

# ARMY WORKING CAPITAL FUND FISCAL YEAR 2017 BUDGET ESTIMATES



SUBMITTED TO CONGRESS FEBRUARY 2016

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Soldiers conduct sling load training with a CH-47 Chinook helicopter crew.

The estimated cost of this report for the Department of Defense (DOD) is approximately \$50,150 for Fiscal Year 2016. This includes \$850 in expenses and \$49,300 in DOD labor.

All photographs in this document were obtained from official U.S. Department of Defense web sites.



# Army Civilian Corps Creed

I am an Army civilian – a member of the Army team.

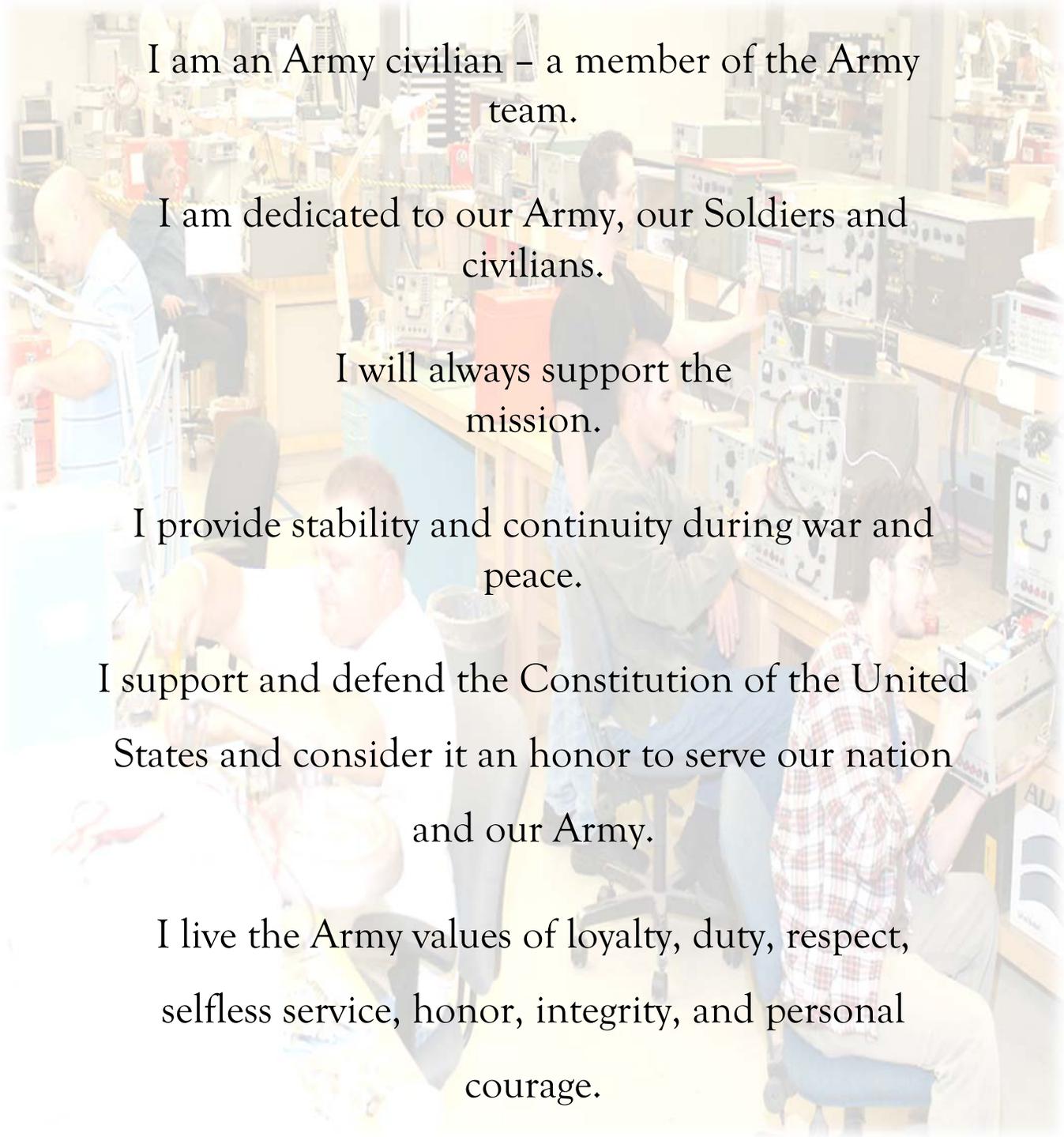
I am dedicated to our Army, our Soldiers and civilians.

I will always support the mission.

I provide stability and continuity during war and peace.

I support and defend the Constitution of the United States and consider it an honor to serve our nation and our Army.

I live the Army values of loyalty, duty, respect, selfless service, honor, integrity, and personal courage.



# Army Overview

## Background

Working capital funds were established by Congress to more effectively control and account for the cost of programs and work performed in the Department of Defense. Under the provisions of Title 10 United States Code, § 2208, the Secretary of Defense may establish working capital funds to finance inventories of supplies and industrial-type activities that provide common services such as repair, manufacturing, or remanufacturing. Unlike profit-oriented commercial businesses, the revolving fund's goal is to break even by returning any monetary gains to appropriated fund customers through lower rates or collecting any monetary losses from customers through higher rates. Revolving fund prices are generally stabilized or fixed during the year of execution to protect customers from unforeseen fluctuations that would impact their ability to execute the programs approved by Congress.

The basic tenet of the revolving fund structure is to create a customer-provider relationship between military operating units and support organizations. This relationship is designed to make managers of the Army Working Capital Fund (AWCF) and decision-makers at all levels more aware of costs for goods and services.



UH-60 Black Hawk taking off at Corpus Christi Army Depot.

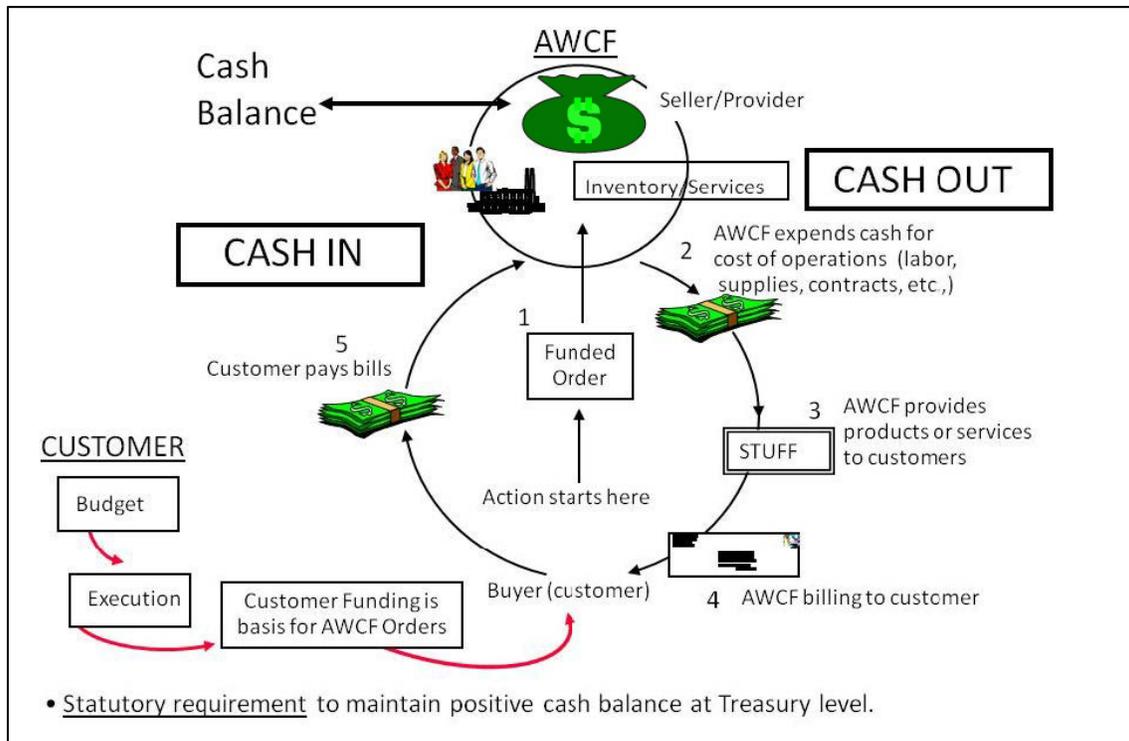
The Army's revolving fund activities evolved from two separate types of funds. The first type, known as the Stock Fund, procured spare parts in volume to either sell to customers or hold in inventory. The second type, known as the Industrial Fund, provided industrial services to customers, such as depot maintenance, munitions and weapon systems component manufacturing, and ammunition storage. Both types of revolving funds were financed primarily by reimbursements from customer appropriated accounts.

Figure 1 on the next page shows the interaction between customers' appropriated funds, AWCF business operations, and cash. Customer appropriated funding is synchronized with AWCF workload forecasts during budget development. During the year of execution, appropriated fund customers



submit funded orders (1) to AWCF providers requesting services (repair, overhaul, or manufacturing) or supplies (spare or repair parts). This obligates appropriated funds. In step 2, AWCF Supply Management purchases inventory for resale to customers. Also in step 2, Industrial Operations orders materiel and hires labor, supporting the projected workload (CASH OUT). In step 3, the customer receives the completed product or service and a bill (4) for payment. The customer pays the AWCF (5) for the materiel or services (CASH IN). Proper pricing of inventory and services, and accurately forecasting workload allows a balance between CASH OUT and CASH IN. Variance between these actions results in either a gain or loss of AWCF cash. Gains are returned to customers through lower future prices while losses are recouped through higher future prices.

Figure 1 - AWCF Cash Process



## Introduction

The FY 2017 AWCF budget request supports the Army's vision to sustain and maintain a scalable, ready, and modern force, recapitalize combat equipment, and reset assets to equip a robust, ready, regionally engaged, and responsive force structure. The AWCF directly supports the materiel readiness of operating units.

The revolving fund structure encourages cost-effectiveness, flexibility, and adaptability to meet changing workload requirements in the year of execution. It also supports full cost visibility and full cost recovery while protecting appropriated fund customer accounts from year of execution price changes. The AWCF consists of the Supply Management and Industrial Operations activity groups, with operations spanning across seventeen cities and local areas within fourteen states. The exact locations are shown in each business activity's portion of the budget. The AWCF activities disbursed approximately \$7.8 billion in FY 2015 to maintain the readiness and sustainability of military equipment.

## Performance Measures

Key financial measures are net operating result, accumulated operating result, and unit cost.

The net operating result (NOR) represents the difference between revenue and expenses within a fiscal year. Accumulated operating result (AOR) represents the summation of all operating gains or losses since activity group inception along with any prior period adjustments. Prices and rates are set at a level that brings the accumulated gains and losses to zero over the budget cycle. The unit cost is a metric primarily used in the Supply Management activity group to relate operating costs to each dollar of sales. It is measured by dividing gross operating cost (the sum of total obligations, depreciation expense, and credit) by gross sales. Adjusting the unit cost determines how much obligation authority may be distributed based on gross sales.



A Soldier fires an M4 carbine rifle during a live fire range training.

In addition to financial measures (NOR, AOR, and unit cost), operational measures assess how well the financial inputs reflected in the AWCF budget support Army strategic goals and operational readiness. Operational measures include productive yield (an indicator of whether direct labor employees can



support projected workload) and stock availability (a measure of the ability of AWCF inventory to fill a customer's requisition). These are identified within each activity group's narrative.

## Logistics Modernization Program

The Army's Logistics Modernization Program (LMP) provides a modernized logistics and finance solution that allows the U.S. Army Materiel Command (AMC) to provide world-class logistics readiness to Soldiers. LMP delivers a fully integrated suite of software and business processes, providing streamlined data on maintenance, repair and overhaul, finance, acquisition, spare parts, and materiel. It is the Army's core logistics information technology (IT) initiative, which meets the Army's IT logistics vision of transformation from legacy applications to a modernized logistics enterprise solution.

LMP manages approximately four million transactions daily and is integrated with more than 70 DOD systems including interfaces with Army's other enterprise resource planning systems: Army Enterprise Systems Integration Program; Global Combat Support System-Army; and General Fund Enterprise Business Systems. LMP is currently used by more than 21,000 users at more than 50 Army and DOD locations. Enhancements and system changes continue to be applied to LMP to ensure compliance with statutory and regulatory requirements.



A Stryker Infantry Carrier Vehicle Hull is suspended above a workshop floor.



