ARMY WORKING
CAPITAL FUND

Actions Needed to
Improve Budgeting for
Carryover at Army
Ordnance Activities
Highlights of GAO-09-415, a report to the Subcommittee on Readiness and Management Support, Committee on Armed Services, U.S. Senate

ARMY WORKING CAPITAL FUND

Actions Needed to Improve Budgeting for Carryover at Army Ordnance Activities

What GAO Found

From fiscal years 2004 through 2008, the Army ordnance activities’ carryover increased from $517 million to $1.2 billion—about 10 months of work. The carryover increased because new orders outpaced work performed. The carryover more than doubled even though the ordnance activities increased the number of employees by 20 percent and the direct labor hours of work performed by 30 percent from fiscal years 2004 through 2008.

Analysis of New Orders and Revenue on Army Ordnance Carryover

Dollars in millions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>$517</td>
<td>$877</td>
<td>$974</td>
<td>$1,519</td>
<td>$1,543</td>
</tr>
<tr>
<td>$788</td>
<td>$974</td>
<td>$1,023</td>
<td>$1,461</td>
<td>$1,543</td>
</tr>
<tr>
<td>$722</td>
<td>$951</td>
<td>$1,106</td>
<td>$1,232</td>
<td>$1,543</td>
</tr>
</tbody>
</table>

Source: GAO analysis of DOD data.

GAO analysis of reports and discussions with Army officials identified three primary reasons for carryover: (1) the Army ordnance budget underestimated the amount of new orders by $479 million, $696 million, and $688 million in fiscal years 2006, 2007, and 2008, respectively; (2) the activities accepted all orders received during the fiscal year regardless of the effect on carryover; and (3) the lead time to obtain some material or parts could be a year or longer because of the time needed to award contracts and for the vendors to produce the material or parts. As a result, the activities often did not work on items until the second year and, for items with longer lead times, the third year.

The ordnance activities reported that they exceeded the carryover ceiling by $98 million in fiscal year 2006 and $180 million in fiscal year 2007. In fiscal year 2008, the activities reported they were under the ceiling by $145 million due to a DOD change in the methodology used to calculate the ceiling. Otherwise, the activities would have exceeded the ceiling by $79 million. The methodology change allowed the ordnance activities to use the second-year outlay rates for calculating the carryover ceiling for procurement-funded orders, which more accurately considers the source of funds used for the carried over work and reflects the lead time needed to obtain material.

What GAO Recommends

GAO is making three recommendations to the Department of Defense (DOD) that are aimed at (1) improving the budgeting for carryover and (2) updating the DOD Financial Management Regulation that contains guidance on carryover. DOD concurred with all three recommendations and has taken or plans to take action to implement them.

To view the full product, including the scope and methodology, click on GAO-09-415. For more information, contact Asif A. Khan at (202) 512-9095 or khana@gao.gov.
Figure 3: Actual Lead Times to Obtain Components for an 81 mm Visual Light Round
Figure 4: M119A2 Howitzer
June 10, 2009

The Honorable Evan Bayh
Chairman
The Honorable Richard Burr
Ranking Member
Subcommittee on Readiness and Management Support
Committee on Armed Services
United States Senate

The eight Army ordnance activities support combat readiness by providing services necessary to keep Army units operating worldwide. These services include manufacturing, renovating, and demilitarizing an array of defense-related materiel and components such as manufacturing howitzers; producing large caliber ammunition, rockets, bombs, missiles, and incendiary devices; and receiving, storing, and issuing ammunition. Many of these weapon systems and munitions are used to support the Army’s current efforts in Iraq and Afghanistan. From fiscal year 2004 through fiscal year 2008, the dollar value of new orders received annually to perform these services increased from approximately $788 million to $1.5 billion.

The eight Army ordnance activities operate under the working capital fund concept where customers are charged for the anticipated full cost of goods and services. To the extent that the ordnance activities do not complete work at year-end, the funded work is carried into the next fiscal year. Carryover is the reported dollar value of work that has been ordered and funded (obligated) by customers but not completed by the ordnance activities at the end of the fiscal year. Although the congressional defense committees recognize that some carryover is needed to ensure a smooth flow of work during the transition from one fiscal year to the next, past congressional defense committee reports raised concerns that the level of carryover may be too high. Excessive amounts of carryover financed with customer appropriations are subject to reductions by the congressional

---

1The eight ordnance activities are the Blue Grass Army Depot, Richmond, Kentucky; the Crane Army Ammunition Activity, Crane, Indiana; the McAlester Army Ammunition Plant, McAlester, Oklahoma; the Pine Bluff Arsenal, Pine Bluff, Arkansas; the Rock Island Arsenal-Joint Manufacturing and Technology Center, Rock Island, Illinois; the Sierra Army Depot, Herlong, California; the Tooele Army Depot, Tooele, Utah; and the Watervliet Arsenal, Watervliet, New York.
defense committees during the budget review process. On occasion, Congress has reduced the services’ budgets because of excessive carryover, including a reduction in the Army’s fiscal years 2003 and 2006 operation and maintenance appropriations by $48 million and $94.7 million, respectively.

As requested and agreed to with your office, our objectives were to determine (1) whether the reported actual total carryover increased or decreased from fiscal year 2004 through fiscal year 2008 and, if the carryover increased, the actions the Army is taking to reduce it; (2) the primary reasons for carryover at the Army’s eight ordnance activities; and (3) whether reported carryover amounts exceeded carryover ceilings for fiscal years 2006, 2007, and 2008, and whether the methodology used to calculate the carryover ceiling for the ordnance activities was reasonable. We conducted this performance audit from June 2008 through June 2009 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. Most of the financial information in this report was obtained from official Army budget documents and accounting reports. To assess the reliability of the data, we (1) reviewed and analyzed the factors used in calculating carryover for the completeness of the elements included in the calculation, (2) interviewed Army officials knowledgeable about the controls over the carryover data, and (3) reviewed orders customers submitted to the ordnance activities to determine whether they were adequately supported by documentation. Further details on our scope and methodology are provided in appendix I. We requested comments on a draft of this report from the Secretary of Defense or his designee. Written comments from the Office of the Under Secretary of Defense (Comptroller) are reprinted in appendix III.

