the Air Force continued to retain unneeded inventory with no recurring demands because it had not performed a comprehensive assessment to revalidate the need to continue to retain these items. Inventory not needed to support required inventory levels can be attributed to many long-standing problems, such as decreasing demands, retaining items used to support aging weapon systems that have diminishing sources of supply or are being phased out of service, and not terminating contracts for on-order items. We made four recommendations and the Air Force implemented all four of the recommendations. Table 10 summarizes our recommendations and their implementation status.

Table 10: Status of Recommendations from Defense Inventory: Opportunities Exist to Save Billions by Reducing Air Force's Unneeded Spare Parts Inventory

Recommendation #1:	
To meet customer expectations while minimizing inventory and to reduce the Air Force's inventory not needed to support requirements, we are recommending that the Secretary of Defense direct the Secretary of the Air Force to modify its policies to provide incentives to reduce purchases of on-order inventory that are not needed to support requirements, such as requiring contract termination review for all unneeded on-order inventory or reducing the funding available for the Air Force Materiel Command by an amount up to the value of the Air Force's on-order inventory that is not needed to support requirements.	**Status:** Implemented **Related sub-plan of the *Plan*:** On-order excess inventory **Comments:** None
Recommendation #2:	
To meet customer expectations while minimizing inventory and to reduce the Air Force's inventory not needed to support requirements, we are recommending that the Secretary of Defense direct the Secretary of the Air Force to conduct a comprehensive assessment of the inventory items on hand that are not needed to support requirements and that have no recurring demands and revalidate the need to continue to retain these items, and, as part of this assessment, consider establishing ongoing requirements for items supporting weapon systems that have lengthy projected life spans.	**Status:** Implemented **Related sub-plan of the *Plan*:** Economic retention stock, contingency retention stock, items with no demand, and disposition of potential reutilization stock **Comments:** None
Recommendation #3:	
To meet customer expectations while minimizing inventory and to reduce the Air Force's inventory not needed to support requirements, we are recommending that the Secretary of Defense direct the Secretary of the Air Force to evaluate the reasons why the Air Force continually experiences decreases in demands which have contributed to having more than half of its inventory on hand not needed to support requirements.	**Status:** Implemented **Related sub-plan of the *Plan*:** Demand forecasting **Comments:** None
Recommendation #4:	
To meet customer expectations while minimizing inventory and to reduce the Air Force's inventory not needed to support requirements, we are recommending that the Secretary of Defense direct the Secretary of the Air Force to determine what actions are needed to address the reasons for the decreases in demand and then take steps to implement these actions.	**Status:** Implemented **Related sub-plan of the *Plan*:** Demand forecasting **Comments:** None

Source: GAO analysis.

Defense Inventory: Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts Recommendations for Executive Action

In our report issued in 2007, we found that the military components' estimated lead times to acquire spare parts varied considerably from the actual lead times experienced. The effect of the lead time underestimates was almost $12 billion in spare parts arriving more than 90 days later than anticipated, which could negatively affect readiness rates because units may not have needed inventory. DOD and the components strive to meet customer based materiel requirements while minimizing the investment in inventories, and accurate lead time estimates are critically important in enabling the military components to have the proper amount of inventory on-hand. DOD's acquisition lead time estimates varied greatly from the actual lead times and contributed to inefficient use of funds and inventory shortages and excesses. To improve the accuracy in setting acquisition lead time values, we made 11 recommendations. Six of the recommendations have been implemented and five were not implemented. Table 11 summarizes our recommendations and their implementation status.

Table 11: Status of Recommendations from Defense Inventory: Opportunities Exist to Improve the Management of DOD's Acquisition Lead Times for Spare Parts

Recommendation #1:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct the Aviation and Missile Life Cycle Management Command to establish clear guidelines for item managers to know when to review and how to determine whether deliveries should be considered representative and thus used to update lead times.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #2:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct the Life Cycle Management Commands to reemphasize the importance of periodically reviewing and validating their recorded lead time data to detect and correct data input errors and other inaccurate information.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #3:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Secretary of the Army to have the Commanding General, Army Materiel Command, direct Communications-Electronics Life Cycle Management Command to maintain and update automated lead time data within its Logistics Modernization Program computer system.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None

Recommendation #4:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Director of DLA to have its supply centers review the methodology and inputs used to compute its lead time estimates and revise them to incorporate recent improvements in DLA actual lead times.	**Status:** Not implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #5:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Secretary of the Air Force to have the Commander, Air Force Materiel Command, direct its air logistics centers to use better sources of lead time information, such as supplier estimates, if available, rather than default values for items that have not been ordered in the last five years.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #6:	
To improve the military components' accuracy in setting acquisition lead time values, we recommend that the Secretary of Defense direct the Secretary of the Navy to direct the Commander, Naval Inventory Control Point, to reemphasize the importance of having its inventory control points periodically review and validate their recorded lead time data to detect and correct data input errors or other inaccurate information.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #7:	
To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to establish component lead time reduction goals over a 5-year period from October 2007-2012.	**Status:** Not implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** As part of the sub-plan focused on other inventory improvement actions, DOD is in the process of reviewing efforts for reducing acquisition lead time and developing a methodology to track and monitor acquisition lead time.
Recommendation #8:	
To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to develop metrics to measure components' progress toward meeting lead time reduction goals and require the periodic reporting of these metrics.	**Status:** Implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #9:	
To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to develop a general estimate of the financial impact of lead time reductions, and use that as a metric to help components weigh the importance of lead time reductions.	**Status:** Not implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** As part of the sub-plan focused on other inventory improvement actions, DOD is in the process of developing a methodology to track and monitor acquisition lead time resulting in savings and cost avoidance.

Recommendation #10:	
To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the components to collect data, establish metrics, and measure and report the impact of individual lead time reduction initiatives, to include the cost of each initiative and its estimated cost savings.	**Status:** Not implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None
Recommendation #11:	
To strengthen DOD's and the military components' management of acquisition lead times, we recommend that the Secretary of Defense direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to work closely with the Army and Navy to develop joint strategic relationships with suppliers that would be beneficial in reducing lead times.	**Status:** Not implemented **Related sub-plan of the *Plan*:** Other inventory improvement actions **Comments:** None

Source: GAO analysis.

Defense Inventory: Actions Needed to Improve Inventory Retention Management Recommendations for Executive Action

In our report issued in 2006, we found some DOD inventory management centers had not followed DOD-wide policies and procedures for making contingency retention decisions. Some centers were not annually reviewing their contingency retention decisions potentially resulting in the retention of unneeded items. DOD had provided insufficient oversight of inventory retention management across the components and could not be certain that the components had the correct amount or type of items in contingency retention inventory. At the time of this 2006 report, DOD had also not made progress implementing our 2001 recommendations requiring the components to (1) establish milestones for reviewing their approaches for making economic retention inventory decisions, and (2) conduct annual reviews of these approaches, as required by DOD policy. We made seven recommendations and all of the recommendations were implemented. Table 12 summarizes our recommendations and their implementation status.