# Activity Groups

## Supply Management

The Supply Management activity group buys and manages spare and repair parts for sale to its customers, primarily Army operating units. The activity group is committed to supporting and building readiness for present and future challenges. The Army's equipment and operational readiness, and the strength to win the Nation's wars, are directly linked to the availability of spare parts. Supply Management administers spare parts inventory for Army managed items, Non-Army managed items (NAMI) and war reserve secondary items (WRSI). It also maintains a protected inventory of spares in Army Prepositioned Stocks (APS), which is released to support deploying combat units. The Life Cycle Management Commands assigned to the Army Materiel Command manages the Supply Management activity, which consists of four major commodity groups: aviation and missile; communications-electronics; tank-automotive and armament; and NAMI. The war reserve stocks contain materiel from all commodity groups. As new equipment is added to the Army's operational and training forces, new spare parts are also scheduled for inclusion in the Supply Management inventory.

## Industrial Operations

The Industrial Operations activity group provides the Army an organic industrial capability to: conduct depot level maintenance, repair and upgrade; produce munitions and large caliber weapons; and store, maintain, and demilitarize materiel for all branches of DOD. Industrial Operations is comprised of thirteen government owned and operated installation activities, each with unique core competencies. These include five hard-iron maintenance depots, three arsenals, two munitions production facilities, and three storage sites. Although comprised of diverse organic industrial capabilities, the preponderance of workload and associated estimates in the Industrial Operations budget submission relate to depot level maintenance, repair, and upgrade. The complex operational environment continues to place tremendous demands on equipment, resulting in higher usage rates than in routine peacetime operations. The Industrial Operations activities play an integral role in resetting equipment as it retrogrades from combat operations.



A trooper fires a mortar from a mortar tube mounted onto a Stryker Combat Vehicle.



The Army's equipment Reset program is defined as a set of actions restoring equipment to a level of pre-deployment capability commensurate with a unit's future mission. Army equipment reset will replace<sup>1</sup>, recapitalize<sup>2</sup>, or repair<sup>3</sup> equipment to meet 10/20 and operational requirements. The Industrial Operations activity group is involved with both the recapitalization and repair efforts. The budget incorporates depot workload assumptions associated with the Reset program (Overseas Contingency Operations funding) and peacetime training operations.

# Budget Highlights

## Overview

The FY 2017 AWCF budget request supports the Army's plans to maintain and strengthen its war fighting readiness. The budget supports ongoing global efforts, as well as home-based training requirements. The AWCF has experienced record levels of sales and revenue due to wartime operations; however, the budget reflects reduced OPTEMPO.

The budget assumes an overall reduced troop strength and a lower OPTEMPO level for Overseas Contingency Operations (OCO), resulting in lower demands and sales forecasts in FY 2017. The sufficiency and predictability of resources is critical for accurately forecasting and executing workload. OPTEMPO assumptions assist in the development of the budget request, but as changes to these assumptions materialize, the projections for the AWCF can change significantly. To offset this risk, both activity groups will be able to adapt to changing workload forecasts, constraining or expanding costs as necessary. The Supply Management budget request includes variability target to support spares replacement for any surge in customer demands above projected levels. The Industrial Operations activity group budget request includes a mix of permanent, temporary, and term-appointment employees, in addition to contract labor, to better respond to unanticipated increases or decreases in new orders.

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<sup>1</sup> The purchase of new equipment to replace battle losses, worn-out or obsolete equipment, and critical equipment deployed and left in theater, but needed for homeland defense, homeland security, and other critical missions.

<sup>2</sup> A rebuild effort that extends the equipment's useful life by returning it to a near zero-mile/zero-hour condition with either the original performance specifications or with upgraded performance specifications.

<sup>3</sup> A repair or overhaul effort that returns the equipment's condition to the Army standard. It includes the Special Technical Inspection and Repair (STIR) program for aircraft.



## Personnel

The AWCF civilian personnel posture reflects an overall decrease through FY 2017. Changes to personnel levels are discussed within the narrative of each activity group. Civilian and military end strength and civilian full time equivalents are shown in the following table.

Table 1 - Personnel

	FY 2015	FY 2016	FY 2017
<b>Supply Management</b>			
<i>Civilian End Strength</i>	1,698	1,962	2,028
<i>Full Time Equivalents</i>	1,698	1,962	2,028
<i>Military End Strength</i>	4	3	3
<b>Industrial Operations</b>			
<i>Civilian End Strength</i>	19,634	19,958	19,306
<i>Full Time Equivalents</i>	19,794	19,700	19,073
<i>Military End Strength</i>	28	26	25
<b>Total</b>			
<i>Civilian End Strength</i>	21,332	21,920	21,334
<i>Full Time Equivalents</i>	21,492	21,662	21,101
<i>Military End Strength</i>	32	29	28



## Revenue and Expenses

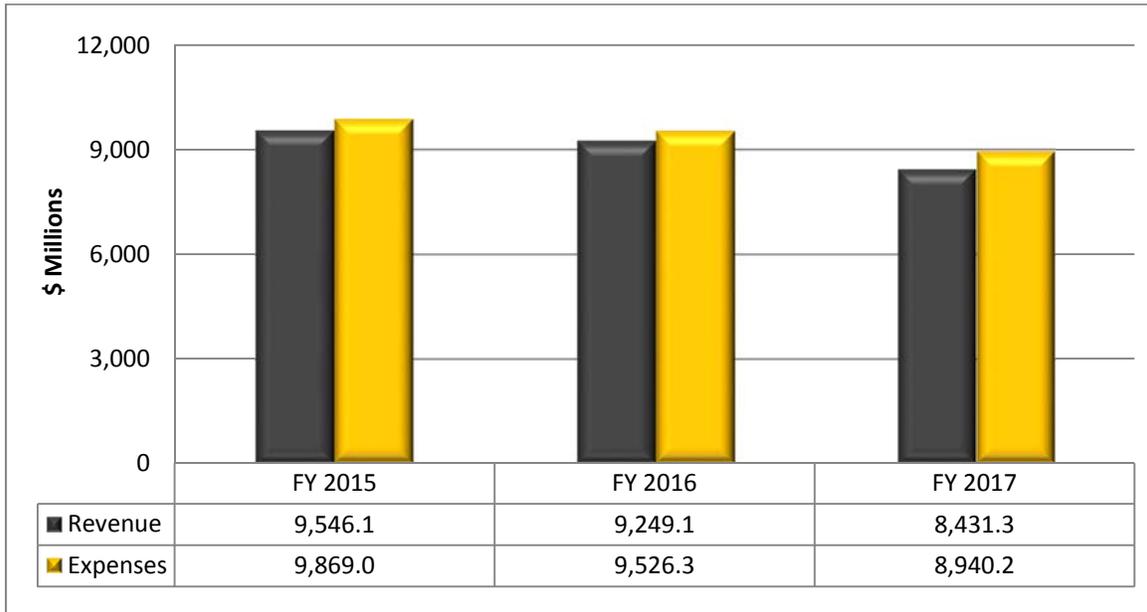
Revenue is an indicator of the combined volume of work completed by the AWCF activity groups. Expenses identify the cost of goods and services produced or sold. Both revenue and expenses are expected to decline in the budget year based on workload. Major expense drivers include cost of goods sold for Supply Management and the cost of labor and materiel consumed in Industrial Operations. Table 2 and Chart 1 show revenue and expenses for Supply Management and Industrial Operations.

Table 2 - Revenue and Expenses

(\$ Millions)	FY 2015	FY 2016	FY 2017
<b>Revenue</b>			
<i>Supply Management</i>			
<i>Gross Sales</i>	6,142.0	6,170.7	5,730.8
<i>Less Credit</i>	1,353.1	1,468.3	1,379.2
<i>Net Supply Management</i>	4,788.9	4,702.4	4,351.7
<i>Industrial Operations</i>	4,757.2	4,546.8	4,079.7
<i>Total Revenue</i>	9,546.1	9,249.1	8,431.3
<b>Expenses</b>			
<i>Supply Management</i>	4,801.7	4,668.8	4,643.8
<i>Industrial Operations</i>	5,067.3	4,857.5	4,296.4
<i>Total Expenses</i>	9,869.0	9,526.3	8,940.2
Note: Total revenue above does not include appropriated funds for war reserve secondary items as shown on the Supply Management exhibit Fund 14, <i>Revenue and Costs</i> . Numbers may not add due to rounding.			



Chart 1 - Revenue and Expenses



## Net and Accumulated Operating Results

Financial performance is measured by comparing actual results to goals. The goal of the AWCF is to break even over time. Army considers several factors when determining the accumulated operating result (AOR) amount to return in the rates. Returning a large positive AOR balance in one year may cause the rates to drop significantly in that year and increase significantly in the following year. In addition, the Army reviews the cash balance and the projected balance for the budget year to determine if sufficient cash exists to return the gain to the customers. In FY 2017, Supply Management activity is using cash above the operational requirement to minimize rate increases to our customers. The Industrial Operations activity received approval to defer the return of \$299.8 million of AOR for future rate stabilization as workload decreases. Table 3 shows the net and accumulated operating results for both Supply Management and Industrial Operations. Details can be found under the NOR and AOR section for each business area.



Table 3 - Operating Results

(\$ Millions)	FY 2015	FY 2016	FY 2017
<b>Supply Management</b>			
<i>Net Operating Result</i>	(12.9)	33.6	(292.2)
<i>Prior Year AOR</i>	157.8	144.9	178.5
<i>Non-Recoverable AOR</i>	0.0	0.0	113.7
<i>Accumulated Operating Result</i>	144.9	178.5	0.0
<b>Industrial Operations</b>			
<i>Net Operating Result</i>	(47.5)	85.0	(169.9)
<i>Deferred AOR</i>	0.0	0.0	(299.8)
<i>Accumulated Operating Result</i>	384.7	469.7	0.0
<i>Note: Numbers may not add due to rounding</i>			

## Customer Rates

Each activity group has a unique rate structure. The Supply Management activity group adds a cost recovery rate (CRR) to the price of inventory items sold to recoup operating costs. Typical cost categories within the CRR include civilian pay, distribution depot costs, transportation costs, other Defense bills associated with supply operations, and costs of replacing inventory losses. The Industrial Operations activity group sets customer rates on a direct labor hour basis. The hourly composite rate recovers all costs, both direct and overhead. Activity group rates are stabilized so that the customer's buying power is protected from price swings during the year of execution. Table 4 shows the Supply Management composite cost recovery rates and the Industrial Operations composite direct labor hour rates.

Table 4 - Customer Rates

	FY 2015	FY 2016	FY 2017
<b>Supply Management</b>	16.4%	19.4%	13.8%
<b>Industrial Operations</b>	\$145.87	\$157.42	\$157.25

## Customer Rate Change

The Supply Management customer rate change is expressed as the change in overhead costs weighted by sales revenue. Table 5 shows the customer rate change for both business areas.



Table 5 - Price Change to Customer

	FY 2015	FY 2016	FY 2017
<b>Supply Management</b>	1.3%	2.5%	-4.6%
<b>Industrial Operations</b>	3.1%	7.9%	-0.1%

## Fund Balance with Treasury

The Defense Working Capital Fund (DWCF) Fund Balance with Treasury, account symbol 97X4930, is subdivided at the Treasury into five sub-numbered Treasury accounts. The Army's account is 97X4930.001. The current balance of funds with Treasury is equal to the amount at the beginning of the fiscal year plus the cumulative fiscal-year-to-date amounts of collections, appropriations, and transfers-in minus the cumulative fiscal-year-to-date amounts of disbursements, withdrawals, and transfers-out. The AWCF is required to maintain a positive cash balance to prevent an Anti-deficiency Act violation under Title 31, United States Code, § 1517(a), *Prohibited obligations and expenditures*. Unlike appropriated funds, the AWCF cash balance is not equal to outstanding obligations. Cash on hand at Treasury must be sufficient to pay bills when due and should remain sufficient to support operational requirements plus six months of capital investment program disbursements.

The operational requirement may include any positive accumulative operating result returned to customers, cash equal to undisbursed direct appropriations, and a commodity/market adjustment. In preparation for daily cash visibility at the Department of Treasury, the AWCF collected weekday cash transactions from the Logistics Modernization Program (LMP) starting in February 2013. This study identified a pattern of multiple disbursement cycles before a collection cycle. The operational cash requirement also includes risk mitigation factors to ensure sufficient cash is available for these cycles.

The cash balance is primarily affected by cash generated from operations but the balance is also impacted by appropriations, transfers, and withdrawals. Maintaining a proper cash balance is dependent on setting rates to recover full costs, including prior year losses, and accurately projecting workload.

## Cash from Operations

The day-to-day operations of the fund consume and replenish cash. The FY 2017 cash plan includes all expected collections and disbursements from the operations of both the Supply Management and Industrial Operations activity groups, including appropriations and transfers. Chart 2 displays collections and disbursements from operations, however does not include appropriations and



transfers. The projected change in collections and disbursements from FY 2016 to FY 2017 is due to lower Supply Management sales. Starting in FY 2016 a business process change was implemented which allowed Internal Work Performed (IWP) between the Supply Management and Industrial Operations activities to collect and disburse cash for IWP; this business process change nets to a zero sum change to cash but increases overall disbursements and collections.