Background

The Army’s eight ordnance activities include three arsenals, two munitions production facilities, and three storage sites. These eight activities perform a wide range of different types of work as described below.

---

2DOD Financial Management Regulation 7000.14-R, vol. 2B, ch. 9, pp. 9-40, 9-41, contain the methodology for calculating the ceiling for the amount of work that can be carried over from one fiscal year to the next.
<table>
<thead>
<tr>
<th>Arsenals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pine Bluff Arsenal (Pine Bluff) produces, renovates, and stores over 60</td>
</tr>
<tr>
<td>different conventional ammunition products ranging in caliber from</td>
</tr>
<tr>
<td>40 millimeter (mm) to 175 mm. Pine Bluff also produces munitions</td>
</tr>
<tr>
<td>containing payloads for smoke, nonlethal, riot control, incendiary,</td>
</tr>
<tr>
<td>illumination, and infrared uses.</td>
</tr>
<tr>
<td>Rock Island Arsenal-Joint Manufacturing and Technology Center (Rock</td>
</tr>
<tr>
<td>Island) manufactures weapons, weapon components, and mobile</td>
</tr>
<tr>
<td>maintenance systems. This includes manufacturing the M119A2 howitzer,3</td>
</tr>
<tr>
<td>artillery, gun mounts, recoil mechanisms, small arms, aircraft weapon</td>
</tr>
<tr>
<td>subsystems, and weapon simulators.</td>
</tr>
<tr>
<td>Watervliet Arsenal (Watervliet) is the premier cannon maker for the Army</td>
</tr>
<tr>
<td>It produces armaments, mortars, cannons, and recoiless rifles.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Munitions production facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crane Army Ammunition Activity (Crane) produces and renovates</td>
</tr>
<tr>
<td>conventional ammunition and ammunition-related components. Crane’s</td>
</tr>
<tr>
<td>diverse manufacturing capabilities allow for the production of detonators</td>
</tr>
<tr>
<td>weighing only 20 grams to 40,000-pound cast shock-test charges. Crane</td>
</tr>
<tr>
<td>also stores, ships, demilitarizes, and disposes of conventional ammunition.</td>
</tr>
<tr>
<td>McAlester Army Ammunition Plant (McAlester) produces and renovates</td>
</tr>
<tr>
<td>conventional ammunition, bombs, warheads, rockets, missiles, and</td>
</tr>
<tr>
<td>ammunition-related components. It also receives, stores, ships,</td>
</tr>
<tr>
<td>demilitarizes, and disposes of conventional and missile ammunition and</td>
</tr>
<tr>
<td>related items.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Storage sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blue Grass Army Depot (Blue Grass) receives, stores, issues, renovates,</td>
</tr>
<tr>
<td>and disposes of conventional ammunition.</td>
</tr>
<tr>
<td>Sierra Army Depot (Sierra) provides a complete range of logistical</td>
</tr>
<tr>
<td>support including receiving, storing, repairing, shipping, containerizing,</td>
</tr>
<tr>
<td>and fabricating assets.</td>
</tr>
<tr>
<td>Tooele Army Depot (Tooele) receives, stores, issues, renovates, and</td>
</tr>
<tr>
<td>disposes of conventional ammunition.</td>
</tr>
</tbody>
</table>

The Army ordnance activities are part of the Army Working Capital Fund. A working capital fund relies on sales revenue rather than direct appropriations to finance its continuing operations. A working capital fund 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. Based on the order,

---

3 See appendix II for a picture of the M119A2 howitzer.
the ordnance activity incurs costs, such as material and labor, to perform the work.

Carryover is the reported dollar value of work that has been ordered and funded (obligated) by customers but not completed at the end of the fiscal year. Carryover consists of both the unfinished portion of work started but not completed, as well as requested work that has not yet begun. Too little carryover could result in some personnel not having work to perform at the beginning of the fiscal year. On the other hand, too much carryover could result in an activity receiving funds from customers in one fiscal year but not performing the work until well into the next fiscal year or subsequent years. By properly balancing the amount of carryover, DOD can use its resources in the most effective manner and minimize the “banking” of funds for work and programs to be performed in subsequent years.

In 1996, DOD established a 3-month carryover standard for working capital fund activities. In May 2001, we reported\(^4\) that DOD did not have a basis for its 3-month carryover standard and recommended that DOD determine the appropriate carryover standard for depot maintenance, ordnance, and research and development activity groups. In December 2002, the Department of Defense (DOD) revised its carryover policy. Under the 2002 policy,\(^5\) the allowable amount of carryover was based on the outlay rate\(^6\) of the customers' appropriations financing the work. According to the DOD regulation, this carryover metric allowed for an analytically based approach that held working capital fund activities to the same standard as general fund execution and allowed for meaningful budget execution analysis.


\(^6\)The outlay rate is the percentage of actual expenditures for a specific appropriation by year. These rates are contained in the DOD Financial Summary Tables. The amount of allowable carryover using the outlay rate is shown in the following example. Customers order $100 of work, which is financed with a specific appropriation. If the outlay rate for this appropriation at the appropriation level is 60 percent, then this would result in the working capital fund activity group being allowed to carry over $40 ($100 - $60 [$100 x 60 percent] = $40).
In accordance with the revised DOD Financial Management Regulation, nonfederal orders, non-DOD orders, foreign military sales, and work related to base realignment and closure are excluded from the carryover balance and calculation of the carryover ceiling. Further, the Army has requested and the Office of the Under Secretary of Defense (OUSD) (Comptroller) has approved an exemption of crash- and battle-damaged aircraft from these calculations during wartime operations for the past few years. This has resulted in tens of millions of dollars of orders and carryover being excluded from the carryover calculation. DOD then compares the carryover balance (net of exclusions) to the amount of allowable carryover to determine whether the reported actual amount is over or under the allowable carryover amount.