Table 12: Status of Recommendations from Defense Inventory: Actions Needed to Improve Inventory Retention Management

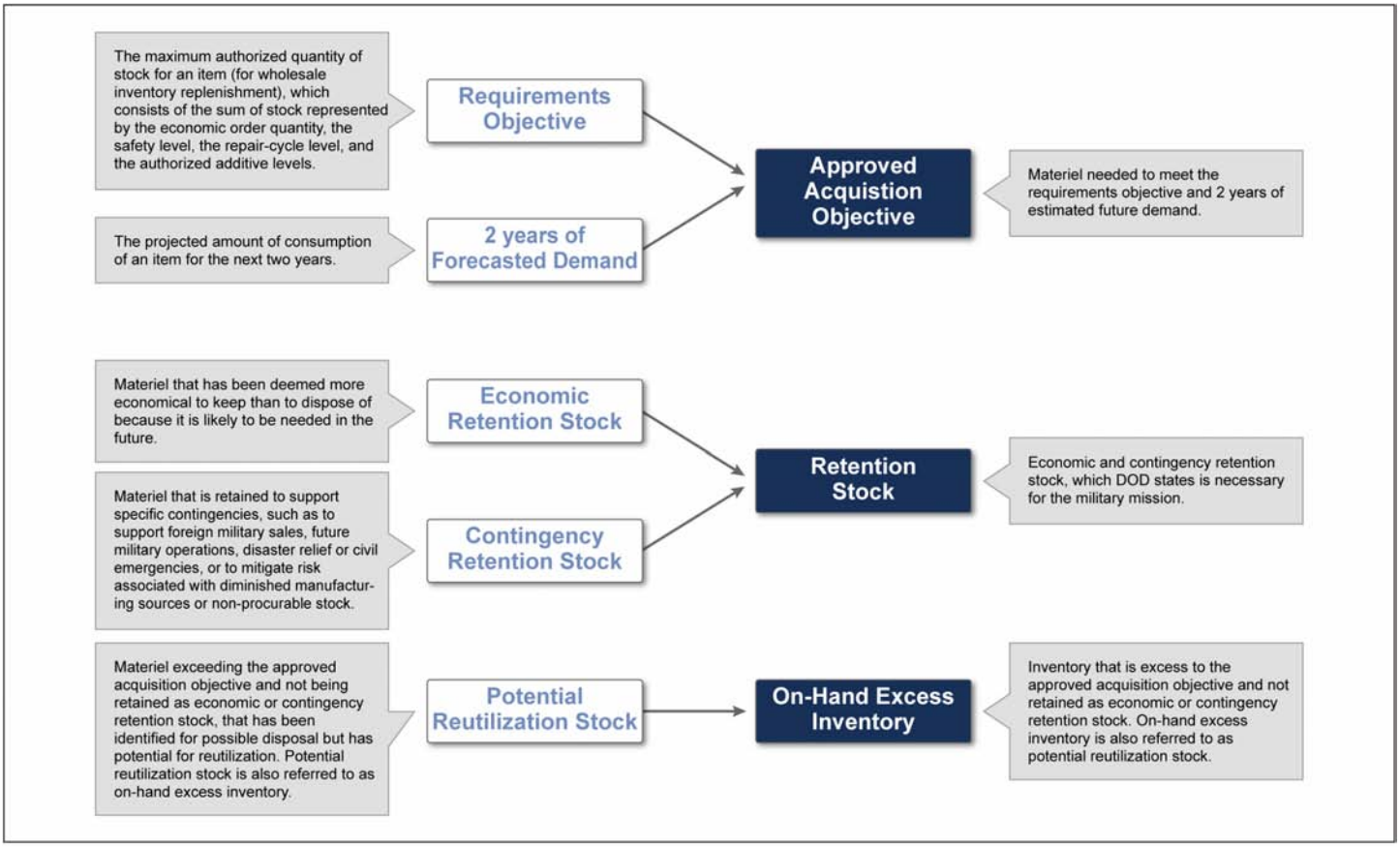
Recommendation #1:	
To ensure DOD inventory management centers properly assign codes to categorize the reasons to retain items in contingency retention inventory, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Secretary of the Army to instruct the Army Materiel Command to modify the Commodity Command Standard System so it will properly categorize the reasons for holding items in contingency retention inventory.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None
Recommendation #2:	
To ensure DOD inventory management centers properly assign codes to categorize the reasons to retain items in contingency retention inventory, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Secretary of the Air Force to instruct the Air Force Materiel Command to correct the Application Programs, Indenture system's deficiency to ensure it properly categorizes the reasons for holding items in contingency retention inventory.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None
Recommendation #3:	
To ensure that the DOD inventory management centers retain contingency retention inventory that will meet current and future operational requirements, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Secretary of the Army to instruct the Army Materiel Command to require the Aviation and Missile Command to identify items that no longer support operational needs and determine whether the items need to be removed from the inventory. The Army Materiel Command should also determine whether its other two inventory commands, the Communications-Electronics Command and Tank-automotive and Armaments Command, are also holding obsolete items, and if so, direct those commands to determine whether the disposal of those items is warranted.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None
Recommendation #4:	
To ensure that DOD inventory management centers conduct annual reviews of contingency retention inventory as required by DOD's Supply Chain Materiel Management Regulation, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Director of DLA to require the Defense Supply Center Richmond to conduct annual reviews of contingency retention inventory. DLA should also determine whether its other two centers, the Defense Supply Center Columbus and the Defense Supply Center Philadelphia, are conducting annual reviews, and if not, direct them to conduct the reviews so they can ensure the reasons for retaining the contingency retention inventory are valid.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None

Recommendation #5:	
To ensure that DOD inventory management centers conduct annual reviews of contingency retention inventory as required by DOD's Supply Chain Materiel Management Regulation, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Secretary of the Navy to instruct the Naval Inventory Control Point Mechanicsburg to conduct annual reviews of contingency retention inventory. The Naval Inventory Control Point should also determine if its other organization, Naval Inventory Control Point Philadelphia, is conducting annual reviews and if not, direct the activity to conduct the reviews so it can ensure the reasons for retaining the contingency retention inventory are valid.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None
Recommendation #6:	
To ensure that DOD inventory management centers conduct annual reviews of contingency retention inventory as required by DOD's Supply Chain Materiel Management Regulation, the Secretary of Defense should direct the Under Secretary of Defense for Acquisition, Technology, and Logistics to direct the Secretary of the Army to instruct the Army Materiel Command to require the Aviation and Missile Command to conduct annual reviews of contingency retention inventory. The Army Materiel Command should also determine if its other two inventory commands, the Communications-Electronics Command and Tank-automotive and Armaments Command, are conducting annual reviews and if not, direct the commands to conduct the reviews so they can ensure the reasons for retaining the contingency retention inventory are valid.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None
Recommendation #7:	
To ensure that DOD inventory management centers implement departmentwide policies and procedures for conducting annual reviews of contingency retention inventories, the Secretary of Defense should direct the Office of the Deputy Under Secretary of Defense for Logistics and Materiel Readiness to revise the DOD's Supply Chain Materiel Management Regulation to make clear who is responsible for providing recurring oversight to ensure the inventory management centers conduct the annual reviews of contingency retention inventory.	**Status:** Implemented **Related sub-plan of the *Plan*:** Contingency retention stock **Comments:** None

Source: GAO analysis.

Appendix III: Printer-Friendly Version of Figure 1 - Select DOD Categories of Secondary Inventory Items

Figure 5: Selected DOD Categories of Secondary Inventory Items



Source: GAO analysis of DOD guidance and inventory practices.

Appendix IV: Demand Forecasting Sub-plan

Objective: Improve the prediction of future demand so that inventory requirements more accurately reflect actual needs.[1]

Actions and milestones: The sub-plan includes 5 actions, which are supported by 12 milestones. See table 13 below for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is in the process developing two metrics to measure forecasting bias accuracy and bias. The metrics are scheduled to be complete by the end of fiscal year 2012.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by (1) completing a review of demand forecasting methods for one of three life cycle phases—the initial provisioning—of a weapon system, and (2) developing metrics for forecasting error and bias, and are on-schedule to implement the metrics by September 2012. Additionally, OSD, the services, and DLA determined through an analysis of several years of supply data that supply support requests forecasts were not causing DLA to procure excess inventory, which demonstrated that risk-sharing between a service and DLA would not be effective. However, the analysis did identify issues with the supply support request process, which OSD, the services, and DLA are reviewing to identify improvements.

Key work remaining: Over the remaining years of implementation, DOD has a considerable amount of work remaining to improve demand forecasting. First, OSD, the services, and DLA need to review and analyze improved demand forecasting methods and techniques for the other two life cycle phases—sustainment and end-of-life—of a weapon system. Once improved demand forecasting methods and techniques are identified for all three life cycle phases, changes may need to be made to inventory management policy and practices. Second, work remains for DOD to implement the forecasting error and bias metrics. Third, OSD, the services, and DLA are working to establish a departmentwide structure for collaborative forecasting. As part of this effort, the services and DLA

[1]Demand forecasting is predicting future customer demands so inventory managers can develop inventory requirements to satisfy demands when they occur. Inaccurate forecasts lead to either excess inventory or shortfalls.

are in the process of validating their sales and operations planning processes and then will have to identify gaps and current constraints in existing processes, which may require changes in inventory management guidance and practices. Fourth, DOD is in the early stages of completing its plan to develop new approaches for setting inventory levels for low-demand consumable items and will also need to address forecasting methods for low-demand. Lastly, OSD, the services, and DLA plan to work on improving the supply support request process to prevent unnecessary accumulation of excess inventory.