Chart 2 - Cash from Operations

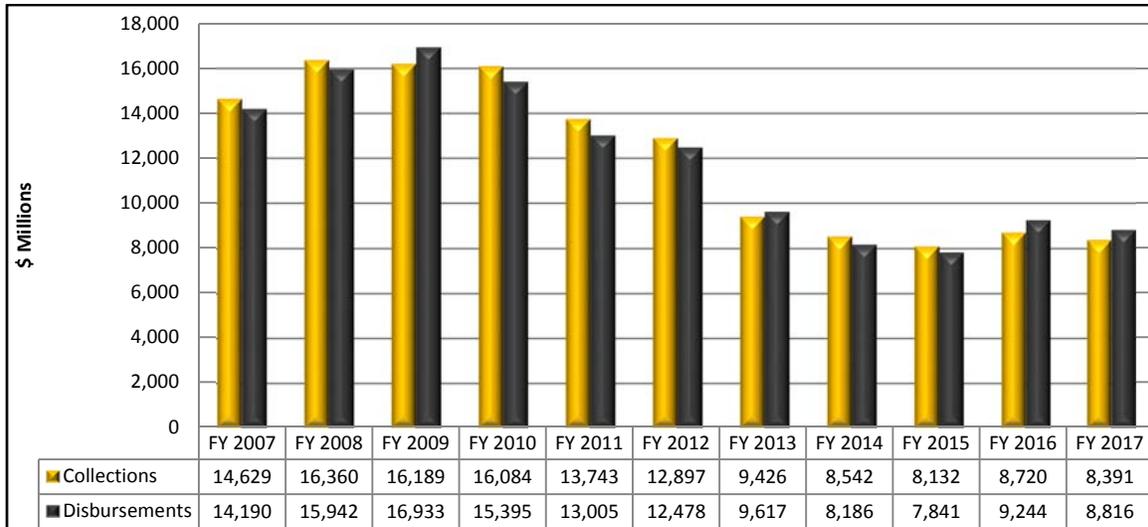
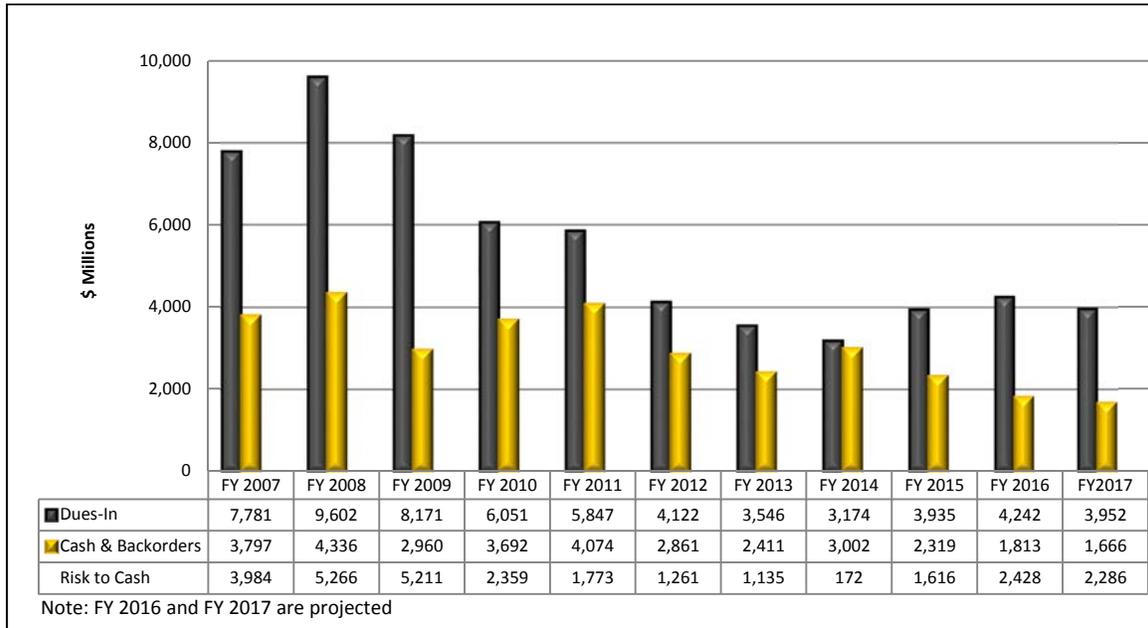


Chart 3 displays the potential risk to the AWCF cash balance through FY 2017 should sales rapidly decrease and inventory deliveries continue.



Chart 3 - Risk to Cash



## Appropriations

The AWCF has received or requested direct appropriations to purchase secondary items for Army Prepositioned Stocks (APS). War reserve secondary items support combat weapon systems prepositioned in the five APS locations. Overseas Contingency Operations funds of \$46.8 million are requested for FY 2017 to support the build of War Reserve Secondary Item packets supporting three Armored Brigade Combat Teams and one Sustainment Brigade in support of European Reassurance Initiative. Table 6 on the next page shows the appropriations received or requested by AWCF.

The IO activity received direct appropriations of \$225.0 million in FY 2015 and \$145.0 million in FY 2016 to sustain work rates at the Army's manufacturing arsenals. The Supply Management activity will receive direct appropriations of \$32.0 million in FY 2017 for the Paladin Integrated Management (PIM) engines. These funds will procure engines to meet future sales; there is no negative impact to the AWCF rates.



Table 6 – Appropriations

(\$ Millions)	FY 2015	FY 2016	FY 2017
<b>War Reserve Secondary Items</b>			
Base Funding	13.7	18.4	24.5
Overseas Contingency Operations	0.0	0.0	46.8
<b>Paladin Integrated Management Engines</b>	0.0	32.0	32.0
<b>Arsenal Sustainment Initiative</b>	225.0	145.0	0.0
<b>Total Appropriated Funds</b>	238.7	195.4	103.3

## Cash Management Plan

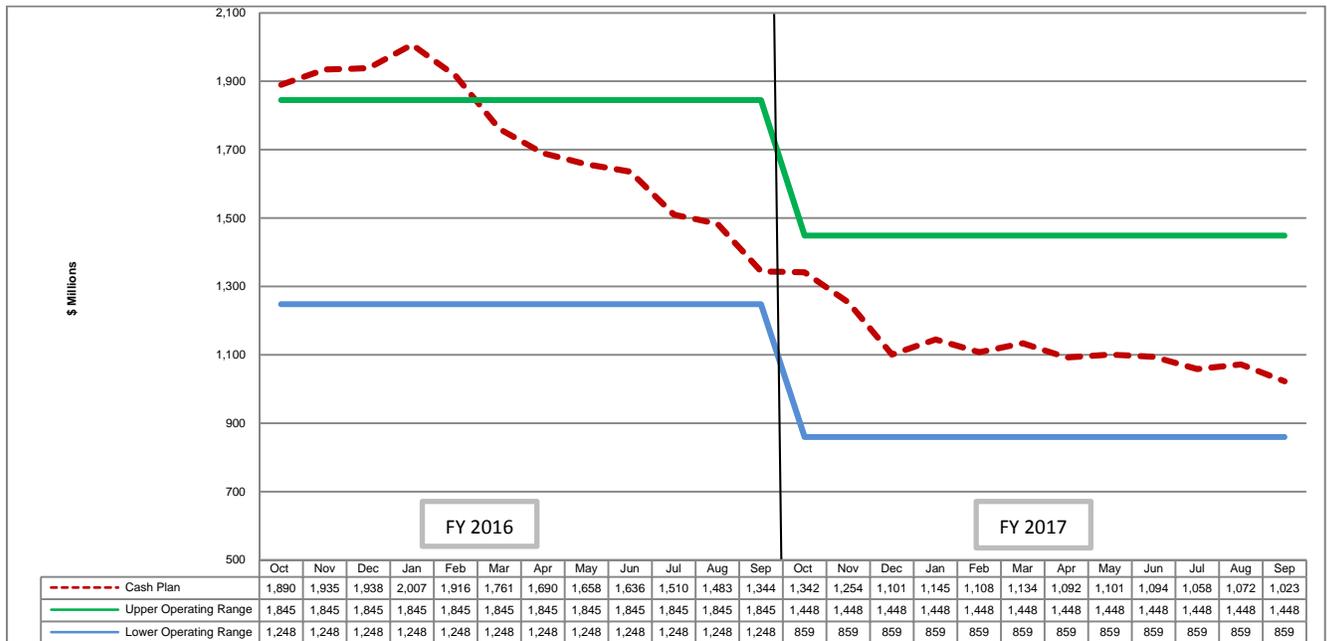
The AWCF cash requirement is established using a process, based on four primary elements: 1) rate of disbursements, 2) range of operations, 3) risk mitigation, and 4) cash reserves. This method is known as the “Four Rs” and the elements are explained below:

- 1) Rate of Disbursements – The rate of disbursements varies within the Army’s two activity groups; thus an optional calculation was used to derive the average amount disbursed between collection cycles.
- 2) Range of Operations – The range of operations are derived using the difference between the highest and lowest expected monthly cash level in the preceding fiscal year.
- 3) Risk Mitigation – The risk mitigation element includes a factor for operational volatility and the supply management pricing/credit policy. Operational volatility is based on multiple disbursement cycles before a collection cycle. A factor is also included for risk mitigation supporting the Army’s recent return to standard pricing and credit.
- 4) Cash Reserves – The cash reserves includes the amount of positive accumulated operating results planned to be returned to the customers; unliquidated disbursements for capital investments; direct appropriations; a commodity/market price adjustment; and an amount to cover the minimum required capital investment.

Chart 4 shows the projected monthly cash balances for FY 2016 and FY 2017. This chart demonstrates how the afore mentioned cash from operations, and appropriations effect the cash balance as well as where the projected ending balance falls within the upper and lower operating range. It should also be noted the FY 2016 Customer Prices have been set to achieve a cash balance within the operating range.



Chart 4 - Cash Management Plan



## End of Year Cash Balance

Table 7 shows total collections, disbursements, appropriations, transfers, and ending cash balances. The FY 2017 budget includes a cash plan based on projected operational and capital disbursements, collections, and direct appropriations. Upper and lower operational range cash requirements have been identified to measure the sufficiency of cash. The FY 2017 cash balance is projected to be within the upper and lower operational requirements. Although no advance billings are included in the budget submission, the Supply Management rate includes a negative cash surcharge that will return gains of \$300 million in FY 2017.



Table 7 - Cash Balance

<b>(\$ Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<i>Disbursements</i>	7,840.9	9,243.7	8,815.8
<i>Collections</i>	8,132.0	8,720.0	8,391.3
<i>Net Outlays from Operations</i>	(291.1)	523.7	424.5
<i>Direct Appropriations</i>	238.7	195.4	103.3
<i>Transfers In</i>	0.0	0.0	0.0
<i>Transfers Out</i>	554.6	138.0	0.0
<i>Total Net Outlays</i>	24.8	466.3	321.2
<b><i>Ending Cash Balance</i></b>	<b>1,810.4</b>	<b>1,344.1</b>	<b>1,022.9</b>
<i>Upper Operating Range</i>	1,879.1	1,844.7	1,448.3
<i>Lower Operating Range</i>	1,340.5	1,247.7	859.4

## Capital Budget

The AWCF activities develop and maintain operational capabilities by acquiring or replacing production equipment, executing minor construction projects, and developing software. New equipment is acquired to replace obsolete and unserviceable equipment, modernize production and maintenance processes, and eliminate environmental hazards. The cost of capital projects is recouped through depreciation expenses included in customer rates. Unlike the operating budget which contains the annual operating costs of each activity, the capital budget justifies the purchase of assets that equal or exceed a unit cost of \$250,000 and have a useful life of two or more years.

A more in-depth discussion and detailed exhibits are provided in the Capital Budget section. Table 8 summarizes the AWCF capital investment program request.

Table 8 - Capital Budget

<b>(\$ Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Supply Management</b>	45.6	44.2	14.8
<b>Industrial Operations</b>	82.1	84.9	88.7
<i>Total Capital Budget</i>	127.7	129.1	103.5
<i>Total Capital Cash Outlays</i>	158.5	166.2	102.6



# Supply Management

## Introduction

The Supply Management activity group operates in a business-like environment by relying on sales revenue rather than appropriations to finance continuing operations. This enterprise uses contract authority to procure and repair spare parts. As suppliers deliver equipment components, the Army Working Capital Fund (AWCF) expends cash and places spare parts in inventory to await customer demands. Filled customer demands result in the collection of sales revenue, which replenishes cash. The Supply Management enterprise synchronizes rates and budget assumptions with Army appropriated funding requests in support of Soldier and weapon systems readiness. The bulk of demands originate from Operation and Maintenance, Army customers, who primarily request spare parts to maintain combat equipment readiness for the Army operating forces.