From fiscal years 2004 through 2008, the Army ordnance activities’ total carryover increased from $517 million to $1.2 billion. The $1.2 billion is equivalent to about 10 months of work that carried over into fiscal year 2009. The carryover more than doubled from fiscal year 2004 through fiscal year 2008 even though the Army ordnance activities increased (1) their personnel levels by 20 percent and (2) the number of direct labor hours of work performed by 30 percent. The carryover increased because the dollar value of new orders received over the 5-year period (about $6 billion) by the ordnance activities exceeded the dollar value of work performed (about $5.4 billion) by the activities. Figure 1 illustrates how changes in fiscal years 2004 through 2008 new orders and work performed (revenue) have affected ordnance activities’ carryover. From fiscal years 2005 through 2008, orders exceeded work performed each year.

---

Army Ordnance Carryover More Than Doubled from Fiscal Year 2004 through Fiscal Year 2008 Despite Actions to Reduce

---


8These balances are comprised of all carryover work, including those amounts exempted from DOD calculations.

9According to DOD Financial Management Regulation 7000.14-R, vol. 11B, ch. 11, p. 11-8, revenue and associated costs must be recognized in the same accounting period. The percentage-of-completion method—which reports revenue based on the ratio of work performed (costs incurred to date) to the total amount—is required for all orders. Therefore, revenue and work performed are equivalent in the context of our analysis.
As shown in figure 1, the dollar amount of new orders increased at a greater pace than the dollar amount of revenue earned based on work performed. Specifically, new orders increased 96 percent while the amount of revenue earned increased by 67 percent. The net effect of these actions was that carryover more than doubled and now represents about 10 months of work.

To perform the work needed in support of the Global War on Terrorism, the eight ordnance activities increased the number of employees from 6,554 to 7,881—a 20 percent increase—from fiscal year 2004 to fiscal year 2008 and the number of direct labor hours from about 6.6 million in fiscal year 2004 to about 8.6 million for fiscal year 2008—a 30 percent increase. For example, to perform more work during fiscal year 2007, the activities increased the number of employees by 134 and the direct labor hours by 434,000 over fiscal year 2006 totals. In order to meet the growing demand of work for fiscal year 2008, the ordnance activities were expected to perform 34 percent more work than they performed in the prior fiscal year.
Our analysis of the ordnance activities’ revenue showed that the activities met their revenue goal and performed $362 million more work in fiscal year 2008 than they performed in fiscal year 2007. Nevertheless, carryover increased because the work performed did not keep pace with the new orders received.

Because the carryover has continuously increased, the Army established a goal of reducing carryover from $1.1 billion at the end of fiscal year 2007 to $671 million at the end of fiscal year 2008. However, our analysis showed that the carryover increased to $1.2 billion because the amount of actual new orders was $400 million more than the expected amount. In October 2008, the Army established another goal of reducing ordnance activities carryover to $705 million at the end of fiscal year 2009. The goal was based on the expectation of a reduction in new orders by about $420 million over the fiscal year 2008 actual amount. Our analysis of first-quarter fiscal year 2009 data for reported actual new orders and the work performed indicates that the ordnance activities will likely not meet their fiscal year 2009 goal for reducing the carryover.

As discussed above, the Army ordnance activities’ carryover amount has more than doubled over the past 5 years; however, the increase in carryover was not separately identified in the Army’s Working Capital Fund budgets to Congress. Prior to the fiscal year 2005 consolidation, the Army Working Capital Fund budgets separately identified carryover information, such as the dollar amount of carryover and the carryover ceiling for the ordnance activities. In fiscal year 2005, the Army consolidated the depot maintenance and ordnance activity groups under a single activity group called the Industrial Operations activity group. Prior to the consolidation, the ordnance activity group’s carryover was much smaller than it is today. Specifically, the dollar value of carryover was $517 million at the end of fiscal year 2004, whereas at the end of fiscal year 2008 it was $1.2 billion. Thus, the added visibility that could be provided by separately reporting carryover information for the ordnance activity group to Congress is especially important at this time since the carryover balance has more than doubled over the past 5 years.
Our analysis of ordnance activities’ reports and discussions with Army officials identified three primary reasons for the increase in carryover. First, during fiscal years 2006, 2007, and 2008, the Army ordnance budget significantly underestimated the dollar amount of new orders to be received from customers and the work performed by the ordnance activities did not keep pace with the increases in new orders. Second, the ordnance activities accepted all orders during the fiscal year regardless of the effect on carryover. Third, the lead time for obtaining material and parts to manufacture weapons and munitions can be extensive. We found that in some cases it took the ordnance activities over a year to obtain material or parts because of the time needed to enter into contracts and for the vendors to produce the material or parts, resulting in funds being carried over for 2 or more years.

The Army ordnance activities budget underestimated the dollar amount of new orders to be received by $479 million, $696 million, and $688 million in fiscal years 2006, 2007, and 2008, respectively. For example, while the budget shows that the activities expected to receive $823 million in new orders in fiscal year 2007, the activities actually received $1.5 billion in new orders. Figure 2 shows the dollar amount and percentage difference between actual and budgeted new orders for fiscal years 2006 through 2008.
Our analysis of the Army Working Capital Fund budget guidance for fiscal year 2006 showed that the Army assumed that the fiscal year 2006 new orders would amount to approximately 50 percent of the fiscal year 2005 operation and maintenance supplemental budget. For fiscal years 2007 and 2008, the Army assumed that the supplemental orders would be approximately 25 and 20 percent less than the fiscal year 2006 program, respectively. In retrospect, these budget assumptions—made over a year prior to the start of the fiscal years—was a major factor that resulted in the reported actual orders exceeding budgeted orders for fiscal years 2006 through 2008.

Army headquarters and Army Materiel Command officials told us that the Army underestimated the amount of new orders received by the ordnance activities because of (1) the lack of historical information to indicate the amount of funds the ordnance activities would likely receive in supplemental appropriations for ordnance work, (2) the uncertainty related to the amount of funds the Army would receive in supplemental appropriations for ordnance work, and (3) customers’ reluctance to
commit in advance to the total dollar amount of orders they planned to send during the year. The officials told us they recognize the problem in accurately estimating orders and are working on a solution to the problem. Without reliable budget estimates, the Army ordnance activities cannot make the necessary adjustments to their personnel and material in time to perform more work to better address carryover and expected orders.