Table 13: Demand Forecasting Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Identify improved methods and techniques for demand forecasting that consider an item's life cycle.	**March 2013**	**October 2014**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA expect to identify a forecasting process that captures best practices and minimizes systemic weaknesses throughout an item's life cycle.
Milestone 1.1: Identify improved demand forecasting methods and techniques and complete the ongoing review for item introduction.	September 2010	September 2010	• **Assessment:** Completed. • **Comments:** To identify improved demand forecasting methods and techniques, OSD commissioned the Logistics Management Institute to conduct an independent review of demand forecasting for the initial provisioning phase of a weapon system.
Milestone 1.2: Assess results and develop policy and implementation plans as required.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA assessed the results of the independent review and determined that for the initial provisioning life cycle phase there would be no changes required to guidance or business processes at this time. Changes may be made after completing a review of the other two life cycle phases—sustainment and end-of-life.
Milestone 1.3: Identify improved demand forecasting methods and techniques for remaining two item life cycles.	June 2012	January 2014	• **Assessment:** Started, completion delayed. • **Comments:** To identify improved demand forecasting methods and techniques for the other two life cycle phases—sustainment and end-of-life—OSD is in the process of contracting with a third-party. The contracting process was delayed; therefore, the milestone is behind schedule.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Milestone 1.4: Evaluate results and develop policy guidance.	March 2013	October 2014	• **Assessment:** Not started, completion delayed. • **Comments:** Since the contracting process was delayed for the studies on the other two life cycle phases—sustainment and end-of-life—this milestone will start later than expected.
Action 2: Implement standard metrics to assess forecasting accuracy and bias.	**September 2012**	**December 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA have identified two departmentwide metrics—forecast error and forecast bias—and are developing business rules and determining the appropriate data elements to employ them.
Milestone 2.1: Identify departmentwide metrics on forecast accuracy and error that capture forecast bias.	September 2011	December 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA have identified two departmentwide metrics—forecast error and forecast bias—and are developing business rules to employ them. OSD, the services, and DLA plan to test the data and implement the metrics by the end of September 2012.
Milestone 2.2: Establish processes within the services and DLA to produce measurements and set quantitative targets for improving demand forecasting accuracy and reducing bias.	September 2012	September 2012	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA started this milestone in late 2011 and have developed some initial data elements that the services and DLA will need to collect to support the metrics.
Action 3: Expand and refine a departmentwide structure for collaborative forecasting.	**December 2011**	**April 2013**	• **Assessment:** Started, completion delayed. • **Comments:** DLA has piloted an events database to improve collaborative forecasting and is working to improve the sales and operations planning process across the department.
Milestone 3.1: Pilot a collaborative process between service and DLA demand planners for distributing and using program and maintenance data.	September 2011	March 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, DLA, and the services have determined the events to be included in a forecasting pilot, but are behind schedule in populating the event database and analyzing the results.
Milestone 3.2: Conduct a concept demonstration of a departmentwide, OSD led, sales and operations planning process to enhance the demand and supply planning process across the department.	December 2011	April 2013	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA are working to establish a departmentwide structure for collaborative forecasting. As part of this effort, the services and DLA are in the process of validating their sales and operations planning processes and then plan to identify gaps and current constraints in existing processes.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 4: Implement approaches for improving setting inventory levels for low-demand items.	**March 2012**	**February 2013**	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the service, and DLA are working to more accurately set inventory levels for low-demand items.
Milestone 4.1: Complete implementation of alternative forecast methodologies (e.g., peak policy) for low-demand consumable items.	September 2011	October 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD and DLA are collaborating to analyze the results of a simulation aimed at improving the forecastability of low-demand consumable items with the goal of identifying a more optimal forecasting strategy for these items.
Milestone 4.2: Determine forecastability of low-demand items and how alternative forecast methods could be implemented for reparable items managed by each service.	March 2012	February 2013	• **Assessment:** Not started, completion delayed. • **Comments:** None.
Action 5: Examine how investment risk for new consumable items can be reduced between DLA and the services and suppliers.	**September 2011**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA are focusing on improving the supply support request process based on information learned from the risk-sharing study.
Milestone 5.1: Execute a pilot program for potential provisioning risk sharing alternatives.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** The Navy and DLA conducted an initial study, which found that risk-sharing between a service and DLA would not be needed.
Milestone 5.2: Evaluate results for potential wider application.	September 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** The Navy and DLA expanded the study in milestone 5.1, which showed that there was no need for service-DLA risk-sharing because supply support requests forecasts were not causing DLA to procure excess inventory. Rather, OSD, the services, and DLA are focusing on improving the supply support request process.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix V: Total Asset Visibility and Multi-echelon Modeling Sub-plan

Objective: Minimize the size of purchases by considering all accessible inventories.

Actions and milestones: The sub-plan includes three actions, which are supported by 12 milestones. See table 14 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) the percentage of inventory dollars visible and accessible in an automated manner and (2) the total percentage of inventory dollars associated with items using multi-echelon modeling.[1] With respect to the first metric, DOD set a target of 90 percent of the total value of its secondary inventory being visible and accessible in an automated manner. With respect to the second metric, DOD set a target for using multi-echelon modeling on 90 percent of targeted inventories by the end of fiscal year 2015, up from 47 percent in fiscal year 2009.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by (1) determining that 95 percent of DOD's inventory is accessible by automated means to the services and DLA, which exceeded the Plan's goal of achieving automated accessibility to 90 percent of its inventory within 5 years and (2) increasing the in-storage visibility program, which allows services and DLA to obtain consumable items from another service or DLA. With respect to the in-storage visibility program, the Air Force for example had 145 sites participating in fiscal year 2010 and increased the number to 190 sites.

Key work remaining: DOD set a target to use multi-echelon modeling on 90 percent of targeted inventories by the end of fiscal year 2015, which may be challenging to achieve. OSD, the services, and DLA have identified that approximately 65 percent of DOD's inventory, or $61 billion of DOD's approximately $95 billion in inventory for fiscal year 2010, should be targeted for multi-echelon modeling. OSD, the services, and DLA are currently working to identify the portion of the targeted inventory

[1]Multi-echelon modeling is the use of mathematical models that compute the optimal number and type of parts needed at the wholesale and retail levels to achieve readiness and cost goals.

that currently uses multi-echelon modeling in order to be able to develop efforts to accelerate its use within the department.