**Mission:**  
**Provide the Army with inventory management of spare and repair parts in support of equipment sustainment, operational readiness, and combat capability.**

The Army prices spare parts based on the most recent acquisition cost from a commercial vendor, or the most recent repair cost from a contract or organic source of repair. The price of each item includes a surcharge known as the cost recovery rate (CRR), to recover the cost of AWCF operations. The intent of the CRR is to:

- Recover the activity's overhead costs such as payroll, supplies, contracts, storage, transportation, and depreciation
- Maintain a sufficient cash corpus to cover disbursements
- Break even over time

The core financial measures for Supply Management are the net operating result (NOR) and accumulated operating result (AOR). The NOR measures the activity's gain or loss within a single fiscal year, and is used to monitor how closely the activity performs compared to its budget. The AOR measures the activity's accumulated gains and losses since the fund's inception. Rates are set during budget development to break even by bringing the AOR to zero over a budget cycle. This method returns accumulated gains through reduced rates and recovers accumulated losses through increased rates. The impact of cash balance analysis on rate setting is described in the cash management section.



The unit cost is another core financial measure, and relates operating costs to each dollar of sales. The unit cost can be set at, above, or below 1.0 depending on projected sales volume. This metric is discussed in the unit cost section.

## Efficiencies and Business Process Improvements

Cost efficiency is an inherent attribute of the Army Working Capital Fund (AWCF). The revolving fund construct promotes total cost visibility, full cost recovery, and fosters a business-like, competitive atmosphere. Although commercial businesses focus on their bottom line profit, the Supply Management activity focuses on the net operating result and other indicators to gauge the efficiency of the operation. Supply Management customers have benefited from initiatives conducted in FY 2015 such as quarterly Senior Executive led reviews of inventory, and the continued emphasis on controlling overhead costs also known as logistics operations (LOGOPS). FY 2017 LOGOPS includes the realignment of Operation and Maintenance, Army (OMA) and AWCF Reimbursable spaces to AWCF Direct spaces. The space realignment does not increase total cost to the AWCF, but shifts cost from the contract expense line to the civilian pay category.

Army Materiel Command (AMC) continues to take proactive measures to reduce inventory through the Sales and Operation Planning (S&OP) process initiated in FY 2013. The S&OP process allows management better oversight and improves the supply chain review process and financial planning. The supply chain review process has shifted from the legacy review of inventory by segmentations to total inventory holdings. The S&OP decisions and action plans in support of strategic goals are executed through the Army's supply action module, Material Requirements Planning (MRP) in the Logistics Modernization Program (LMP). Currently, there is a shift underway in FY 2016 to focus on improving inventory turns, establishing new inventory reduction goals, and reducing forecast errors. AMC also facilitates quarterly reviews of unserviceable assets to better assess the need to repair rather than initiating new procurement.

## Inventory Management

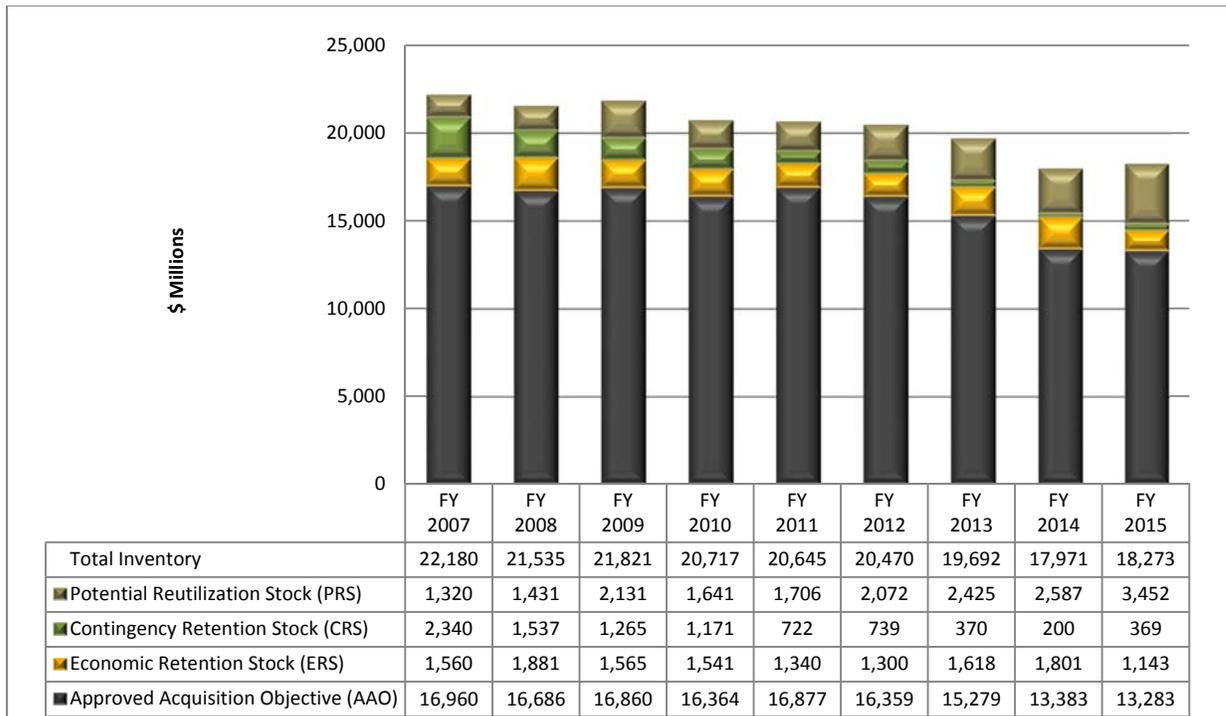
The Army calculates inventory requirements monthly based on projected demands and inventory levels. The quarterly stratification of inventory report (STRAT) is a point-in-time view of inventory requirements and assets. The STRAT aligns inventory to fourteen requirements levels that are consolidated into four inventory segments: approved acquisition objective (AAO); economic retention stock (ERS); contingency retention stock (CRS); and potential reutilization stock (PRS). The AAO segment includes all inventory, both



serviceable and unserviceable, and war reserve stocks needed for up to three years of demand from all customers. Inventory for essential items not meeting demand stockage criteria and inventory for end-of-item-life procurements is also included in the AAO. The ERS includes inventory that is beyond the AAO level, and is determined by a mathematical model to be more economical to retain vice dispose. The CRS includes inventory that Army item managers retain for weapon system programs, foreign military sales, and diminishing manufacturing sources. Item managers review and validate on-hand assets stratified to PRS for disposal.

The stratification of inventory report (STRAT), Chart SM 1 – *Total Inventory*, values Army managed items (AMI) inventory at full standard price (SP) regardless of repair condition. Chart SM 1 displays the segmentation of inventory from the September STRAT for each fiscal year. The STRAT excludes non-Army managed items (NAMI) and War Reserve inventory that is included on the budget exhibit SM 4, *Inventory Status*. The SM 4 budget exhibit reflects the total financial inventory using the accounting principle of moving average cost (MAC). Therefore, Chart SM 1 will not match the SM 4 budget exhibit because of differing valuation methods.

Chart SM 1 - Total Inventory



Army continuously takes proactive measures ensuring that forecasted inventory will meet future demands. Army reviews and validates its requirement levels versus inventory levels maintaining its focus on buying and repairing items needed by its customers, and not retaining excess inventory.



## Functional Description

The Supply Management activity group buys and manages an operating inventory of Army-managed and non-Army managed spare and repair parts for sale to its customers, primarily Army operating units. The activity group also maintains a protected inventory of spares in Army Prepositioned Stocks (APS), which is released to support deploying combat units. The AWCF operating inventory is stored and maintained primarily at more than 200 supply support activities (SSA). SSA management includes, but is not limited to, stocking the items needed for customer readiness, monitoring performance metrics, and conducting inventories. In general, inventories are managed below the national level or at the national level:

- National Level - consists of life cycle management commands, depots, and arsenals. Materiel may be Army managed or non-Army managed meaning the source of supply may be a Department of the Army facility, another Service, or another Department of Defense facility. Typically, SSAs request and receive materiel from the national level.
- Below National Level:
  - Tactical – under the control of Brigade Sustainment Commanders. These SSA provide spares supporting the immediate needs of combat and combat support battalions and companies. The quantity of inventory items is limited to an amount capable of transport by unit organic vehicles or aircraft.
  - Installation - under the control of the installation Director of Logistics. These activities provide a means to retrograde unneeded materiel from tactical SSA to meet other Army requirements. They also stock back-up inventory to meet tactical units' requirements that exceed storage capacity. When deployed to a contingency theater of operations, tactical activities receive back-up support from a theater distribution center established by the deployed force command to centrally receive, redistribute, and retrograde spares as required

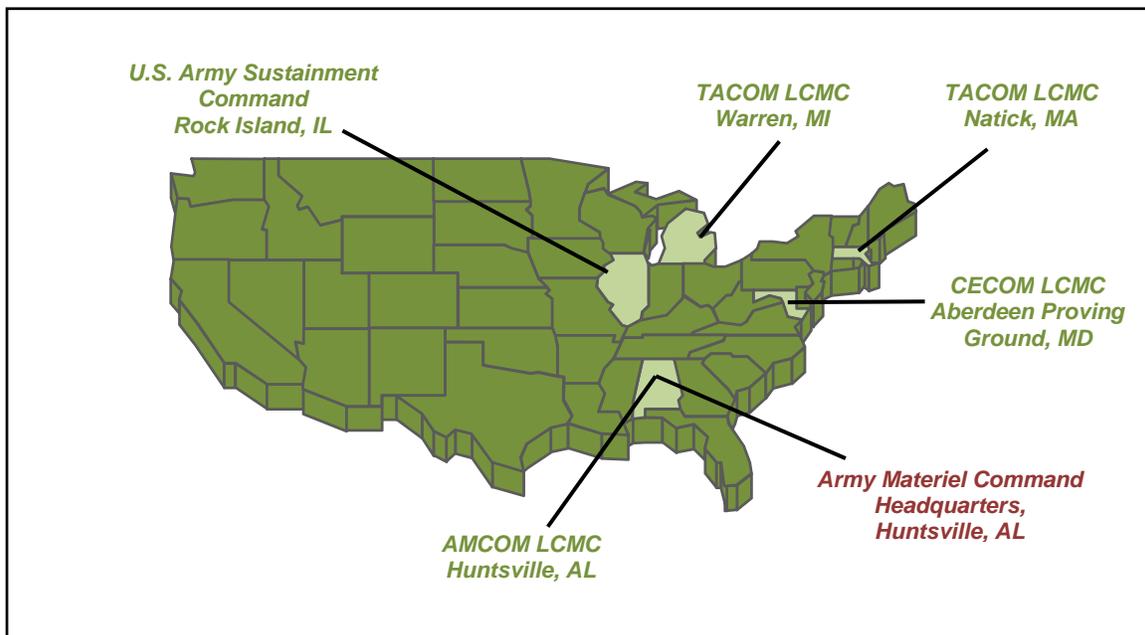
AWCF protected inventory is contained in the APS located in the United States, Europe, South Korea, Kuwait, and stored aboard ships afloat off Guam and Diego Garcia. Prepositioned war reserve materiel is retained in protected inventory and released to outfit combat and combat support units deploying to perform combat, peacekeeping, or other contingency operations.



## Activity Group Composition

Figure SM 1 below displays the locations of Headquarters, Army Materiel Command (AMC), each Life Cycle Management Command (LCMC), and the Army Sustainment Command. The AMC mission is complex and ranges from developing sophisticated weapon systems, to advanced research, to maintaining and distributing spare parts. AMC's mission is best summarized by three core competencies: acquisition excellence, logistics power projection, and technology generation and application. To develop, buy, and maintain state-of-the-art materiel for Army, AMC works closely with industry, colleges and universities, the other Services, and other government agencies.

Figure 1 - Supply Management locations



The Life Cycle Management Commands (LCMC) assigned to the Army Materiel Command (AMC) manages the activity group. Each LCMC acquires and manages consumable supplies and spare parts for distinct categories of weapon systems. The Army Sustainment Command acquires and maintains the Army Prepositioned Stocks, which contain materiel from each LCMC.