**Ordnance Activities Accept All Orders**

Army ordnance officials at all eight activities told us that they accept all orders during the fiscal year including orders received in the fourth quarter. Our analysis showed that about 37 percent, 24 percent, and 20 percent of the orders were received in the fourth quarter of fiscal years 2006, 2007, and 2008, respectively. Ordnance officials told us that their customers have already justified to DOD or Congress the need for the funding to procure the goods ordered from the ordnance activities. As long as the activities have the right type of equipment or facilities to manufacture the goods requested and a workforce with the appropriate skills to perform the work, the activities will accept the orders and manufacture the goods regardless of its impact on carryover balances. Officials also pointed out that before the activities can begin the labor work on orders, they need to contract with vendors to obtain material and parts. The activities cannot enter into these contracts unless they have funded orders from their customers. Thus, deferring acceptance of the orders would, in effect, delay work on these orders, which may be critical. Given procurement lead time, typically, little of the work on the orders received in the fourth quarter will be completed by the end of the current fiscal year and, as our work showed, even absent any unusual delays, can extend into a third year prior to completion.

The ordnance activities’ actions on accepting orders are consistent with the DOD regulations, which identify the requirements to be met before a working capital fund activity accepts an order. For example, work to be performed under an order is expected to begin within a reasonable amount of time after the order is accepted by the performing DOD activity. The regulation also states, that as a minimum requirement, it should be documented that when an order is accepted, the work is expected to (1) begin without delay (usually within 90 days) and (2) be completed within the normal production period of the specific work ordered. Further,

---

the regulation recognizes that starting work within a reasonable amount of time includes the action to procure material or components.

### Lead Time for Obtaining Material and Parts

For ordnance activities, the material and parts are generally not in the DOD supply system so the activities must obtain them from vendors. Obtaining material and parts can take over a year because of the time needed (1) by the Army to enter into contracts and (2) by the vendors to manufacture the material and parts. As noted above, before the Army ordnance activities can manufacture or assemble end items to satisfy their customers’ requirements, they must first accept funded orders from customers. The ordnance activities cannot begin work—including buying material from vendors—until they accept the order. Upon accepting the orders, the activities begin the process of awarding contracts or amending existing contracts to buy material or parts from vendors, which can take several months. Once contracts are awarded to vendors, the vendors need time to manufacture and deliver the material and parts. The manufacturing process takes months, and in some cases over a year, for the material or parts to be manufactured in accordance with military specifications and shipped to the ordnance activities. Adding time to the process is the possibility that vendors cannot provide the material or parts in accordance with military specifications. In such cases, the ordnance activities will terminate these contracts and find other contractors to perform the work or perform the work in-house. Because it can take over a year to receive material and parts, funds can carryover on orders for 2 or more years. For example, at the end of fiscal year 2008, about $330 million carried over on orders that were 2 or more years old. A specific example of the amount of time needed to obtain parts for the assembly of 81 mm visual light mortar rounds is presented below. Additional examples of the lead times and production problems experienced by activities are provided in appendix II.

During the first quarter of fiscal year 2007, the Marine Corps placed an order with the Army to manufacture 51,663 visual light mortar rounds (81 mm) to support its training and war reserve requirements. The Marine Corps later directed the Army to increase the number of rounds to 53,124. These rounds consist of 12 main components including fins, tail cones, fuzes, candles, and about 40 minor items. In January 2007, the Army issued orders totaling about $7.3 million to Pine Bluff to purchase the minor items for the rounds and to load, assemble, and pack the rounds by February 2009—25 months later. In addition, over the next several months, the Army awarded contracts to vendors to procure the main components needed in the production of the rounds and the Army issued orders to Crane—one of the eight ordnance activities—totaling about $6.7 million
for the production of the candles. According to Army officials, the schedule was set to accommodate the lead time needed to acquire all of the components. The lead time includes time for the (1) Army to amend existing or award new contracts and (2) vendors to manufacture and deliver components. Figure 3 shows the actual lead times to obtain components from vendors to manufacture an 81 mm visual light round.

Figure 3: Actual Lead Times to Obtain Components for an 81 mm Visual Light Round

Because Pine Bluff could not load, assemble, and pack the rounds until the components were delivered to them, Pine Bluff carried over $7.2 million into fiscal year 2008. Crane also carried over about $6.7 million into fiscal year 2008 for work on the candles. The rounds are currently planned to be completed by Pine Bluff in April 2009—about 27 months after the orders were issued to Pine Bluff for the production of the visual light rounds. Because it took almost 2 years to obtain all the parts, the work on these fiscal year 2007 orders will not be completed until fiscal year 2009.

The candles produced by Crane have a limited shelf life to mitigate safety issues associated with extended storage of pyrotechnics and to mitigate the risk of expending dollars on candles that may not be used if the rounds fail acceptance testing. For these reasons, the candles are generally produced within 3 months of the expected start of work by Pine Bluff.
The Army ordnance activities reported that they exceeded the carryover ceiling by $98 million in fiscal year 2006 and $180 million in fiscal year 2007. In fiscal year 2008, the activities reported that they were under the ceiling by $145 million. The activities were under the ceiling because on December 31, 2008, the OUSD (Comptroller) approved an Army request to change the outlay-rate methodology to allow the activities to use second-year outlay rates for calculating the carryover ceiling for procurement-funded orders, whereas previously only first-year outlay rates were used. For the time needed to manufacture items, the December 31, 2008, memorandum stated that the Army’s request was granted because the type of work performed required an extended period of time to complete work in ordnance activities. For comparability purposes, if OUSD (Comptroller) had not changed the methodology, the activities would have exceeded the ceiling by $79 million for fiscal year 2008. The change to the methodology reflects the long production cycle associated with this type of work, which is typically financed with procurement appropriations. While DOD plans to update the Financial Management Regulation for this change, it has not yet been done.