Table 14: Total Asset Visibility and Multi-Echelon Modeling Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Expand total asset visibility capabilities to improve access to targeted inventories.[a]	**September 2014**	**August 2014**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA plan on refining and defining business rules to increase inventory accessibility and determining ways to decrease redundant inventory across the services and DLA.
Milestone 1.1: Identify targeted inventories for improved accessibility.	June 2012	June 2012	• **Assessment:** Started, on schedule. • **Comments:** The Army, Navy, and Air Force have increased the number of secondary inventory sites that participate in DLA's in-storage visibility program. The Marine Corps was not participating, but is studying the possibility of participating.
Milestone 1.2: Fully implement recommendations related to expanding automated system capabilities to fill customer demands and offset inventory buys across the services and DLA.	September 2014	August 2014	• **Assessment:** Not started, on schedule. • **Comments:** The services and DLA plan to submit their implementation plans for the recommended process improvements to improve automated accessibility.
Action 2: Accelerate existing and emerging multi-echelon improvement efforts.	**September 2013**	**August 2013**	• **Assessment:** Started, on schedule. • **Comments:** None.
Milestone 2.1: OSD provides funding of approved fiscal year 2011 multi-echelon projects.	March 2011	August 2011	• **Assessment:** Completed. • **Comments:** Funding was delayed and projects were started late. The Navy, Air Force, Marine Corps, and DLA are conducting projects, but the Army is not conducting any projects.
Milestone 2.2: Complete fiscal year 2010 multi-echelon projects.	December 2011	January 2012	• **Assessment:** Started, completion delayed. • **Comments:** Interim reports were provided to OSD by the services and DLA in July 2011, but as of January 1, 2012, the Army, Air Force, Marine Corps, and DLA had not provided their final reports.
Milestone 2.3: Services and DLA evaluate fiscal year 2010 multi-echelon project results for potential departmentwide implementation.	June 2012	June 2012	• **Assessment:** Not started, on schedule. • **Comments:** None.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Milestone 2.4: Develop departmentwide processes, policies, and goals.	September 2013	August 2013	• **Assessment:** Not started, on schedule. • **Comments:** OSD, the services, and DLA plan on using the results from the prior multi-echelon projects to improve departmentwide processes and policies.
Action 3: Expand automated system capabilities to fill customer demands and offset inventory buys across the services and DLA.	**September 2013**	**September 2013**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are working to increase participation in the in-storage visibility program and are in the process of including the in-storage visibility program into the revision of DOD inventory management guidance.
Milestone 3.1: Establish measures of accessibility for the targeted inventories.	December 2011	August 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA are monitoring the performance of the in-storage visibility program. The program conducted $73.8 million in lateral redistributions and procurement offsets in fiscal year 2010 and $68.3 million in fiscal year 2011. Additionally, OSD, the services, and DLA have established a projection for fiscal year 2012.
Milestone 3.2: Refine business and financial rules and system interfaces that would support an automated capability to fill backorders and offset procurements across the services and DLA.	December 2012	April 2013	• **Assessment:** Started, completion delayed. • **Comments:** None.
Milestone 3.3: Examine expansion of automated recoupment capability of assets in disposal.	September 2011	January 2012	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA have recommended that no further action be taken on this milestone because the services and DLA documented their existing recoupment capability and confirmed that these existing processes work in recouping assets in disposal.
Milestone 3.4: Implement results of examination of automated recoupment capability of assets in disposal.	September 2013	September 2013	• **Assessment:** Not started, on schedule. • **Comments:** None.
Milestone 3.5: Expand the visibility of the retrograde pipeline.	September 2013	September 2013	• **Assessment:** Not started, on schedule. • **Comments:** None.
Milestone 3.6: Ensure consistent approach to assess automated capability performance and/or develop metrics.	September 2013	September 2013	• **Assessment:** Not started, on schedule. • **Comments:** None.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

[a]Total asset visibility is the capability to provide all users with timely and accurate information about the location, movement, status, and identity of supplies and the capability to act on this information.

Appendix VI: On-order Excess Inventory Sub-plan

Objective: Reduce or terminate purchases that result in inventory excesses due to a decrease in requirements.

Actions and milestones: The sub-plan includes two actions, which are supported by four milestones. See table 15 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) the percentage of on-order dollars above the approved acquisition objective, and (2) the total on-order dollars above the approved acquisition objective.[1]

Progress to date: The Office of Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by reviewing existing on-order excess inventory guidance and working to make revisions to ensure consistency among the services and DLA. Additionally, the services and DLA are making improvements to their on-order excess inventory guidance and practices.[2] For example, the Navy Supply System Command has developed guidance for the management of its on-order excess inventory and DLA is in the process of making changes to its procedures for on-order excess management.

Key work remaining: The actions and milestones in the sub-plan will be complete with the issuance of the inventory management guidance scheduled for September 2012. To achieve continued reductions in on-order excess inventory, the services, and DLA will need to continue monitoring their progress.

[1]Inventory that is not in DOD's possession but for which a contract has been awarded or funds have been obligated is considered to be on-order.

[2]On-order excess inventory are items for which a contract has been awarded or funds have been obligated, but due to subsequent changes in requirements would be classified as potential reutilization stock upon arrival.

Table 15: On-Order Excess Inventory Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Establish an economically optimal point in the procurement cycle to terminate an order, considering the different life cycle phases.	**June 2011**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comments:** This action is complete, except for publishing the guidance revisions, which is estimated to occur in September 2012 with the issuance of the new guidance.
Milestone 1.1: Establish the optimal point for reviewing if a contract should be terminated.	March 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA reviewed existing review methodologies for termination and recommended revisions to current DOD guidance. Specifically, OSD, the services, and DLA established the factors that must be considered when reviewing a contract for termination. DOD is in the process of incorporating the revisions into guidance, which is expected to be published in September 2012, according to DOD officials.
Milestone 1.2: Implement departmentwide.	June 2011	September 2011	• **Assessment:** Completed. • **Comments:** The services and DLA have been working to update their respective policies and procedures based on the draft guidance revisions. OSD determined that the Air Force did not need to update its policies and procedures, while others, such as DLA, are making improvements to their on-order excess inventory processes.
Action 2: Strengthen the approval and reporting procedures for on-order excess inventory.	**March 2011**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comments:** This action is complete, except for publishing the guidance revision, which is estimated to occur in September 2012 with the issuance of the new guidance.
Milestone 2.1: Establish the required level of authority to retain materiel on-order in excess of the approved acquisition objective.	March 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA reviewed existing levels of authority to retain materiel on-order in excess of the approved acquisition objective and recommended some revisions to current DOD guidance. Specifically, OSD, the services, and DLA have agreed on a consistent approach for reviewing on-order excess and termination decisions. DOD is in the process of incorporating the revisions into guidance, which is expected to be published in September 2012, according to DOD officials.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Milestone 2.2: Ensure consistent approach to assess performance and/or develop metrics.	March 2011	February 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA reviewed current metrics used in assessing performance and decided that the most appropriate metrics are the percentage of on-order dollars above the approved acquisition objective and the total on-order dollars above the approved acquisition objective.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix VII: Economic Retention Stock Sub-plan

Objective: Ensure economic retention decisions are based on current cost factors and economic principles.[1]

Actions and milestones: The sub-plan includes three actions, which are supported by seven milestones. See table 16 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) the percentage of inventory dollars representing economic retention stock and (2) the percentage of inventory dollars representing economic retention stock by service and the Defense Logistics Agency (DLA).

Progress to date: The Office of the Secretary of Defense (OSD), the services, and DLA have made progress by (1) developing metrics to assess the status of economic retention stock, (2) documenting the services' and DLA's current methods for calculating economic retention stock against current DOD inventory management policy, and (3) conducting the first annual review of economic retention stock.

Key work remaining: OSD, the services and DLA are in the process of identifying enhancements to the methodology used in determining the allowable amount of economic retention stock for an item and may have to revise DOD inventory management guidance.

[1]Economic retention stock is materiel that has been deemed more economical to keep than to dispose of because it is likely to be needed in the future.

Table 16: Economic Retention Stock Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Review and validate current economic retention methods.	**March 2012**	**March 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are in the process of reviewing economic retention methods and are unsure if any guidance changes will be necessary.
Milestone 1.1: Assess current methods against policy for computing economic retention.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA reviewed the current economic retention methods and identified the variances in methods that need to be addressed by process improvements.
Milestone 1.2: Make recommendations for process improvements to services' systems.	March 2012	March 2012	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are working collaboratively to test enhancements to economic retention models in conjunction with action 2.
Action 2: Review and evaluate enhancements to current economic retention methods.	**December 2012**	**December 2012**	• **Assessment:** Started, on schedule. • **Comments:** None.
Milestone 2.1: Identify enhancements to the economic basis for retention.	December 2011	March 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA are validating factors and testing enhancements to the economic retention models that the services and DLA are using. Due to the complexity of the issue and personnel availability, the milestone is delayed.
Milestone 2.2: Implement the enhancements and incorporate in policy as required.	December 2012	December 2012	• **Assessment:** Not started, on schedule. • **Comments:** None.
Milestone 2.3: Ensure consistent approach to assess performance and/or develop metrics.	December 2012	December 2012	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA plan on using (1) the percentage of inventory dollars representing economic retention stock and (2) the percentage of inventory dollars representing economic retention stock by service and DLA as the metrics to track economic retention stock.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 3: Ensure annual reviews of the services' and DLA's economic retention procedures.	**June 2013**	**June 2013**	• **Assessment:** Started, on schedule. • **Comments:** The first annual review of economic retention stock was conducted.
Milestone 3.1: Conduct first annual review of the top items driving fiscal year 2010 economic retention to examine the sources of economic retention stocks and identify continuous improvement in economic retention procedures.	June 2011	June 2011	• **Assessment:** Completed. • **Comments:** No systemic problems were found based on the first annual review of top items driving economic retention levels, according to OSD officials.
Milestone 3.2: Conduct first triennial validation of cost and demand factors for economic retention.	June 2013	June 2013	• **Assessment:** Not started, on schedule. • **Comments:** None.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix VIII: Contingency Retention Stock Sub-plan

Objective: Ensure the services and the Defense Logistics Agency (DLA) justify the retention of contingency stock.[1]

Actions and milestones: The sub-plan includes three actions, which are supported by eight milestones. One action was canceled. See table 17 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) the percentage of inventory dollars representing contingency retention stock, and (2) the dollar value of contingency retention stock divided into six justification categories.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and DLA have made progress by (1) completing an independent review of contingency retention stock, (2) assessing the results of the independent review and making changes to existing practices, such as the coding of contingency retention stock to more precisely and consistently classify the stock, and (3) agreeing that all items held as contingency retention stock will be annually reviewed and validated.