The Tank-automotive and Armaments Command (TACOM) LCMC primary mission is to develop, acquire, equip, and sustain ground and support systems for Soldiers and other joint operations through the integration of effective and timely acquisition, logistics, and technology. The TACOM LCMC item managers support a diverse set of product lines through their life cycles, ranging from tracked combat and wheeled tactical vehicles, armaments, and watercraft, to Soldier-specific gear and biological/chemical equipment. Major weapon



Soldiers conduct attack against opposing force during training exercise.

systems supported include the M1 Abrams Tank, M2 Bradley Fighting Vehicle, Mine Resistant Ambush Protected (MRAP) Vehicle, HMMWV, and Stryker Armored Vehicle. The TACOM LCMC is also responsible for providing clothing and heraldry products to Soldiers, units, and veterans. Included in TACOM LCMC is a small retail business of high demand non-Army managed items (NAMI). The TACOM LCMC Headquarter activities are located at Detroit Arsenal in Warren, Michigan and U.S. Army Soldier Systems Center in Natick, Massachusetts. In FY 2017, TACOM LCMC has an authorized level of 713 civilian personnel.

The Communications-Electronics Command (CECOM) LCMC mission is to develop, provide, integrate, and sustain command, control, communications, computers, intelligence, surveillance, and reconnaissance capabilities for the Army. CECOM LCMC Headquarter activity is located at Aberdeen Proving Ground, Maryland. In FY 2017, CECOM has an authorized level of 670 civilian personnel.



Army Soldier testing radio in tactical environment.



The Aviation and Missile Command (AMCOM) LCMC mission is to develop, acquire, field, and sustain aviation, missile, and unmanned vehicle systems, ensuring readiness with seamless transition to combat operations. Major weapon systems supported include the AH-64 Apache, UH-60 Black Hawk, CH-47 Chinook, OH-58 Kiowa, Multiple Launch Rocket System, and Patriot missile. AMCOM LCMC



Army crew chief observes shipping port from the new CH-47F MYII Chinook helicopter.

Headquarter activity is located at Redstone Arsenal in Huntsville, Alabama and has operational control of all aviation logistic management functions at Fort Rucker, Alabama, home of the Army Aviation Center. In FY 2017, AMCOM has an authorized level of 519 civilian personnel.

The Army Sustainment Command (ASC) mission is to synchronize distribution and sustainment of materiel to and from the field. Army Prepositioned Stocks are acquired and maintained as a part of this mission. These stocks include combat equipment, supplies, and humanitarian mission stocks at worldwide land and sea-based positions. ASC is located at Rock Island Arsenal, Illinois.



# Budget Highlights

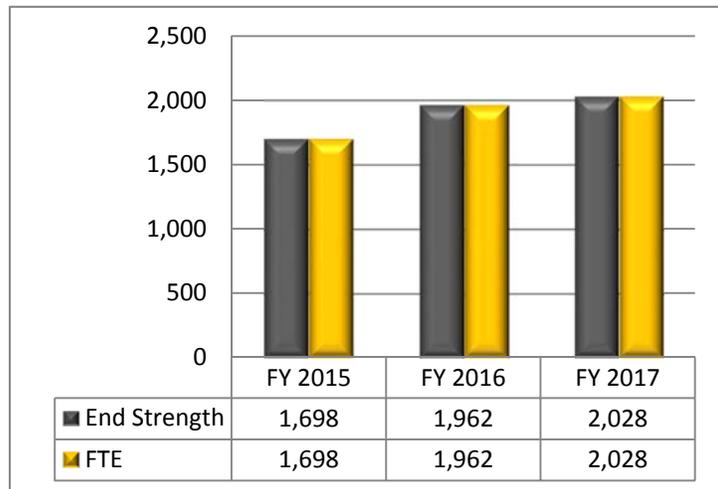
## Assumptions

The FY 2017 budget represents a business plan that supports Soldier and weapon systems readiness for both peacetime training and wartime operating requirements. FY 2017 estimate assumes reduced troop strength and a lower OPTEMPO level for Overseas Contingency Operations (OCO), resulting in lower levels of supply demands and sales. If OPTEMPO levels during the year of execution exceed budget estimates, variability target is included in the budget to ensure supply contract authority is available to remain ready and responsive to changing operational requirements. Variability target is further discussed in the Operating Contract Authority section.

## Personnel

The personnel end strength reflects actual execution in FY 2015 and authorized levels in FY 2016 and FY 2017. FY 2016 and FY 2017 includes the realignment of OMA/AWCF reimbursable spaces to AWCF direct spaces. This space realignment does not increase total cost to the AWCF; costs shift from contract expense to civilian pay. Personnel levels include secondary item managers, logistics management specialists, and general and administrative support positions. Military end strength in FY 2017 is three.

Chart SM 2 - Civilian Personnel



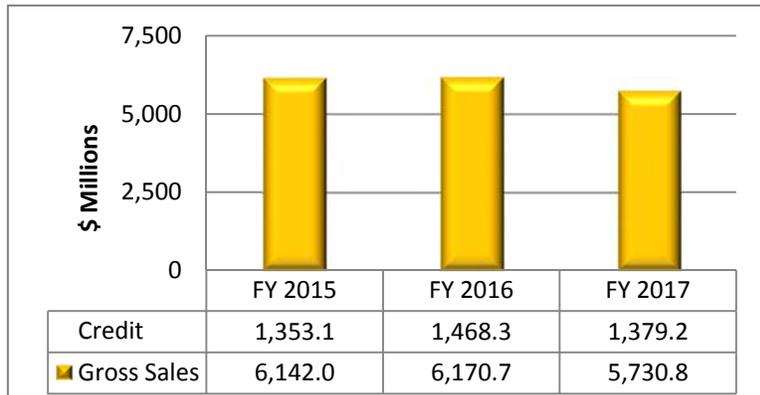
## Sales

Sales and credit reflect reduced Overseas Contingency Operations (OCO) activity and reduced customer funding. Sales reflect income from operations and do not include direct appropriations for war reserve materiel and inventory augmentation.



Chart SM 3 reflects actual execution in FY 2015 and projected levels in FY 2016 and FY 2017. In anticipation of the full deployment of the Global Support System-Army (GCSS-Army), the Army's logistics enterprise resource planning system, the Army has returned to a standard price and credit pricing methodology for non-deployed units. GCSS-Army supports the one-for-one return policy to ensure returns are processed in a timely manner. During the first quarter of FY 2016, GCSS-Army was fully deployed to all Army customers. Sales are displayed on several exhibits: Fund 14, *Revenue and Costs*, Fund 11, *Source of New Orders and Revenue*, and SM 1, *Supply Management Summary* (sales net of credit).

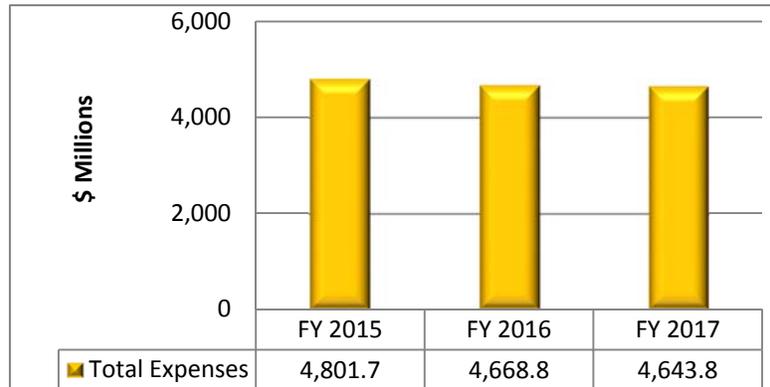
Chart SM 3 - Gross Sales



## Expenses

Expenses consist of materiel and operational costs. Total expenses are projected to decrease in FY 2017 due to lower sales projections, which result in lower cost of goods sold. Operational costs (LOGOPS) can be variable or fixed. Variable operational costs for transportation and storage are expected to hold steady with current sales volume and inventory levels. Operational cost for salary, contracts, and materiel and supplies remain relatively fixed. Expenses are displayed on exhibit Fund 14, *Revenue and Costs*.

Chart SM 4 – Expenses



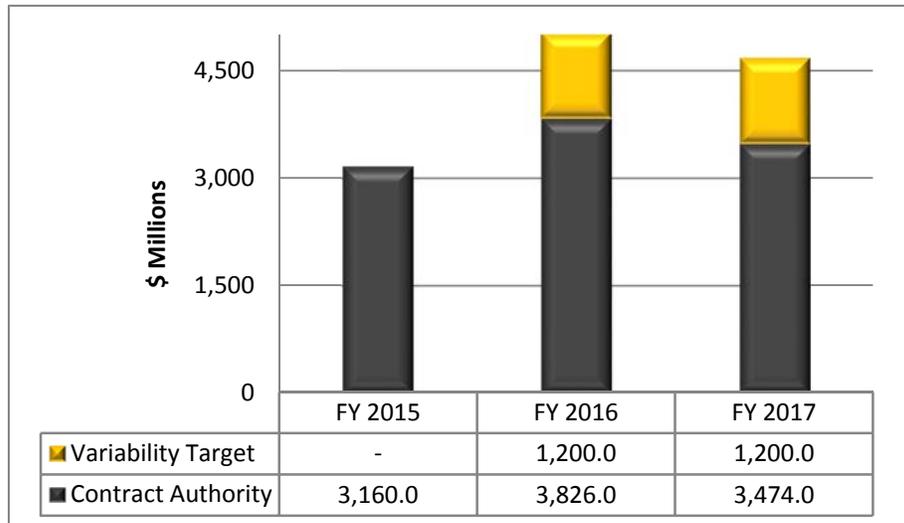
## Operating Contract Authority (Hardware)

The budget requests operating contract authority for the acquisition, repair, and replenishment of spare parts. In FY 2017, contract authority requirements are projected to decrease from FY 2016 levels in anticipation of reduced customer demands and sales due to lower OPTEMPO. Variability target is the projected amount of additional cost authority beyond identified requirements reflected on exhibit SM 1. This amount allows for rapid response to variances in costs or



changes in customer demands during the execution year. Operating contract authority is displayed on exhibit SM 1, *Supply Management Summary* and SM 3b, *Operating Requirements by Weapon System*.

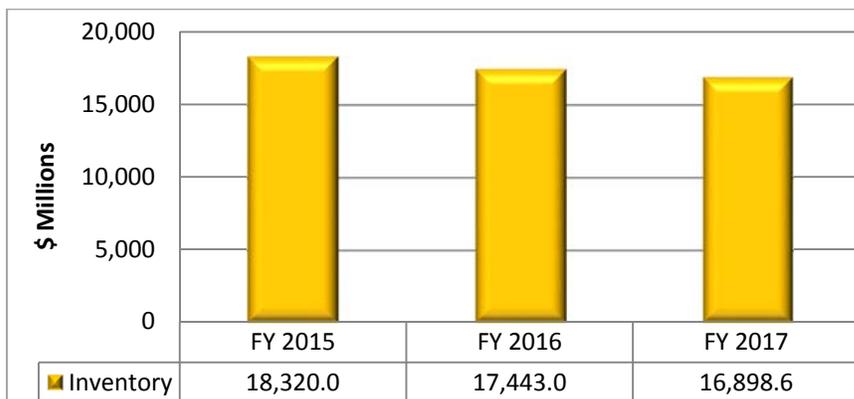
Chart SM 5 - Contract Authority



## Inventory

Inventory values shown in chart SM 6 below, include operational inventory, carcasses awaiting repair, inventory required beyond the budget year, economic and contingency retention stock, and secondary items included in war reserve. Spares inventory levels are sufficient to ensure high stock availability for war efforts. Supply Management continues its effort to decrease inventory by reducing inactive inventory, disposing of dormant stock, and reducing replenishment below sales. With the deployment of non-Army managed materiel (NAMM) in LMP, both Army managed items and NAMM inventory are valued at a moving average cost. Supply Management will continue working to reduce on-order and on-hand excess inventory. Inventory is displayed on exhibit SM 4, *Inventory Status*.

Chart SM 6 – Inventory



## Operating Results

The net operating result (NOR) represents the difference between revenue and expenses within a fiscal year. The accumulated operating result (AOR) represents the summation of all operating gains and losses since activity group inception along with any prior period adjustments. AWCF operates on a break-even basis during the budget cycle. Supply Management used projected cash above the operational level to decrease the rate in FY 2017. In the next budget cycle, Supply Management will evaluate its AOR projections, cash position, and impact on future rates to determine the amount of AOR to recover. NOR and AOR are displayed on exhibit Fund 14, *Revenue and Costs*.

Table SM 1 - Operating Results

(\$ Millions)	FY 2015	FY 2016	FY 2017
Net Operating Result	(12.9)	33.6	(292.2)
Prior Year AOR	157.8	144.9	178.5
Non-Recoverable AOR	0.0	0.0	113.7
Accumulated Operating Result	144.9	178.5	0.0

## Cost Recovery Rate

The Supply Management cost recovery rate (CRR) is set to recover full costs and adjust for AOR. Typical costs recovered include civilian pay, distribution depot costs, transportation costs, other Defense bills associated with supply operations, and costs of replacing inventory washouts. The FY 2017 CRR includes a negative cash surcharge of \$300 million due to projected cash above the operational level. The change in CRR is the basis of overhead allocation to materiel costs and does not increase cost to customer or affect customer buying power. The price change to customer is expressed as the change in overhead costs weighted by the change in sales volume.