The methodology used through fiscal year 2007 for calculating the carryover ceiling did not take into account the lead time required by the ordnance activities to obtain material and parts from vendors for procurement-funded orders. As discussed, because material and parts can take over a year to be received from vendors, in some cases, the ordnance activities did not begin assembling the end items until the second or third year after they had received the orders, meaning that a significant amount of work was performed in the third year. Our analysis of Army ordnance carryover data for fiscal years 2006, 2007, and 2008 showed that 25 percent or more of the amounts the activities carried over in each of the 3 years were associated with orders accepted in prior years. For example, at the end of fiscal year 2008, $332 million of the carryover (27 percent of the total carryover) was for orders accepted in fiscal year 2007 or earlier.

While the Army ordnance activities carried over 25 percent or more of their funded orders into the third year of the orders, the previous outlay-rate methodology for calculating allowable carryover assumed that the activities would complete all work on the orders by the end of the second year. However, most of the Army ordnance carryover was funded by

---

12 Army ordnance officials did not recalculate or otherwise estimate how the new methodology would have affected the reported figures for fiscal years 2006 and 2007.
procurement appropriations (which are available for obligation for 3 years), which the Army has historically taken more than 2 years to fully expend. Our analysis of fiscal years 2006, 2007, and 2008 carryover data showed that 71 percent, 66 percent, and 61 percent, respectively, of the carryover was financed with procurement-funded orders. As presented in DOD’s Financial Summary Tables, the outlay rate for procurement appropriations does not support the assumption that work would be completed on procurement-funded orders at the end of the second year (see table 1).

Table 1: DOD Cumulative Outlay Rates for Army Procurement Appropriation Accounts as a Percentage of Budget Authority

<table>
<thead>
<tr>
<th>Army procurement appropriation accounts</th>
<th>Cumulative outlay rates</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>First year</td>
<td>Second year</td>
</tr>
<tr>
<td>Weapons &amp; tracked combat vehicles</td>
<td>10.00</td>
<td>56.00</td>
</tr>
<tr>
<td>Ammunition</td>
<td>11.07</td>
<td>59.72</td>
</tr>
</tbody>
</table>


In table 1, the second-year cumulative outlay rate for the Army procurement of ammunition appropriation account was about 60 percent. In other words, this procurement appropriation account was just over half expended within the first 2 years of the 3-year procurement appropriation. It was not until the third year that the funds for this account were mostly expended (almost 90 percent).  

Continuing problems in the Army ordnance activities’ ability to control the growth of carryover has resulted in carryover amounts that can span 2 or more years. While the Army has increased the number of employees and the direct labor hours to perform more work, its carryover has more than doubled from fiscal year 2004 to fiscal year 2008. A significant factor that led to increased carryover was that the Army’s budgets for ordnance activities’ significantly underestimated the dollar amount of new orders that would be received from customers for several years. The increase in carryover is also due to the amount of time it takes ordnance activities to

Conclusions

13 The procurement appropriation is available for 3 years for obligation and an additional 5 years to liquidate unpaid obligations.
obtain material and component parts before they can perform their work. In some cases, it takes over a year for the ordnance activities to receive the material and component parts which, in turn, results in the ordnance activities performing work in the third year after receiving the procurement-funded orders. Further, while the carryover amount has more than doubled over the past 5 years, the carryover information on ordnance activities is not separately identified in the Army Working Capital Fund budgets to Congress. Without increased management attention on budgeting and reporting for new orders that affects the dollar amount of carryover, Army ordnance activities will continue to experience difficulties with managing the dollar amount of carryover.

Recommendations for Executive Action

We are making three recommendations to the Secretary of Defense to (1) improve the management of budgeting for carryover and (2) update the DOD Financial Management Regulation that contains guidance on carryover.

We recommend that the Secretary of Defense direct the Secretary of the Army to take the following actions:

- Establish procedures requiring Army headquarters and Army Materiel Command to develop more accurate estimates of new order data by comparing budgeted orders to actual orders and consider these trends in developing the following year’s budget estimates for new orders.

- Report the allowable and actual amounts of carryover for the Army ordnance activities as a separate item in the Army Working Capital Fund annual budget to Congress.

We recommend that the Secretary of Defense direct the Under Secretary of Defense (Comptroller) to take the following action:

- Update methodology in the DOD Financial Management Regulation for calculating the allowable amount of carryover for ordnance activities in order to formally establish this new requirement, which was contained in the December 31, 2008, memorandum.

Agency Comments and Our Evaluation

DOD provided written comments on a draft of this report. In its comments, DOD concurred with the three recommendations in the draft report and has taken or plans to take action to implement them. First, the Office of the Under Secretary of Defense (Comptroller) stated that DOD will issue a
memorandum to the Army reiterating the importance of accurately estimating the amount of new orders for budgeting purposes. Second, DOD stated that it directed the Army to report separately the allowable and actual amount of carryover for the Army ordnance activities. The Army has complied with the guidance and has identified the allowable and actual amounts of carryover for ordnance activities in the May 2009 fiscal year 2010 President’s Budget Request Justification Books provided to Congress. Finally, DOD stated that it will include in the next Financial Management Regulation update the revised methodology for calculating the allowable amount of carryover for ordnance activities.

We are sending copies of this report to the Senate Committee on Armed Services; the Subcommittee on Defense, Senate Committee on Appropriations; the House Committee on Armed Services; the Subcommittee on Readiness, House Committee on Armed Services; the House Committee on Appropriations; and the Subcommittee on Defense, House Committee on Appropriations. We are also sending copies to the Secretary of Defense and the Secretary of the Army. The report also is available at no charge on the GAO Web site at http://www.gao.gov.

Should you or your staff have any questions concerning this report, please contact Asif A. Khan at (202) 512-9095 or khana@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix IV.