Key work remaining: OSD, the services, and DLA are incorporating changes to inventory management guidance for contingency retention stock, such as requiring all items held as contingency retention stock be reviewed and validated annually. Additionally, OSD, the services and DLA are also in the process of developing procedures for the documentation and review and approval of contingency retention stock decisions.

[1]Contingency retention stock is materiel that is retained to support specific contingencies, such as to support foreign military sales, future military operations, disaster relief or civil emergencies, or to mitigate risk associated with diminished manufacturing sources or nonprocurable stock.

Table 17: Contingency Retention Stock Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Complete an independent review that examines the services' and DLA's processes and develop a more effective categorization of inventory designated as contingency retention, as directed by Congress.	**September 2011**	**March 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA have conducted an independent review of contingency retention stock and have agreed to classify contingency retention stock with new category codes.
Milestone 1.1: Complete independent review.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** To identify improved methods and techniques for retaining contingency stock, OSD commissioned the Logistics Management Institute to conduct an independent review, which was completed in March 2011.
Milestone 1.2: Assess results, make necessary policy changes relative to the categorization of contingency retention stock, and implement those changes.	September 2011	March 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA assessed the results of the independent review and determined some changes needed to be made to the coding of contingency retention stock to more precisely and consistently classify the stock. OSD, the services, and DLA have drafted guidance changes, but these are not finalized.
Action 2: Ensure annual reviews of service and DLA contingency retention stock.	**September 2011**	**August 2011**	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA have agreed to review and validate all contingency retention stock annually using a consistent approach.
Milestone 2.1: Complete the fiscal year 2010 annual review of the top dollar value and cube of items driving contingency retention stock to examine the sources of contingency retention stock and scrutinize continuing justifications.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** The services and DLA identified their top 25 items of contingency retention stock and then analyzed the reasons that generated the contingency retention stock for those items.
Milestone 2.2: Revise criteria for timely contingency retention stock reviews, based upon the independent review.	June 2011	June 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA reviewed various criteria for contingency retention stock reviews focusing on requiring senior managers to use a consistent approach in approving and justifying contingency retention stock.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Milestone 2.3: Refine targets for contingency retention.	September 2011	August 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA agreed that all items held as contingency retention stock will be reviewed and validated annually. This requirement is currently being incorporated into guidance.
Action 3: Consistent approach for approval of decisions to retain contingency retention stock.	**March 2012**	**September 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are developing standardized procedures for documenting and reviewing and approving contingency retention stock decisions.
Milestone 3.1: Develop and publish procedures for inventory manager documentation of contingency retention stock decisions.	December 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** Based on the assessment of independent review of contingency retention stock, OSD, the services, and DLA are developing procedures governing the documentation of contingency retention decisions.
Milestone 3.2: Establish criteria and steps to obtain and record senior management approval of contingency retention stock decisions.	December 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** Based on the independent review of contingency retention stock, OSD, the services, and DLA are developing procedures for the review and approval of contingency retention stock decisions.
Milestone 3.3: Implement this approval process across the services and DLA.	March 2012	March 2012	• **Assessment:** Started, on schedule. • **Comments:** None.
Action 4: Establish departmentwide metric to monitor sales against contingency retention stock.	**Canceled**	**Canceled**	• **Assessment:** Canceled. • **Comments:** According to DOD officials, the metric considered for monitoring sales against contingency retention stock could not be established because the inventory management systems capture the sales of items against the approved acquisition objective rather than against retention stock. This prevents DOD from being able to track sales against contingency retention stock.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix IX: Storage and Direct Vendor Delivery Sub-plan

Objective: Use commercial vendors to store items when use of those vendors represents the best value to the government.

Actions and milestones: The sub-plan includes four actions, which are supported by nine milestones. See table 18 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) set out to develop a standard departmentwide metric to monitor storage reduction, but in the course of the analysis decided that a metric would not be necessary. Additionally, the Department of Defense (DOD) tracks the total storage footprint and total storage costs across the department at distribution depots. Also, DOD was tracking certain reductions of storage space related to the 2005 Base Realignment and Closure Act round. As part of its implementation of the Base Realignment and Closure Act round, DOD planned to reduce storage space by 15.1 million gross square feet and exceeded the planned amount by 0.3 million gross square feet.

Progress to date: OSD, the services, and DLA have made progress by (1) examining high storage items for the potential of direct vendor delivery management resulting in few potential candidates for direct vendor delivery and determining that future reviews were not needed and existing guidance was sufficient, (2) reviewing existing factors used in business case analyses for the selection of alternative sourcing strategies, such as direct vendor delivery, and determining that storage space is used as a factor by the Army, Navy, Air Force, and DLA, and (3) reviewing departmentwide policies and procedures on shifting items to alternative sourcing strategies and determining to update DOD inventory management guidance to ensure that any inventory owned by DOD will be used prior to procuring additional inventory through an alternative sourcing strategy.[1] OSD officials told us that they believe DOD's efforts have sufficiently addressed storage and direct vendor delivery. According to the Deputy Assistant Secretary of Defense for Supply Chain Management, DOD will continue to pursue storage consolidation and

[1]Direct vendor delivery is a materiel acquisition and distribution method that requires supplier delivery directly to the customer, which can reduce the storage of items by the services and DLA.

optimization through a separate initiative outside the implementation of the *Plan*.

Key work remaining: OSD, the services, and DLA still need to update inventory management guidance to ensure storage cost is considered as a factor in business case analyses for alternative sourcing strategies and existing on-hand inventory is used prior to procuring inventory through an alternative sourcing strategy.