Table SM 2 – Cost Recovery Rate and Price Change

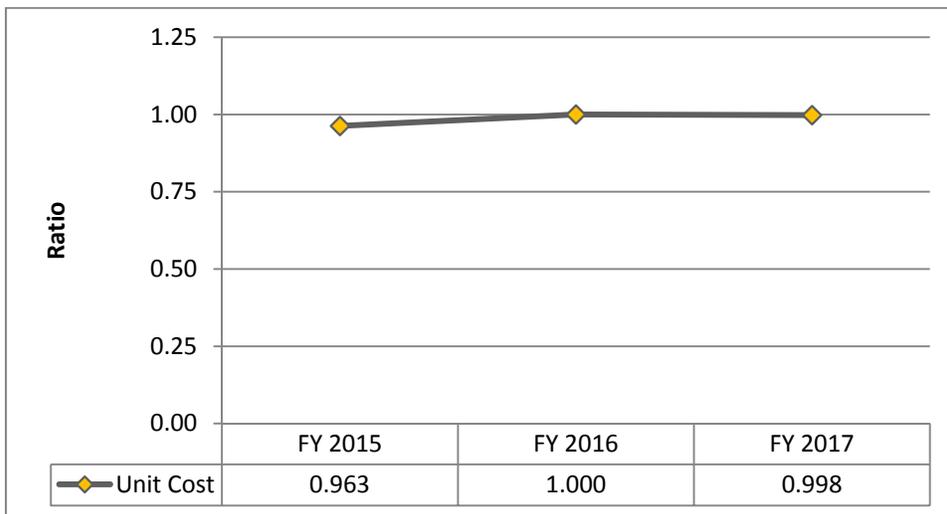
	FY 2015	FY 2016	FY 2017
Cost Recovery Rate (CRR)	16.4%	19.4%	13.8%
Price Change to Customer	1.3%	2.5%	(4.6%)



## Unit Cost

The unit cost is a metric relating operating cost to each dollar of sales. Unit cost is calculated by dividing gross operating costs (the sum of total obligations and credit) plus depreciation by gross sales. As recommended in Government Accountability Office (GAO) report 10-480, Army continues to evaluate and adjust the unit cost as necessary to support contingency operations. A unit cost below 1.0 means that the enterprise is reducing inventory by selling and not replenishing thus reducing contract authority requirement. As the Army approaches a unit cost of 1.0, this indicates the AWCF inventory is approaching a level consistent with lower customer demands. Chart SM 7 shows unit cost for FY 2015 through FY 2017.

Chart SM 7 - Unit Cost



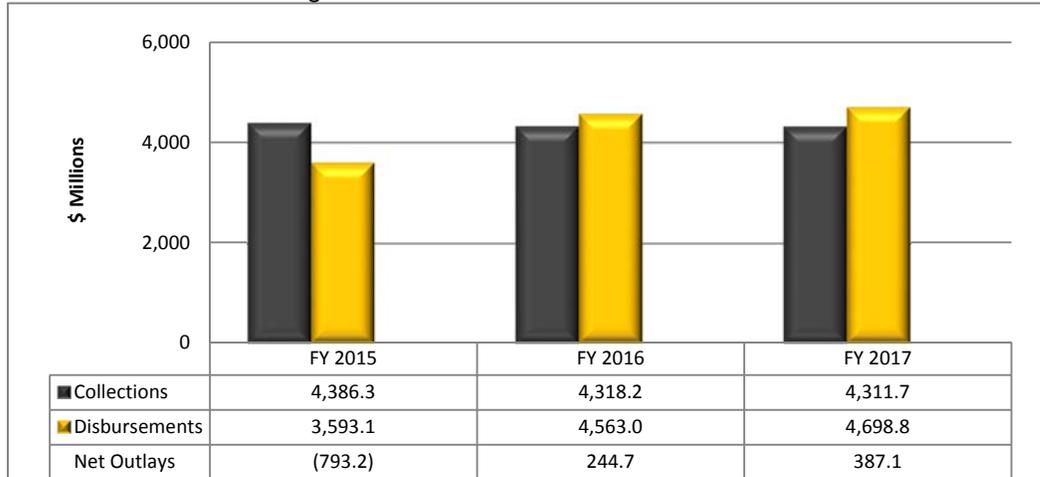
$$\text{Unit cost} = \frac{\text{Obligations} + \text{Credit} + \text{Depreciation expense}}{\text{Gross sales}}$$

## Collections, Disbursements, and Outlays

Collections are projected based on sales and changes in accounts receivable. Disbursements are projected based on monthly operating expenses, changes in accounts payable, and Capital Investment Program obligations. Starting in FY 2016 a business process change was implemented which allowed Internal Work Performed (IWP) between the Supply Management and Industrial Operations activities to collect and disburse cash for IWP; this business process change nets to a zero sum change to cash but increases overall disbursements and collections.



Chart SM 8 – Cash Management

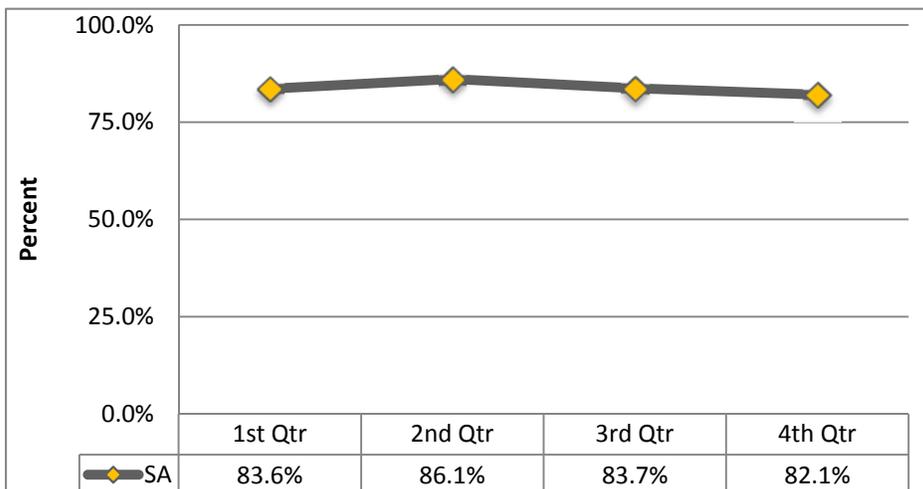


# Performance Measurement

## Stock Availability

Supplying and maintaining Army's equipment remain key components of readiness. The stock availability goal, a primary performance measure relating to supply system ability to fill requisitions, is to fill 85 percent of customer demands immediately. Stock availability is administered through adequate funding of hardware, proper management of the supply chain, and reliable oversight of materiel stockage requirements. Chart SM 9 displays stock availability at the end of each quarter in FY 2015 above or slightly below the 85 percent goal.

Chart SM 9 – Stock Availability (SA)



## Customer Backorders

Backorders are expected to decrease through FY 2017 with reductions due to both materiel deliveries and reduced demands from Overseas Contingency Operations customers. Customer backorders for the end of each fiscal year are displayed on exhibit Fund 11, *Source of New Orders and Revenue*.

Chart SM 10 – Customer Backorders



## Supply Management Workload

Table SM 3 below displays Supply Management workload drivers. The decreases in requisitions received and issues completed are based on deployed force activity assumptions. A standardized method to report workload drivers was developed after the deployment of Logistics Modernization Program to the Life Cycle Management Commands and is reflected in the budget.

Table SM 3 - Supply Management Workload

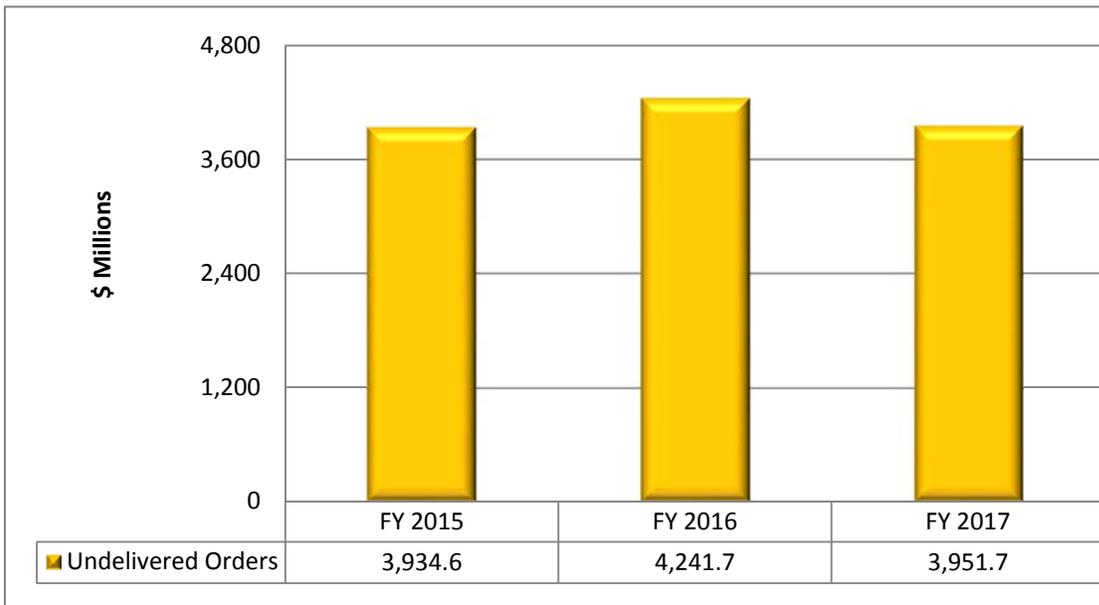
Supply Management Workload	FY 2015	FY 2016	FY 2017
Types of Items Managed	110,277	109,516	110,295
Requisitions Received	681,306	654,627	613,785
Issues Completed	411,744	493,420	466,071
Procurement Receipts	52,818	39,130	37,634
Contracts Awarded	12,114	12,271	11,976



## Undelivered Orders

Undelivered orders represent goods and services ordered, but not yet received by AWCF. A sufficient cash balance is required to pay suppliers upon receipt of these orders. As shown in the chart below, undelivered orders are projected to decrease through FY 2017 due to continued materiel deliveries and decreased new materiel obligations based on lower deployed force assumptions.

Chart SM 11 - Undelivered Orders



## Appropriations

War reserve equipment positioned without secondary items would significantly jeopardize Army's ability to complete its combat missions successfully. The secondary items purchased for war reserves support important combat weapon systems such as M2 Bradley Fighting Vehicle, artillery howitzers, rocket launchers, HMMWVs and Mine Resistant Ambush Protected Vehicles (MRAP). FY 2017 Overseas Contingency Operations (OCO) funding of \$46.8 million will be used to include Army Prepositioned Stocks (APS) supporting three Armored Brigade Combat Teams (ABCTs), a Sustainment Brigade, and Enablers in support of the European Reassurance Initiative (ERI).



In FY 2016 and FY 2017, the Supply Management activity will receive a direct appropriation of \$32.0 million for the Paladin Integrated Management (PIM) engines. The funds will procure engines to meet future sales with no negative impact on the AWCF rates. Appropriations are displayed on exhibit Fund 14, *Revenue and Costs*.

Table SM 4 - Appropriations

(\$ Millions)	FY 2015	FY 2016	FY 2017
<b>War Reserve Secondary Items</b>			
Base Funding	13.7	18.4	24.5
Overseas Contingency Operations	0.0	0.0	46.8
<b>Paladin Integrated Management Engines</b>	0.0	32.0	32.0
<b>Total Appropriated Funds</b>	13.7	50.4	103.3

War reserve inventory is displayed on exhibits SM 4, *Inventory Status* and SM 6, *War Reserve Materiel*.