Asif A. Khan
Director, Financial Management and Assurance
Appendix I: Scope and Methodology

To determine whether the reported actual total carryover increased or decreased from fiscal year 2004 through fiscal year 2008 and, if the carryover increased, the actions the Army is taking to reduce it, we obtained and analyzed Defense Finance and Accounting Service reports that contained information on Army ordnance activities’ new order, revenue, and carryover data for the 5-year period. Since the reported actual total carryover increased over the 5-year period, we met with Army officials to obtain, analyze, and discuss the Army’s actions for reducing carryover in fiscal year 2008. Specifically, we compared the fiscal year 2008 new order, revenue, and carryover goals to the fiscal year 2008 execution data to determine if the ordnance activities met their fiscal year 2008 goals. We also analyzed the Army’s fiscal year 2009 carryover reduction goals and first quarter fiscal year 2009 execution data to determine if the ordnance activities met their first quarter fiscal year 2009 goals.

To determine the primary reasons for carryover at the Army ordnance activities, we met with Army headquarters budget officials and responsible budgeting, accounting, or production officials at the Army ordnance activities. Based on those discussions, we obtained information that affected carryover. First, we analyzed budgeted and reported actual new orders for fiscal years 2006, 2007, and 2008. When large differences occurred between budgeted and reported actual new orders, we met with Army headquarters officials to determine the reasons for these differences. We also obtained and analyzed Army budget guidance on new orders expected to be received. Second, we identified ordnance activities’ position on accepting orders during the fiscal year and the impact on carryover. Third, we identified orders accepted by the ordnance activities that experienced material or parts shortages to determine if these orders were contributing to carryover.

To determine whether reported carryover amounts exceeded carryover ceilings for fiscal years 2006 through 2008 and whether the methodology used to calculate the carryover ceiling for the ordnance activities was reasonable, we obtained and analyzed the allowable amount of carryover and reported actual year-end carryover for those years. We focused on fiscal years 2006 through 2008 because during this time period carryover significantly increased. When the reported actual carryover exceeded the carryover ceiling, we met with responsible officials at the Army ordnance activities, the Army Materiel Command, and Army headquarters to ascertain why the ordnance activities exceeded the ceiling. We also reviewed the methodology used by the ordnance activities to calculate the carryover ceiling to determine if the methodology was reasonable for the
Appendix I: Scope and Methodology

ordnance activities’ operations. To that end, we determined the appropriations that financed ordnance activities’ carryover for fiscal years 2006, 2007, and 2008 and analyzed the outlay rates for the appropriations that financed the orders. We also identified how the ordnance activities obtained material and components to perform their work to determine if this process contributed to work carrying over from one year to the next.

We performed our work at the headquarters of the Office of the Under Secretary of Defense (Comptroller) and Office of the Secretary of the Army, Washington, D.C.; Army Materiel Command, Fort Belvoir, Virginia; Blue Grass Army Depot, Richmond, Kentucky; Crane Army Ammunition Activity, Crane, Indiana; McAlester Army Ammunition Plant, McAlester, Oklahoma; Pine Bluff Arsenal, Pine Bluff, Arkansas; Rock Island Arsenal-Joint Manufacturing and Technology Center, Rock Island, Illinois; Sierra Army Depot, Herlong, California; Tooele Army Depot, Tooele, Utah; and Watervliet Arsenal, Watervliet, New York. We conducted this performance audit from June 2008 through June 2009 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. Most of the financial information in this report was obtained from official Army budget documents and accounting reports. To assess the reliability of the data, we (1) reviewed and analyzed the factors used in calculating carryover for the completeness of the elements included in the calculation, (2) interviewed Army officials knowledgeable about the controls over the carryover data, and (3) reviewed orders customers submitted to the ordnance activities to determine if they were adequately supported by documentation. In reviewing these orders, we obtained the status of the carryover at the end of the fiscal year. This included information on the amount of the orders, the amount of revenue earned on the orders (work performed), and the amount of the carryover on the orders. Based on procedures performed, we have concluded that these data are reliable enough for the purposes of this report. We requested comments on a draft of this report from the Secretary of Defense or his designee. The Office of the Under Secretary of Defense (Comptroller) provided written comments, which are presented in the Agency Comments and Evaluation section of this report and are reprinted in appendix III.
Appendix II: Examples of Problems Experienced by Ordnance Activities Contributing to Carryover

This appendix contains specific examples showing those problems experienced by the ordnance activities in obtaining material and parts resulting in significant amounts of work being performed in the third year after accepting the order.

M119A2 Howitzers

Between May 2005 and August 2008, Rock Island accepted nine orders totaling $205.6 million that were financed with Army procurement of weapons and tracked combat vehicles appropriated funds to produce 336 M119A2 howitzers. Rock Island restarted production of the howitzers in 2005 after more than a 10-year break in its manufacturing line. Rock Island determined that the manufacture of the redesigned howitzer required over 2,500 parts and that it would manufacture about 1,200 parts and purchase the remaining parts from vendors located in 23 states and 2 foreign countries. One of the key components of the howitzer is the trail tubes that provide stability to the artillery unit. Each howitzer contains two tubes made of British stainless steel, as depicted in figure 4.

Figure 4: M119A2 Howitzer

According to Rock Island officials, British stainless steel is used for the manufacture of the trail tubes because it contains properties that allow the trail tubes to flex when the artillery unit is fired. Since the trail tubes had not been made in over 10 years, Rock Island issued a contract in July 2005 with a vendor to produce the tubes. However, the vendor could not manufacture the tubes to meet the specification. After about 16 months of
working with the vendor, the contract was terminated in December 2006. One month later, Rock Island issued a new contract to a different vendor. The first vendor’s manufacturing problems created a significant delay in the program and increased Rock Island’s carryover. Rock Island carried over approximately $91.2 million out of a total of $111.5 million on order at the end of fiscal year 2006 and $98.3 million out of a total of $136.1 million on order at the end of fiscal year 2007.