Table 18: Storage and Direct Vendor Delivery Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Examine items with high storage requirements for potential management as direct vendor delivery.	**June 2011**	**June 2011**	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA examined high storage items for the potential of direct vendor delivery management, and determined that future reviews were not needed and existing guidance was sufficient.
Milestone 1.1: Initial identification of top 25 items for each service and DLA.	November 2010[a]	November 2010[a]	• **Assessment:** Completed. • **Comment:** None.
Milestone 1.2: Evaluation of their potential for direct vendor delivery contracts.	June 2011	June 2011	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA reviewed the items' potential for direct vendor delivery contract; however, few items that reviewed were appropriate candidates for direct vendor delivery, according to the services and DLA.
Milestone 1.3: Establishment of a process for doing periodic high storage direct vendor delivery reviews.	June 2011	June 2011	• **Assessment:** Completed. • **Comment:** Based on the review of items, OSD, the services, and DLA determined that future reviews of top high storage items are not needed and existing DOD guidance is sufficient.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 2: Track reduction of depot storage space that can be attributed to alternative sourcing strategies (direct vendor delivery, performance-based logistics, etc.).	**December 2011**	**December 2011**	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA decided that storage reduction efforts would be implemented through a separate DOD initiative to reduce materiel distribution costs and optimize warehouse storage space.
Milestone 2.1: Establishment of a data collection capability for tracking space reduction in depot storage attributed to alternative contract sources.	September 2011	September 2011	• **Assessment:** Completed. • **Comment:** DLA presented its procedures for tracking space reduction attributable to alternative source contracts, but OSD, the services, and DLA decided that storage reduction efforts would be implemented through a separate DOD initiative to reduce materiel distribution costs and optimize warehouse storage space.
Milestone 2.2: Identify standard departmentwide metric to monitor storage reduction.	December 2011	December 2011	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA decided that establishing a departmentwide metric to monitor storage reduction was not prudent at this time and that storage reduction efforts would be implemented through a separate DOD initiative to reduce materiel distribution costs and optimize warehouse storage space.
Action 3: Identify methodology and criteria for including depot storage space as a cost factor in the business case analyses for selection of alternative sourcing strategies (direct vendor delivery, performance-based logistics, etc.).	**December 2011**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comment:** The Army, Navy, Air Force, and DLA include storage space as a factor in business case analyses for the selection of alternative sourcing strategies. OSD, the services, and DLA are in the process of developing revised guidance, which is estimated to be published in September 2012.
Milestone 3.1: Identify applicable business case analysis methodology and criteria for assessment of depot storage space as an element of business case analysis decisions for selecting materiel support providers.	September 2011	September 2011	• **Assessment:** Completed. • **Comment:** The services and DLA presented their existing business case analysis procedures for selecting materiel support providers. The Army, Navy, Air Force, and DLA include storage cost as a variable in each of their procedures.
Milestone 3.2: Document the applicable methodology and criteria in appropriate DOD policy issuances.	December 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comment:** DOD is working on updating its guidance, which is estimated to be published in September 2012.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 4: Review departmentwide policies and procedures on shifting items to direct vendor delivery arrangements to ensure that they do not cause excess inventories to be acquired.	**March 2012**	**March 2012**	• **Assessment:** Started, on schedule. • **Comment:** This action is complete, except for publishing the guidance revisions.
Milestone 4.1: Review DOD, service, and DLA policies and procedures for shifting items to direct vendor delivery arrangements.	March 2011	March 2011	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA reviewed existing policies and procedures.
Milestone 4.2: Revise policies and procedures that might cause inventory excesses.	March 2012	March 2012	• **Assessment:** Started, on schedule. • **Comment:** Based on the review, OSD, the services, and DLA collaboratively proposed revised guidance language.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

[a]This milestone was completed prior to the release of the *Plan* and reported as complete in the *Plan*.

Appendix X: Items with No Demand Sub-plan

Objective: Eliminate items with a history of no recurring demand and a low probability of future demand, unless there is sufficient justification for the retention of the item.[1]

Actions and milestones: The sub-plan includes two actions, which are each supported by seven milestones. See table 19 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) inventory value by number of years of no demand, (2) value of inventory with 5 or more years of no demand by the category of inventory, and (3) the value of no demand stock retained and disposed.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by (1) identifying and tracking key metrics for items with no demand and (2) establishing rules and procedures for managing items with no demand.

Key work remaining: OSD, the services, and DLA are in the process of drafting guidance for items with no demand and identifying the processes to ensure items with no demand are reviewed each year and valid justification is provided for the retention of the item.

[1]Items with no recurring demand have not been needed over a specified period. Although the services and DLA time periods vary, the *Plan* intends to implement a DOD-wide standard of greater than 5 years.

Table 19: Items with No Demand Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Examine service and DLA definitions, methodologies, and rationale for retaining or disposing of items with no recurring demand, and the potential applicability of a life cycle approach.	**December 2012**	**December 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are working to improve inventory management practices for items with no recurring demand.
Milestone 1.1: Complete the development of metrics for categorizing and tracking inventory for no demand items.	September 2011	February 2011	• **Assessment:** Completed. • **Comments:** Three enterprise-level metrics were identified: (1) inventory value by number of years of no demand, (2) value of inventory with five or more years of no demand by the category of inventory, and (3) the value of no demand stock retained and disposed.
Milestone 1.2: Review rules and identify best practices for stocking and disposing of items with no demand.	September 2011	October 2011	• **Assessment:** Completed. • **Comments:** A taxonomy of rules and practices was compiled for stocking and disposing of items with no demand.
Milestone 1.3: Revise policy for stocking and disposing of items with no demand.	December 2012	December 2012	• **Assessment:** Started, on schedule. • **Comments:** None.
Milestone 1.4: Implement improvements within the services and DLA.	December 2012	December 2012	• **Assessment:** Started, on schedule. • **Comments:** None.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 2: Develop an annual review and reporting process for no demand items, based on dollar thresholds.	**September 2011**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comments:** None.
Milestone 2.1: Establish plan for no demand item metrics.	March 2011	March 2011	• **Assessment:** Completed. • **Comments:** The services and DLA have established implementation plans for the metrics for items with no demand.
Milestone 2.2: Establish a service and DLA process for conducting annual reviews of no demand items including metrics that measure the disposition of items reviewed and required level of authority.	September 2011	December 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA established a set of rules for reviewing no demand items and the frequency of review is based on the inventory category.
Milestone 2.3: Establish a process for annually reviewing the services' and DLA's top no demand items based on dollar value at the DOD level to ensure that the rules for stocking and disposing of no demand items are adequate.	September 2011	September 2012	• **Assessment:** Started, completion delayed. • **Comments:** OSD, the services, and DLA continue to work on developing the appropriate review process for no demand items and plan on incorporating it into guidance by September 2012.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix XI: Disposition of Potential Reutilization Stock Sub-plan

Objective: Ensure timely disposition of items categorized as potential reutilization stock.[1]

Actions and milestones: The sub-plan includes three actions, which are supported by seven milestones. See table 20 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) has identified three departmentwide metrics: (1) the total dollar value of disposals for repairable and consumable items, (2) the portion of disposal dollars that are associated with condemned or unserviceable assets, (3) the percentage of items (and their associated dollar value) reviewed and released to disposal by inventory managers.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by (1) identifying three departmentwide metrics to track potential reutilization stock, and (2) changing time standards for reviewing potential reutilization stock from 12 months to 3 months and disposing of potential reutilization stock from 6 months to 1 month.

Key work remaining: OSD, the services, and DLA still need to incorporate the time standards for the review and disposal of potential reutilization stock into guidance, assess pre-screening procedures for items identified for disposal, and identify a best practice for the department. In addition, OSD, the services and DLA need to identify and develop standardized metrics to measure the time to conduct potential reutilization stock reviews and disposal actions.

[1]Potential reutilization stock is materiel that exceeds the approved acquisition objective, is not being retained as economic or contingency retention stock, and has been identified for possible disposal but has potential for reutilization. Potential reutilization stock is also referred to as on-hand excess inventory.

Table 20: Potential Reutilization Stock Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Review and validate the service and DLA methodologies and frequency for the timely review of potential reutilization stock assets and timely execution of disposal releases.	**December 2012**	**December 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA have agreed on new time standards for reviewing and disposing of potential reutilization stock and are in the process of incorporating these standards into guidance.
Milestone 1.1: Evaluate the timeliness and effectiveness of current disposal processes.	September 2011	August 2011	• **Assessment:** Completed. • **Comments:** OSD, the services, and DLA have decided that the time standards will change from 12 months to 3 months for reviewing potential reutilization stock and 6 months to 1 month for disposing of potential reutilization stock.
Milestone 1.2: Revise policy guidance as required.	June 2012	June 2012	• **Assessment:** Started, on schedule. • **Comments:** OSD is finalizing the revisions to the guidance, which are estimated to be published in September 2012.
Milestone 1.3: Incorporate revised guidance in service and DLA processes for potential reutilization stock reviews and execution of disposal releases.	December 2012	December 2012	• **Assessment:** Not started, on schedule. • **Comments:** None.
Action 2: Establish a process for the services and DLA to pre-screen retail materiel returns for disposal prior to returns being shipped to a distribution depot.	**March 2012**	**March 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA are in the process of reviewing existing pre-screening processes.
Milestone 2.1: Examine potential pre-screening alternatives to expedite disposal actions on excess returns.	December 2011	December 2011	• **Assessment:** Started, completion delayed. • **Comments:** Some of the services and DLA have presented disposal pre-screening procedures they employ prior to returning material to a distribution depot, but OSD, the services, and DLA have not yet assessed the results. This milestone was not complete as of December 2011, the planned completion date.
Milestone 2.2: Select and implement best alternative departmentwide.	March 2012	March 2012	• **Assessment:** Not started, on schedule. • **Comments:** None.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 3: Develop new reporting requirements on inventory being reviewed and disposed of as a means of evaluating the disposition process.	**March 2012**	**March 2012**	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA have identified three departmentwide metrics and are in the process of identifying and developing additional metrics to measure the time to conduct potential reutilization stock reviews and disposal actions.
Milestone 3.1: Develop new reporting requirements on inventory being disposed of as a means of evaluating the disposal process.	March 2012	March 2012	• **Assessment:** Started, on schedule. • **Comments:** OSD, the services, and DLA have identified three departmentwide metrics for potential reutilization stock: (1) the total dollar value of disposals for repairable and consumable items, (2) the portion of disposal dollars that are associated with condemned or unserviceable assets, (3) the percentage of items (and their associated dollar value) reviewed and released to disposal by inventory managers. OSD, the services, and DLA continue to work on identifying and developing metrics for the time to conduct potential reutilization stock reviews and time to move the materiel to disposal.
Milestone 3.2: Ensure consistent approach to assess performance and/or develop metrics.	March 2012	March 2012	• **Assessment:** Started, on schedule. • **Comments:** As noted above in milestone 3.1, OSD, the services, and DLA have identified three departmentwide metrics for potential reutilization and are currently working on identifying and developing standardized metrics to measure the time to conduct potential reutilization stock reviews and disposal actions.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