***War reserve secondary items improve Army's ability to meet global missions by sustaining the deployed combat force until CONUS-based re-supply commences.***



**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Management**

**Revenue and Costs  
(\$ in Millions)**

	FY 2015	FY 2016	FY 2017
<b>Revenue</b>			
Army Managed Items (AMI) Sales	5,162.3	5,133.7	4,672.8
Non-Army Managed Items (NAMI) Sales	977.7	1,035.0	1,056.0
AMC Mobilization (MOB) Sales	2.0	2.0	2.0
<b>Total Gross Sales</b>	<b>6,142.0</b>	<b>6,170.7</b>	<b>5,730.8</b>
<b>Credit and Allowances</b>	<b>1,353.1</b>	<b>1,468.3</b>	<b>1,379.2</b>
<b>Net Sales</b>	<b>4,788.9</b>	<b>4,702.4</b>	<b>4,351.7</b>
<b>Other Income</b>			
War Reserve-Secondary Items	13.7	18.4	71.3
Inventory Augmentation - PIM	0.0	32.0	32.0
<b>Total Income</b>	<b>4,802.6</b>	<b>4,752.8</b>	<b>4,455.0</b>
<b>Costs</b>			
<b>Cost of Materiel Sold from Inventory</b>			
AMI	2,864.6	2,653.1	2,625.4
NAMI	976.9	1,033.0	1,053.0
AMC MOB	0.2	2.0	2.0
<b>Total Cost of Materiel Sold from Inventory</b>	<b>3,841.8</b>	<b>3,688.2</b>	<b>3,680.4</b>
Inventory Losses/Obsolescence	98.7	103.0	98.0
<b>Salaries and Wages Total</b>			
Military Personnel Compensation & Benefits	185.6	208.5	214.7
Civilian Personnel Compensation & Benefits	0.3	0.2	0.2
Travel & Transportation of Personnel	185.3	208.4	214.5
Materiel & Supplies (For Internal Operations)	2.8	1.7	1.9
Equipment	0.8	0.6	0.6
Other Purchases from Revolving Funds	0.3	1.2	1.2
Transportation of Things	302.8	222.4	211.4
Depreciation - Capital	40.6	84.8	84.9
Printing and Reproduction	20.0	45.3	42.6
Advisory and Assistance Services	3.4	3.6	3.6
Rent, Communication, Utilities & Misc. Charges	26.6	12.4	18.4
Other Purchased Services	0.0	0.7	0.7
<b>Total Costs</b>	<b>4,801.7</b>	<b>4,668.8</b>	<b>4,643.8</b>
<b>Operating Result</b>	<b>0.9</b>	<b>84.0</b>	<b>(188.9)</b>
Other Changes Affecting NOR:			
Less Direct Funding	(13.7)	(50.4)	(103.3)
<b>Net Operating Result (NOR)</b>	<b>(12.9)</b>	<b>33.6</b>	<b>(292.2)</b>
Prior Year AOR	157.8	144.9	178.5
Non-Recoverable/Deferred AOR	0.0	0.0	113.7
<b>Accumulated Operating Result (AOR)</b>	<b>144.9</b>	<b>178.5</b>	<b>0.0</b>

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Management**

**Source of New Orders and Revenue  
(\$ in Millions)**

	FY 2015	FY 2016	FY 2017
1. New Orders			
<b>a. Orders from DOD Components:</b>			
Department of Army			
Operation & Maintenance, Army	3,616.6	4,011.1	3,863.3
Operation & Maintenance, ARNG	421.4	514.2	486.1
Operation & Maintenance, AR	69.1	80.9	76.6
<b>Subtotal, O&amp;M:</b>	<b>4,107.1</b>	<b>4,606.1</b>	<b>4,426.1</b>
Industrial Operations Business	413.4	447.2	456.7
Procurement Appropriations	251.6	255.4	241.3
RDT&E	26.2	13.6	13.0
All Other Army	11.8	8.2	8.3
<b>Subtotal, Department of the Army:</b>	<b>703.0</b>	<b>724.4</b>	<b>719.2</b>
Department of Navy	65.8	98.3	92.8
Department of Air Force	120.1	218.2	205.6
US Marine Corps	61.1	66.3	62.7
Other Department of Defense (DOD)	79.0	110.0	104.4
<b>Subtotal, Other DoD Services:</b>	<b>326.0</b>	<b>492.7</b>	<b>465.5</b>
<b>b. Total DOD</b>	<b>5,136.1</b>	<b>5,823.3</b>	<b>5,610.8</b>
<b>c. Orders from Other Federal Agencies:</b>			
FMS	331.9	286.6	274.3
Other Federal Agencies	1.0	9.5	19.5
All Other	14.6	11.6	0.4
<b>Subtotal, Other Federal Agencies:</b>	<b>347.5</b>	<b>307.8</b>	<b>294.2</b>
<b>Total New Orders</b>	<b>5,483.6</b>	<b>6,131.0</b>	<b>5,905.0</b>
2. Carry-In Orders (Back Orders from Prior Years)	1,167.1	1,147.0	1,107.0
3. Total Gross Orders	6,650.7	7,278.0	7,012.0
3a. Adjustment	(227.0)	638.3	637.9
4. Less Carry-Out Orders	1,147.0	1,107.0	1,080.1
<b>5. Gross Sales</b>	<b>6,142.0</b>	<b>6,170.7</b>	<b>5,730.8</b>
6. Less Credit and Allowances	1,353.1	1,468.3	1,379.2
<b>7. Net Sales</b>	<b>4,788.9</b>	<b>4,702.4</b>	<b>4,351.7</b>

Narrative: Carry-Out Orders include an adjustment to restate year end amount and reflect estimates for FY 2016 and FY 2017.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Management**

**Supply Management Summary  
(\$ in Millions)**

	Net Customer Orders	Net Sales	Contract Authority	Direct Appn	Total Authority
<b>Non-Army Managed Items (NAMI)</b>					
FY 2015	1,343.5	977.7	976.9	0.0	976.9
FY 2016	1,034.0	1,034.0	1,034.0	0.0	1,034.0
FY 2017	1,055.0	1,055.0	1,055.0	0.0	1,055.0
<b>Army Managed Items (AMI)</b>					
Aviation					
FY 2015	980.5	1,675.8	811.8	0.7	812.5
FY 2016	1,408.3	1,456.2	1,174.5	0.7	1,175.2
FY 2017	1,335.1	1,291.3	929.6	1.3	930.9
Communications-Electronics					
FY 2015	319.6	499.5	209.8	1.2	211.0
FY 2016	494.0	503.5	297.0	0.7	297.7
FY 2017	470.9	452.3	238.3	11.5	249.8
Missiles					
FY 2015	128.7	198.4	134.1	0.7	134.8
FY 2016	221.3	220.8	169.0	0.7	169.7
FY 2017	231.5	216.2	173.0	1.3	174.3
Tank-automotive & Armaments					
FY 2015	1,356.4	1,435.5	1,027.2	6.1	1,033.3
FY 2016	1,503.1	1,485.8	1,149.5	38.9	1,188.4
FY 2017	1,431.4	1,334.8	1,076.1	53.0	1,129.1
<b>Total AMI</b>					
<b>FY 2015</b>	<b>2,785.3</b>	<b>3,809.2</b>	<b>2,182.9</b>	<b>8.6</b>	<b>2,191.5</b>
<b>FY 2016</b>	<b>3,626.7</b>	<b>3,666.4</b>	<b>2,790.0</b>	<b>41.0</b>	<b>2,831.0</b>
<b>FY 2017</b>	<b>3,468.8</b>	<b>3,294.7</b>	<b>2,417.0</b>	<b>67.1</b>	<b>2,484.1</b>
<b>AMC Mobilization (MOB)</b>					
FY 2015	1.6	2.0	0.2	5.1	5.3
FY 2016	2.0	2.0	2.0	9.5	11.5
FY 2017	2.0	2.0	2.0	36.2	38.2
<b>Total Hardware</b>					
<b>FY 2015</b>	<b>4,130.5</b>	<b>4,788.9</b>	<b>3,160.0</b>	<b>13.7</b>	<b>3,173.8</b>
<b>FY 2016</b>	<b>4,662.7</b>	<b>4,702.4</b>	<b>3,826.0</b>	<b>50.4</b>	<b>3,876.4</b>
<b>FY 2017</b>	<b>4,525.8</b>	<b>4,351.7</b>	<b>3,474.0</b>	<b>103.3</b>	<b>3,577.3</b>

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Management**

**Supply Management Summary  
(\$ in Millions)**

	Net Customer Orders	Net Sales	Contract Authority	Direct Appn	Total Authority
Cost of Operations (LOGOPS)					
FY 2015			841.3	0.0	841.3
FY 2016			832.2	0.0	832.2
FY 2017			822.9	0.0	822.9
Variability Target					
FY 2015			0.0	0.0	0.0
FY 2016			1,200.0	0.0	1,200.0
FY 2017			1,200.0	0.0	1,200.0
Enterprise Software Initiative (ESI)					
FY 2015			0.0	0.0	0.0
FY 2016			35.0	0.0	35.0
FY 2017			35.0	0.0	35.0
<b>Total Authority</b>					
<b>FY 2015</b>	<b>4,130.5</b>	<b>4,788.9</b>	<b>4,001.3</b>	<b>13.7</b>	<b>4,015.1</b>
<b>FY 2016</b>	<b>4,662.7</b>	<b>4,702.4</b>	<b>5,893.2</b>	<b>50.4</b>	<b>5,943.7</b>
<b>FY 2017</b>	<b>4,525.8</b>	<b>4,351.7</b>	<b>5,531.9</b>	<b>103.3</b>	<b>5,635.2</b>
Capital Contract Authority					
FY 2015			45.6	0.0	45.6
FY 2016			44.2	0.0	44.2
FY 2017			14.8	0.0	14.8
<b>Total Authority</b>					
<b>FY 2015</b>	<b>4,130.5</b>	<b>4,788.9</b>	<b>4,046.9</b>	<b>13.7</b>	<b>4,060.7</b>
<b>FY 2016</b>	<b>4,662.7</b>	<b>4,702.4</b>	<b>5,937.4</b>	<b>50.4</b>	<b>5,987.8</b>
<b>FY 2017</b>	<b>4,525.8</b>	<b>4,351.7</b>	<b>5,546.7</b>	<b>103.3</b>	<b>5,650.0</b>
<b>Budget Authority</b>					
Direct Appropriation: War Reserve (Base)					
FY 2015			0.0	13.7	<b>13.7</b>
FY 2016			0.0	18.4	<b>18.4</b>
FY 2017			0.0	24.5	<b>24.5</b>
Direct Appropriation: APS (OCO)					
FY 2015			0.0	0.0	<b>0.0</b>
FY 2016			0.0	0.0	<b>0.0</b>
FY 2017			0.0	46.8	<b>46.8</b>
Direct Appropriation: Augmentation Spares (PIM)					
FY 2015			0.0	0.0	<b>0.0</b>
FY 2016			0.0	32.0	<b>32.0</b>
FY 2017			0.0	32.0	<b>32.0</b>
<b>Total Budget Authority</b>					
<b>FY 2015</b>			<b>0.0</b>	<b>13.7</b>	<b>13.7</b>
<b>FY 2016</b>			<b>0.0</b>	<b>50.4</b>	<b>50.4</b>
<b>FY 2017</b>			<b>0.0</b>	<b>103.3</b>	<b>103.3</b>

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**Operating Requirements by Weapon System  
(\$ in Millions)**

	FY 2015		FY 2016		FY 2017	
	Obligations	NMCRS <sup>1</sup>	Obligations	NMCRS <sup>1</sup>	Obligations	NMCRS <sup>1</sup>
AH-64, Apache	85.8	4.0%	452.5	≤ 25.0%	370.7	≤ 25.0%
CH-47D, Chinook	108.7	5.0%	170.7	≤ 25.0%	111.6	≤ 25.0%
UH-60, Black Hawk	340.8	4.0%	495.2	≤ 25.0%	425.3	≤ 25.0%
OH-58D, Kiowa Warrior	95.6	2.0%	48.8	≤ 25.0%	22.8	≤ 25.0%
Other Aviation	181.6	0.0%	9.1	≤ 25.0%	1.0	≤ 25.0%
MLRS	8.5	4.0%	17.3	≤ 10.0%	15.8	≤ 10.0%
Patriot	113.6	6.0%	94.8	≤ 10.0%	93.5	≤ 10.0%
Other Missile	8.1	0.0%	51.0	≤ 10.0%	49.0	≤ 10.0%
Firefinder	3.7	1.0%	0.5	≤ 10.0%	0.6	≤ 10.0%
Night Vision Goggles	32.2	4.0%	34.1	≤ 10.0%	27.0	≤ 10.0%
SINCGARS	17.8	2.6%	7.5	≤ 10.0%	7.9	≤ 10.0%
Other Communication-Electronics	156.1	3.0%	255.0	≤ 10.0%	202.8	≤ 10.0%
FMTV	18.1	2.5%	16.0	≤ 10.0%	15.7	≤ 10.0%
HEMTT	7.9	2.6%	1.7	≤ 10.0%	3.5	≤ 10.0%
HMMWV	52.6	2.3%	42.9	≤ 10.0%	49.4	≤ 10.0%
M109A6, Paladin	41.6	10.1%	30.4	≤ 10.0%	16.3	≤ 10.0%
M198, Towed Howitzer	19.2	5.2%	5.7	≤ 10.0%	73.1	≤ 10.0%
M1A1, Abrams Tank	115.2	11.6%	185.4	≤ 10.0%	109.3	≤ 10.0%
M1A2, Abrams Tank (SEP)	70.4	8.5%	74.1	≤ 10.0%	70.2	≤ 10.0%
M2/M3, Bradley Fighting Vehicle	121.7	6.4%	103.0	≤ 10.0%	91.1	≤ 10.0%
Stryker	199.9	7.4%	198.7	≤ 10.0%	196.9	≤ 10.0%
Other Tank-Automotive	384.0	0.7%	495.7	≤ 10.0%	463.4	≤ 10.0%
<b>Subtotal</b>	<b>2,182.9</b>		<b>2,790.0</b>		<b>2,417.0</b>	
NAMI	976.9		1,034.0		1,055.0	
AMC Mobilization	0.2		2.0		2.0	
<b>TOTAL</b>	<b>3,160.0</b>		<b>3,826.0</b>		<b>3,474.0</b>	

1: Non Mission Capable Rate Supply (NMCRS) represents the percent of time a weapon system is not mission capable due to lack of critical spare parts. The AWCF goals for NMCRS are: at or below 10% for ground and at or below 25% for aircraft. FY 2015 is actual data. FY 2016 and FY 2017 are the Army's goal for total weapon system readiness.