Rock Island’s problems obtaining trail tubes that met specifications continued. When Rock Island received its first shipment of trail tubes from the second vendor, the tubes were straight and needed to be bent to meet design specifications. Two vendors tried to bend the tubes but could not meet design specifications and the contracts were terminated. This resulted in further delays to the program. In order to bend the tubes, in the March or April 2008 time frame, Rock Island took a bending machine out of storage that had not been used in over 10 years. Rock Island is now bending the trail tubes. Due to the delays cited above, by September 2008, Rock Island was about 70 units behind the original schedule. Rock Island carried over about $108.6 million out of the $205.6 million on order at the end of fiscal year 2008. As of November 2008, the production of the 336th howitzer was scheduled to be completed in February 2011. The Army plans to produce a total of 496 howitzers over the life of the program.

M20 Cannons

Between July 2006 and July 2007, Watervliet accepted an order and amendments from TACOM Rock Island totaling about $17.9 million to manufacture 162 M20 cannons. The order was financed with fiscal year 2006 Army procurement of weapons and tracked combat vehicles appropriated funds. The M20 cannons are a component of the M119A2 howitzer that is manufactured at Rock Island. Watervliet manufactures the cannons from raw material obtained from contractors and delivers the finished cannons to Rock Island. According to Watervliet officials, it takes anywhere from 10 to 12 months to obtain the raw material from contractors before they can begin production. Because of the lead time required to obtain the raw material, Watervliet carried over $16.3 million into fiscal year 2007, and $10.5 million into fiscal year 2008. Watervliet completed production and delivery of the fiscal year 2006 order in September 2008.

M110A2 White Phosphorous Projectiles

Between February and July 2006, Pine Bluff accepted two orders and amendments from the Army Program Manager for Combat Ammunition Systems totaling $11.1 million to produce 36,621 M110A2 white phosphorous projectiles. These orders were financed with fiscal year 2006 Army procurement of ammunition appropriated funds. Pine Bluff
originally planned to deliver 6,000 projectiles in September 2007 and the remaining quantities in fiscal year 2008. However, Pine Bluff experienced significant problems in obtaining the M54A1 bursters—a major component in the white phosphorous projectiles. Because Pine Bluff could not load, assemble, and pack the white phosphorous projectiles until they obtained the bursters, Pine Bluff carried over $11.1 million into fiscal year 2007, $10.9 million into fiscal year 2008, and $7.3 million into fiscal year 2009.

The problem with obtaining the M54A1 bursters was caused by contractors that did not manufacture and deliver the projectiles in accordance with technical requirements and the contract schedule. According to Army officials, the bursters were last successfully produced at the Lone Star Army Ammunition Plant, which is closing. The Army awarded two contracts in July 2007 to produce bursters for the fiscal year 2006 program, but these contracts were terminated because the bursters failed test requirements. The Army is now working with Crane to make the bursters. Crane is scheduled to begin deliveries of the bursters in August 2009. Pine Bluff anticipates that it will load, assemble, and pack the orders by December 2009 once Crane completes delivery.

In August 2007, Crane accepted an order from the Navy totaling about $3.6 million that was financed with Navy and Marine Corps procurement of ammunition appropriated funds for the manufacture of 8,232 Kinetic Energy Electronically Timed projectiles. These projectiles are fired from 5-inch guns on Navy ships. In analyzing this order, we found that because the order was received late in the fiscal year, Crane carried over almost the entire amount of the order—$3.6 million—into fiscal year 2008. In October 2007, Crane notified the Joint Munitions Command contracting office that they required tungsten alloy pellets to manufacture the projectiles. Six months later, the command awarded a contract with scheduled delivery dates from June through August 2008. In February 2008, Crane sent three additional requests to the Joint Munitions Command for components (i.e., forward and aft aluminum spacers and cover plates) that they needed to complete the order. The command awarded contracts to vendors for the components in May and September 2008. The expected delivery of the components was by January 2009—approximately 17 months after Crane accepted the order from the Navy.

---

1 The M54A1 burster is a cylindrical tube packed with an explosive composition that fits inside the shell casing of an M110A2 projectile filled with white phosphorous. The purpose of the burster is to explode the shell casing and release the white phosphorous.
Appendix II: Examples of Problems Experienced by Ordnance Activities Contributing to Carryover

Because of the long lead time needed to obtain the components, Crane carried over into fiscal year 2009 about $1.6 million of the $5.1 million on order at the end of fiscal year 2008. Crane expects to complete the manufacturing of the projectiles by May 2009.

In February 2006, Crane accepted an order from the Navy for about $6.7 million that was financed with Navy and Marine Corps procurement of ammunition appropriated funds for the manufacture of 18,090 Mobile Jettison Unit-57 decoy flares. Decoy flares are used on Navy aircraft to counter heat-seeking surface-to-air and air-to-air missiles. In order to manufacture the flares, Crane ordered components such as steel tubes, tungsten ballasts, and o-rings in the spring and summer of 2006. According to Crane officials, it took about 9 months to obtain the components. Because of the time required to order and receive the components, Crane carried over about $6.6 million into fiscal year 2007. In January 2007, the Navy changed the scope of the order to (1) reduce the initial ordered amount of decoy flares to 10,560 and (2) use the remaining funds to manufacture a new, lower cost version of the decoy flare. In order to manufacture the new, lower cost version of the flare, Crane ordered different components, delaying the program further. Due to changes in the production requirements for the new, lower cost flares and the lead time needed to obtain the additional components, Crane carried over about $5.2 million into fiscal year 2008. During the design and test phases of the new flares, Crane experienced design problems with the flare’s igniter and fins. As a result of these problems and the Navy’s need for more flares to protect its aircraft, the Navy amended the order and requested that Crane manufacture the decoy flares on the initial order. Once again, Crane shifted its production lines and ordered the components for the manufacture of the initial decoy flares. Crane carried over about $2.5 million into fiscal year 2009. Crane expects to complete the order by June 2009—more than 3 years after they received the initial order.

Between November 2005 and September 2006, Pine Bluff accepted 52 orders from the Army Project Manager Close Combat Systems totaling $26.9 million to produce 564,428 M18 colored smoke grenades. Almost all

---

2 In fiscal year 2008, Crane accepted two orders from the Navy totaling approximately $1.5 million to cover material, labor, and overhead due to the higher than expected costs for key components such as tungsten alloy shot shell pellets.