Appendix XII: Other Inventory Improvement Actions Sub-plan

Objective: To accomplish several cross-functional improvements, including revising current inventory categories to better reflect the rationale behind retaining the inventory, improving acquisition lead times, and establishing departmentwide metrics for inventory management.

Actions and milestones: The sub-plan includes 4 actions, which are supported by a total of 16 milestones. See table 21 for a description of the actions and milestones, the original expected completion date, the actual or planned completion date, and our assessment and comments.

Metrics: As part of the sub-plan, the Department of Defense (DOD) is tracking (1) the percentage of the total value of inventory that is on-hand excess inventory,[1] and (2) a metric to evaluate the improvement of acquisition lead time,[2] which is currently under development.

Progress to date: The Office of the Secretary of Defense (OSD), the services, and the Defense Logistics Agency (DLA) have made progress by reviewing existing categories of inventory (i.e., the approved acquisition objective, economic retention stock, contingency retention stock, and potential reutilization stock) and developing tentative sub-categories that provide further clarification on the make-up of each category. Additionally, OSD, the services, and DLA have begun the process of developing departmentwide metrics to evaluate inventory management.

Key work remaining: Over the next several years, OSD, the services, and DLA plan on revising inventory management guidance to reflect newly developed sub-categories of inventory established, work on improving acquisition lead times, and monitor potential changes necessary to inventory management systems to implement the *Plan*. Most importantly,

[1]On-hand excess inventory is inventory that is excess to the approved acquisition objective and is not being retained as economic or contingency retention stock. On-hand excess inventory is also referred to as potential reutilization stock.

[2]Acquisition lead time, also known as procurement lead time, measures the length of time between the identification of a materiel requirement and the receipt of that materiel into the supply system. Acquisition lead time is the sum of the administrative lead time and production lead time. Administrative lead time is the time interval between identifying a need to purchase an item and the award of a contract. Production lead time is the time interval between the award of a contract and receiving the purchased materiel into the supply system.

OSD, the services, and DLA will need to agree on and implement departmentwide metrics to evaluate inventory management.

Table 21: Other Inventory Improvement Actions Sub-plan Actions and Milestones, Completion Dates, and GAO Assessment and Comments as of January 1, 2012

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 1: Define and establish a new categorization of DOD inventory.	**September 2013**	**December 2013**	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA are defining and establishing a new categorization of DOD inventory to better capture the rationale behind inventory decisions through improved reporting.
Milestone 1.1: Identify the new categorization of inventory.	June 2011	September 2011	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA have reviewed existing categories of inventory (i.e., the approved acquisition objective, economic retention stock, contingency retention stock, and potential reutilization stock) and developed tentative sub-categories that provide further clarification on the make-up of each category.
Milestone 1.2: Complete requirements analysis for updating the stratification process.[a]	March 2012	June 2012	• **Assessment:** Started, completion delayed. • **Comment:** Based on the proposed new categorization of inventory, OSD, the services, and DLA plan to incorporate this information into its guidance on inventory management, specifically a revision of DOD 4140.64-M Secondary Item Stratification Manual (Aug. 24, 2009).
Milestone 1.3: Conduct requirements analysis for updating the Supply System Inventory Report process.[b]	March 2013	June 2013	• **Assessment:** Not started, completion delayed. • **Comment:** Based on the proposed new categorization of inventory and the update to the stratification manual, OSD, the services, and DLA plan to revise the process for the Supply System Inventory Report.
Milestone 1.4: Develop plans for the implementation of the updated stratification and Supply System Inventory Report processes.	September 2013	December 2013	• **Assessment:** Not started, completion delayed. • **Comment:** None.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 2: Establish departmentwide procedures for reducing acquisition lead times.	**June 2012**	**September 2012**	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA aim to reduce acquisition lead times and improve the accuracy of acquisition lead times.
Milestone 2.1: Review service and DLA efforts for reducing procurement lead time.	June 2011	May 2011	• **Assessment:** Completed. • **Comment:** The services and DLA each identified and presented unique acquisition lead time initiatives.
Milestone 2.2: Evaluate individual service and DLA efforts for departmentwide application.	December 2011	November 2011	• **Assessment:** Completed. • **Comment:** OSD, the services, and DLA determined that strategic materiel sourcing was the only initiative that is a viable candidate for departmentwide application. Strategic materiel sourcing is the focus of milestone 2.5 for this sub-plan.[c]
Milestone 2.3: Develop methodology to sustain lead time accuracy.	June 2012	June 2012	• **Assessment:** Started, on schedule. • **Comment:** The services and DLA are identifying differences between the estimated and actual lead time values to improve the accuracy of lead times.
Milestone 2.4: Develop a methodology to track and monitor changes to lead time resulting in savings and cost avoidance.	March 2012	May 2012	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA are evaluating potential metrics for measuring improvements in administrative and production lead time accuracy as well as how to quantify any cost savings or cost avoidance achieved due to improvements.
Milestone 2.5: Establish annual process for reviewing new approaches to supplier management targeted at reducing lead times.	March 2012	September 2012	• **Assessment:** Not started, completion delayed. • **Comment:** OSD, the services, and DLA plan on reviewing and improving the strategic materiel sourcing initiative.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Action 3: Through system modernization provide for improved data accuracy and a better systems platform for improving inventory management practices.	**March 2014**	**March 2014**	• **Assessment:** Started, on schedule. • **Comment:** OSD, the services, and DLA are monitoring potential changes necessary to inventory management systems to implement the *Plan*.
Milestone 3.1: Develop a comprehensive list of required system functionality for modernized inventory management systems (e.g., enterprise resource planning systems) to successfully execute all elements of the DOD's *Plan*.	March 2011	March 2014	• **Assessment:** Started, completion delayed. • **Comment:** Every six months, the services and DLA are submitting potential changes to inventory management systems to implement the *Plan*. OSD, the services, and DLA are working collaboratively to prevent any major system changes. This milestone was extended to cover almost the entire *Plan* in order to monitor potential system changes.
Milestone 3.2: Assess functionality requirements list against each modernized system and identify capability gaps.	September 2011	March 2014	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA are identifying any capability gaps in the inventory management systems and potential impact on the *Plan*'s implementation. This milestone was also extended to cover almost the entire *Plan*.
Milestone 3.3: Identify and implement system and process improvements necessary for each modernized systems to meet overall requirements of the *Plan*.	March 2014	March 2014	• **Assessment:** Started, on schedule. • **Comment:** None.
Action 4: Establish departmentwide metrics to monitor the efficiency of DOD inventory operations.	**May 2012**	**May 2012**	• **Assessment:** Started, on schedule. • **Comment:** OSD, the services, and DLA are developing a set of departmentwide metrics; however, these metrics are still underdevelopment and no final decisions have been made on the metrics.
Milestone 4.1: Identify standard departmentwide key inventory management indicators.	December 2010	December 2011	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA are developing a set of departmentwide metrics; however, these metrics are still underdevelopment and no final decisions have been made on the metrics. This milestone was not complete as of December 2011, the planned completion date.
Milestone 4.2: Establish procedures for collecting and reporting approved metrics.	June 2011	June 2011	• **Assessment:** Started, completion delayed. • **Comment:** OSD, the services, and DLA are developing a set of departmentwide metrics; however, these metrics are still underdevelopment and no final decisions have been made on the metrics. OSD, the services, and DLA have identified initial procedures for collecting and reporting some inventory management metrics, but as of January 1, 2012, this milestone was not complete.

Actions and milestones	Original expected completion date	Actual or planned completion date	GAO assessment and comments
Milestone 4.3: Ensure consistent approach to assess readiness and risk against efficiency and/or develop metrics.	March 2012	January 2012	• **Assessment:** Started, on schedule. • **Comment:** OSD, the services, and DLA are developing a set of departmentwide metrics; however, these metrics are still underdevelopment and no final decisions have been made on the metrics.
Milestone 4.4: Develop a metric to assess Weapon System Support Program file maintenance and effectiveness.	May 2012	May 2012	• **Assessment:** Started, on schedule. • **Comment:** OSD, the services, and DLA are working to improve DLA's Weapon System Support Program, which provides a method of applying enhance management to items critical to the mission of the services' weapon systems, according to the criticality of the weapon system and the essentiality of the individual items to the mission of that weapon system.

Source: GAO analysis of the *Plan* and DOD's periodic status briefings.

[a]The stratification process is a uniform portrayal of requirements and assets that is a computer-generated, time-phased simulation of actions causing changes in the supply position; e.g., procurement, repair, receipt, issue, terminations, and disposal of materiel.

[b]The Supply System Inventory Report is an annual publication that provides summary statistics on the status of DOD supply system inventories—both wholesale and retail inventory.

[c]Strategic materiel sourcing is the concept of procuring items needed by applying commercial best practices. Examples include developing agreements between suppliers and DLA to arrange long-term contracts for sole-source items using best commercial practices such as partner-driven, integrated supply chain management whereby the buyer and seller cooperate to maximize their mutual benefit, or forming long-term contracts with manufacturers for low-demand, high-dollar items by stipulating that DLA will also purchase other low-priced, higher-demand items from those same manufacturers.

Appendix XIII: Comments from the Department of Defense

LOGISTICS AND
MATERIEL READINESS

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

APR 2 3 2012

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

Dear Ms. Merritt:

This is the Department of Defense response to the GAO draft report, GAO Draft Report, GAO-12-493, "DEFENSE LOGISTICS: Actions Underway to Implement Improvement Plan, but Steps Needed to Enhance Efforts," dated March 28, 2012 (GAO Code 351639).

The Department concurs with the report. Detailed responses to the three recommendations in the report are enclosed

We appreciate the opportunity to respond to this report.

Sincerely,

Alan F. Estevez

Enclosure:
As stated

GAO DRAFT REPORT DATED MARCH 28, 2012
GAO-12-493 (GAO CODE 351639)

"DEFENSE LOGISTICS: ACTIONS UNDERWAY TO IMPLEMENT IMPROVEMENT PLAN, BUT STEPS NEEDED TO ENHANCE EFFORTS,"

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Assistant Secretary of Defense for Logistics & Materiel Readiness [ASD(L&MR)] to conduct and document periodic re-examinations of its existing on-order and on-hand excess inventory percentage targets (such as those officials say are planned) and update the targets and associated timelines, if necessary, to guide continued improvement in its inventory management through the plan's implementation.

DoD RESPONSE: Concur. The Department will re-examine the on-order and on-hand excess goals as part of the ongoing review of the metrics. On-hand excess inventory goals are currently being revised, taking into consideration current performance and anticipated operational conditions that may impact those goals.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Assistant Secretary of Defense for Logistics & Materiel Readiness [ASD(L&MR)] to develop and implement guidance that establishes a comprehensive, standardized set of department-wide inventory management metrics, including standardized and procedures for measuring and reporting the metrics.

DoD RESPONSE: Concur. The Department continues to identify and develop enterprise inventory management metrics.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Assistant Secretary of Defense for Logistics & Materiel Readiness [ASD(L&MR)] employ those metrics in periodically monitoring the effectiveness and efficiency of its inventory management practices.

DoD RESPONSE: Concur. The Department will continue to monitor the existing inventory management metrics as part of the Comprehensive Inventory Management Improvement Plan. Additional metrics approved for Department-wide assessment of inventory management will be included in these reviews.

Appendix XIV: GAO Contact and Staff Acknowledgments

GAO Contact

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

Staff Acknowledgments

In addition to the individual named above, key contributors to this report were Suzanne Wren (Assistant Director); Edward W. Anderson, Jr.; John Bumgarner; Elizabeth Curda; Dave Hubbell; Charlie Perdue; Greg Pugnetti; Michael Silver; Michael Willems; and Erik Wilkins-McKee.

Glossary

	This glossary is provided for reader convenience. It is not intended as a definitive, comprehensive glossary of inventory management terms.
acquisition lead time	Acquisition lead time, also known as procurement lead time, measures the length of time between the identification of a materiel requirement and the receipt of that materiel into the supply system. Acquisition lead time is the sum of the administrative lead time and production lead time.
administrative lead time	The time interval between identifying a need to purchase an item and the award of a contract.
approved acquisition objective	The materiel needed to meet the requirements objective and 2 years of estimated future demand.
authorized additive levels	Contains additional materiel, such as wartime reserve stock and inventory for acquisition lead times, included in the requirements objective.
condemned items	Unserviceable assets that are determined to be beyond the point of economic repair during the repair process.
contingency retention stock	Materiel that is retained to support specific contingencies, such as to support foreign military sales, future military operations, disaster relief or civil emergencies, or to mitigate risk associated with diminished manufacturing sources or nonprocurable stock.
demand forecasting	Predicting future customer demands so inventory managers can develop inventory requirements to satisfy demands when they occur. Inaccurate forecasts lead to either excess inventory or shortfalls.
direct vendor delivery	A materiel acquisition and distribution method that requires supplier delivery directly to the customer, which can reduce the storage of items by the services and the Defense Logistics Agency.

economic order quantity	The quantity derived from a mathematical technique used to determine the lowest total variable costs to order and hold inventory.
economic retention stock	Materiel that has been deemed more economical to keep than to dispose of because it is likely to be needed in the future.
multi-echelon modeling	The use of mathematical models that compute the optimal number and type of parts needed at the wholesale and retail levels to achieve readiness and cost goals.
on-hand excess inventory	Inventory that is excess to the approved acquisition objective and is not being retained as economic or contingency retention stock. On-hand excess inventory is also referred to as potential reutilization stock.
on-hand inventory	Inventory that is in the Department of Defense's (DOD) possession.
on-order excess inventory	Items for which a contract has been awarded or funds have been obligated, but due to subsequent changes in requirements would be classified as potential reutilization stock upon arrival.
on-order inventory	Inventory that is not in DOD's possession but for which a contract has been awarded or funds have been obligated is considered to be on-order.
potential reutilization stock	Materiel exceeding the approved acquisition objective and not being retained as economic or contingency retention stock, that has been identified for possible disposal but has potential for reutilization. Potential reutilization stock is also referred to as on-hand excess inventory.
production lead time	The time interval between the award of a contract and receiving the purchased materiel into the supply system.

repair-cycle level	The quantity of reparable items required to sustain operations during the repair cycle that commences when a maintenance replacement takes place and ends when the unserviceable asset is returned to stock in a serviceable condition.
requirements objective	The maximum authorized quantity of stock for an item (for wholesale inventory replenishment), which consists of the sum of stock represented by the economic order quantity, the safety level, the repair-cycle level, and the authorized additive levels.
retention stock	Economic and contingency retention stock, which DOD states is necessary for the military mission.
safety levels	The amount of stock that is to be kept on hand in case of minor interruptions in the resupply process or fluctuations in demand.
secondary inventory items	Items that include reparable components, subsystems, and assemblies other than major end items (e.g., ships, aircraft, and helicopters), consumable repair parts, bulk items and materiel, subsistence, and expendable end items (e.g., clothing and other personal gear).
total asset visibility	The capability to provide all users with timely and accurate information about the location, movement, status, and identity of supplies and the capability to act on this information.

Related GAO Products

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