3 The colored (red, green, yellow, or violet) smoke grenades are used by troops to communicate in the battlefield. When the grenade ignites, the dye inside vaporizes to produce a colored smoke cloud.
of these orders were financed with fiscal year 2006 Army procurement of ammunition appropriated funds. In order to produce the colored smoke grenades, Pine Bluff needed to obtain key components—fuzes, bodies, and colored smoke dyes. According to Pine Bluff officials, it took about 13 months to obtain these components from contractors. Because of the time it took to obtain the components, production and deliveries of the smoke grenades spanned the following 2 fiscal years. As a result, Pine Bluff carried over $23 million into fiscal year 2007, and $15.4 million into fiscal year 2008. Pine Bluff completed deliveries of the fiscal year 2006 orders by June 2008.
Appendix III: Comments from the Department of Defense

OFFICE OF THE UNDER SECRETARY OF DEFENSE
1100 DEFENSE PENTAGON
WASHINGTON, DC 20301-1100

MAY 19, 2009

Mr. Asif A. Khan
Director
Financial Management and Assurance
U.S. Government Accountability Office
441 G Street, N.W.
Washington, DC 20548

Dear Mr. Khan:

This is the Department of Defense (DoD) response to the GAO Draft Report 09-415, “ARMY WORKING CAPITAL FUND: Actions Needed to Improve Budgeting for Carryover at Army Ordnance Activities,” dated April 20, 2009, (GAO Code 197065).

Actions to improve the budgeting for carryover noted in the draft report are underway.

Sincerely,

[Signature]

John P. Roth
Deputy Comptroller
Appendix III: Comments from the Department of Defense

GAO DRAFT REPORT DATED APRIL 20, 2009
GAO-09-415 (GAO CODE 197065)

“ARMY WORKING CAPITAL FUND: ACTIONS NEEDED TO IMPROVE BUDGETING FOR CARRYOVER AT ARMY ORDNANCE ACTIVITIES”

DEPARTMENT OF DEFENSE COMMENTS TO THE GAO RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommends that the Secretary of Defense direct the Secretary of the Army to establish procedures requiring Army headquarters and Army Materiel Command to develop more accurate estimates of new order data by comparing budgeted orders to actual orders and consider these trends in developing the following year’s budget estimates for new orders. (p. 19/GAO Draft Report)

DOD RESPONSE: Concur. The Office of the Under Secretary of Defense (Comptroller) will soon issue a memorandum to the Army reiterating the importance of accurately estimating the amount of new orders for budgeting purposes.

RECOMMENDATION 2: The GAO recommends that the Secretary of Defense direct the Secretary of the Army to report the allowable and actual amounts of carryover for the Army ordnance activities as a separate item in the Army Working Capital Fund annual budget to Congress. (p. 20/GAO Draft Report)

DOD RESPONSE: Concur. The Army was directed by the Under Secretary of Defense (Comptroller) to report separately the allowable and actual amounts of carryover for Army Industrial Operations by Army Ordnance and Army Depot Maintenance. The Army has complied with guidance and has identified the allowable and actual amounts of carryover for both Army Depot Maintenance and Ordnance in their May 2009 FY 2010 President’s Budget Request Justification Books to Congress.

RECOMMENDATION 3: The GAO recommends that the Secretary of Defense direct the Under Secretary of Defense (Comptroller) to update methodology in the DoD Financial Management Regulation for calculating the allowable amount of carryover for ordnance activities in order to formally establish this new requirement that was contained in the December 31, 2008, memorandum. (p. 20/GAO Draft Report)

DOD RESPONSE: Concur. The policy has been changed for calculating allowable carryover by the December 31, 2008, memorandum. The Under Secretary of Defense (Comptroller) will include in the next Financial Management Regulation update, during summer 2009, the revised methodology for calculating the allowable amount of carryover for Ordnance activities. The revised methodology is incorporated in the FY 2010 President’s Budget to Congress.
Appendix IV: GAO Contact and Staff Acknowledgments

<table>
<thead>
<tr>
<th>GAO Contact</th>
<th>Asif A. Khan, (202) 512-9095 or <a href="mailto:khana@gao.gov">khana@gao.gov</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgments</td>
<td>In addition to the contact named above, Greg Pugnetti, Assistant Director; Richard Cambosos; Steve Donahue; Keith McDaniel; and Hal Santarelli made key contributions to this report.</td>
</tr>
</tbody>
</table>
### GAO’s Mission
The Government Accountability Office, the audit, evaluation, and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO’s commitment to good government is reflected in its core values of accountability, integrity, and reliability.

### Obtaining Copies of GAO Reports and Testimony
The fastest and easiest way to obtain copies of GAO documents at no cost is through GAO’s Web site (www.gao.gov). Each weekday afternoon, GAO posts on its Web site newly released reports, testimony, and correspondence. To have GAO e-mail you a list of newly posted products, go to www.gao.gov and select “E-mail Updates.”

### Order by Phone
The price of each GAO publication reflects GAO’s actual cost of production and distribution and depends on the number of pages in the publication and whether the publication is printed in color or black and white. Pricing and ordering information is posted on GAO’s Web site, http://www.gao.gov/ordering.htm.

Place orders by calling (202) 512-6000, toll free (866) 801-7077, or TDD (202) 512-2537.

Orders may be paid for using American Express, Discover Card, MasterCard, Visa, check, or money order. Call for additional information.

### To Report Fraud, Waste, and Abuse in Federal Programs
Contact:
- E-mail: fraudnet@gao.gov
- Automated answering system: (800) 424-5454 or (202) 512-7470

### Congressional Relations
Ralph Dawn, Managing Director, dawnr@gao.gov, (202) 512-4400
U.S. Government Accountability Office, 441 G Street NW, Room 7125
Washington, DC 20548

### Public Affairs
Chuck Young, Managing Director, youngc1@gao.gov, (202) 512-4800
U.S. Government Accountability Office, 441 G Street NW, Room 7149
Washington, DC 20548