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**Inventory Status  
(\$ in Millions)**

FY 2015	TOTAL	DEMAND BASED	MOBILIZATION	NON-DEMAND BASED
<b>1. Inventory Beginning of Period (BOP)</b>	<b>19,721.4</b>	<b>11,696.9</b>	<b>1,744.3</b>	<b>6,280.2</b>
<b>2. BOP Inventory Adjustments</b>				
A. Reclassification (Memo)	9.8	3,014.6	16.5	(3,021.4)
B. Price Change Amount (Memo)	(12.6)	0.0	(12.6)	0.0
C. Adj. Inventory BOP (1+2A+2B)	<b>19,718.5</b>	<b>14,711.5</b>	<b>1,748.2</b>	<b>3,258.8</b>
<b>3. Purchases</b>	<b>1,940.9</b>	1,914.0	26.9	0.0
<b>4. Gross Sales</b>	<b>6,142.0</b>	6,091.0	2.3	48.7
<b>5. Inventory Adjustments</b>				
A. Capitalization (+ or -)	387.3	391.8	0.2	(4.7)
B. Returns from Customers (+)	2,893.2	2,765.3	0.2	127.7
C. Returns from Customers w/o Credit (+)	1,470.4	1,368.5	36.3	65.6
D. Returns to Suppliers (-)	(409.5)	(405.6)	0.0	(4.0)
E. Transfers to DRMS (-)	(1,443.5)	(1,326.7)	(58.9)	(57.9)
F. Issues/Receipts w/o Adjustments (+ or -)	(280.1)	(44.3)	0.0	(235.8)
G. Other	184.8	273.8	(89.0)	0.0
H. Total Adjustments (5A thru 5G)	2,802.6	3,022.8	(111.3)	(108.9)
<b>6. Inventory End of Period (EOP; 2c + 3 - 4 + 5h)</b>	<b>18,320.0</b>	<b>13,557.4</b>	<b>1,661.5</b>	<b>3,101.2</b>
<b>7. Inventory EOP</b>	<b>18,320.0</b>	<b>13,557.4</b>	<b>1,661.5</b>	<b>3,101.2</b>
A. Economic Retention (Memo)				871.4
B. Contingency Retention (Memo)				121.8
C. Potential DOD Reutilization (Memo)				2,107.9
<b>8. Inventory On Order EOP (Memo; at Cost)</b>	<b>3,934.6</b>	<b>3,851.6</b>	<b>83.0</b>	<b>0.0</b>

**NARRATIVE:** Column "Non-Demand Based" includes inventory that stratifies beyond the budget year, economic and contingency retention stock, and inventory excess to the approved acquisition objective.

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**Inventory Status  
(\$ in Millions)**

FY 2016	TOTAL	DEMAND BASED	MOBILIZATION	NON-DEMAND BASED
<b>1. Inventory Beginning of Period (BOP)</b>	<b>18,320.0</b>	<b>13,557.4</b>	<b>1,661.5</b>	<b>3,101.2</b>
<b>2. BOP Inventory Adjustments</b>				
A. Reclassification (Memo)	0.0	0.0	0.0	0.0
B. Price Change Amount (Memo)	0.0	0.0	0.0	0.0
C. Adj. Inventory BOP (1+2A+2B)	<b>18,320.0</b>	<b>13,557.4</b>	<b>1,661.5</b>	<b>3,101.2</b>
<b>3. Purchases</b>	<b>2,020.9</b>	1,973.9	47.0	0.0
<b>4. Gross Sales</b>	<b>6,170.7</b>	6,168.7	2.0	0.0
<b>5. Inventory Adjustments</b>				
A. Capitalization (+ or -)	0.2	0.6	0.0	(0.4)
B. Returns from Customers (+)	1,824.8	1,690.1	0.0	134.7
C. Returns from Customers w/o Credit (+)	3,082.8	2,424.9	(1.0)	658.9
D. Returns to Suppliers (-)	0.4	0.0	0.0	0.4
E. Transfers to DRMS (-)	(2,282.0)	(2,104.4)	(19.7)	(157.9)
F. Issues/Receipts w/o Adjustments (+ or -)	(55.9)	0.0	0.0	(55.9)
G. Other	702.5	646.3	0.0	56.2
H. Total Adjustments (5A thru 5G)	3,272.7	2,657.5	(20.7)	635.9
<b>6. Inventory End of Period (EOP; 2c + 3 - 4 + 5h)</b>	<b>17,443.0</b>	<b>12,020.1</b>	<b>1,685.8</b>	<b>3,737.1</b>
<b>7. Inventory EOP</b>	<b>17,443.0</b>	<b>12,020.1</b>	<b>1,685.8</b>	<b>3,737.1</b>
A. Economic Retention (Memo)				1,017.3
B. Contingency Retention (Memo)				288.4
C. Potential DOD Reutilization (Memo)				2,431.4
<b>8. Inventory On Order EOP (Memo; at Cost)</b>	<b>4,241.7</b>	4,147.2	94.5	0.0

**NARRATIVE:** Column "Non-Demand Based" includes inventory that stratifies beyond the budget year, economic and contingency retention stock, and inventory excess to the approved acquisition objective.

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**Inventory Status  
(\$ in Millions)**

FY 2017	TOTAL	DEMAND BASED	MOBILIZATION	NON-DEMAND BASED
<b>1. Inventory Beginning of Period (BOP)</b>	<b>17,443.0</b>	<b>12,020.1</b>	<b>1,685.8</b>	<b>3,737.1</b>
<b>2. BOP Inventory Adjustments</b>				
A. Reclassification (Memo)	0.0	0.0	0.0	0.0
B. Price Change Amount (Memo)	0.0	0.0	0.0	0.0
C. Adj. Inventory BOP (1+2A+2B)	<b>17,443.0</b>	<b>12,020.1</b>	<b>1,685.8</b>	<b>3,737.1</b>
<b>3. Purchases</b>	<b>1,894.6</b>	1,858.8	35.8	0.0
<b>4. Gross Sales</b>	<b>5,730.8</b>	5,728.8	2.0	0.0
<b>5. Inventory Adjustments</b>				
A. Capitalization (+ or -)	(0.5)	0.6	0.0	(1.1)
B. Returns from Customers (+)	1,704.4	1,583.0	0.0	121.3
C. Returns from Customers w/o Credit (+)	2,983.9	2,328.1	(1.0)	656.8
D. Returns to Suppliers (-)	(3.2)	0.0	0.0	(3.2)
E. Transfers to DRMS (-)	(2,251.1)	(2,074.8)	(27.4)	(148.8)
F. Issues/Receipts w/o Adjustments (+ or -)	(44.2)	0.0	0.0	(44.2)
G. Other	902.5	838.9	0.0	63.6
H. Total Adjustments (5A thru 5G)	3,291.9	2,675.8	(28.4)	644.5
<b>6. Inventory End of Period (EOP; 2c + 3 - 4 + 5h)</b>	<b>16,898.6</b>	<b>10,825.9</b>	<b>1,691.1</b>	<b>4,381.6</b>
<b>7. Inventory EOP</b>	<b>16,898.6</b>	<b>10,825.9</b>	<b>1,691.1</b>	<b>4,381.6</b>
A. Economic Retention (Memo)				1,171.0
B. Contingency Retention (Memo)				301.5
C. Potential DOD Reutilization (Memo)				2,909.1
<b>8. Inventory On Order EOP (Memo; at Cost)</b>	<b>3,951.7</b>	3,856.3	95.4	0.0

**NARRATIVE:** Column "Non-Demand Based" includes inventory that stratifies beyond the budget year, economic and contingency retention stock, and inventory excess to the approved acquisition objective.

**Army Working Capital Fund  
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**War Reserve Materiel  
(\$ in Millions)**

FY 2015	TOTAL	WRM PROTECTED	WRM OTHER
<b>1. Inventory Beginning of Period (BOP)</b>	<b>1,744.3</b>	<b>1,744.3</b>	<b>0.0</b>
2. Price Change	0.0	0.0	0.0
3. Reclassification	0.0	0.0	0.0
4. Inventory Changes			
a. Receipts	26.9	26.9	0.0
(1) Purchases	26.9	26.9	0.0
(2) Returns from customers	0.0	0.0	0.0
b. Issues	(56.6)	(56.6)	0.0
(1) Sales	2.3	2.3	0.0
(2) Returns to Suppliers	0.0	0.0	0.0
(3) Disposals	(58.9)	(58.9)	0.0
c. Adjustments	(88.8)	(88.8)	0.0
(1) Capitalizations	0.2	0.2	0.0
(2) Gains and losses	0.0	0.0	0.0
(3) Other	(89.0)	(89.0)	0.0
<b>5. Inventory End of Period (EOP)</b>	<b>1,661.5</b>	<b>1,661.5</b>	<b>0.0</b>
6. Stockpile Costs	0.0		
a. Storage	0.0		
b. Manage	0.0		
c. Maintenance/Other	0.0		
<b>Total Costs</b>	<b>0.0</b>		
7. Obligations @ Cost			
a. Additional WRM	13.7		
b. Replenishment/Repair WRM	0.2		
c. Stock Rotation/Obsolescence	0.0		
d. Assemble/Disassemble	0.0		
e. Other	0.0		
<b>Total Request</b>	<b>13.9</b>		

**NARRATIVE:** War Reserve inventory is aligned with the Logistics War Reserve reports for each LCMC.

**Army Working Capital Fund  
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**War Reserve Materiel  
(\$ in Millions)**

<b>FY 2016</b>	<b>TOTAL</b>	<b>WRM PROTECTED</b>	<b>WRM OTHER</b>
<b>1. Inventory Beginning of Period (BOP)</b>	<b>1,661.5</b>	<b>1,661.5</b>	<b>0.0</b>
2. Price Change	0.0	0.0	0.0
3. Reclassification	0.0	0.0	0.0
4. Inventory Changes			
a. Receipts	47.0	47.0	0.0
(1) Purchases	47.0	47.0	0.0
(2) Returns from customers	0.0	0.0	0.0
b. Issues	(17.7)	(17.7)	0.0
(1) Sales	2.0	2.0	0.0
(2) Returns to Suppliers	0.0	0.0	0.0
(3) Disposals	(19.7)	(19.7)	0.0
c. Adjustments	0.0	0.0	0.0
(1) Capitalizations	0.0	0.0	0.0
(2) Gains and losses	0.0	0.0	0.0
(3) Other	0.0	0.0	0.0
<b>5. Inventory End of Period (EOP)</b>	<b>1,685.8</b>	<b>1,685.8</b>	<b>0.0</b>
6. Stockpile Costs			
a. Storage	0.0		
b. Manage	0.0		
c. Maintenance/Other	0.0		
<b>Total Costs</b>	<b>0.0</b>		
7. Obligations @ Cost			
a. Additional WRM	18.4		
b. Replenishment/Repair WRM	2.0		
c. Stock Rotation/Obsolescence	0.0		
d. Assemble/Disassemble	0.0		
e. Other	0.0		
<b>Total Request</b>	<b>20.4</b>		

**NARRATIVE:** War Reserve inventory is aligned with the Logistics War Reserve reports for each LCMC.

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**War Reserve Materiel  
(\$ in Millions)**

FY 2017	TOTAL	WRM PROTECTED	WRM OTHER
<b>1. Inventory Beginning of Period (BOP)</b>	<b>1,685.8</b>	<b>1,685.8</b>	<b>0.0</b>
2. Price Change	0.0	0.0	0.0
3. Reclassification	0.0	0.0	0.0
4. Inventory Changes			
a. Receipts	34.8	34.8	0.0
(1) Purchases	35.8	35.8	0.0
(2) Returns from customers	(1.0)	(1.0)	0.0
b. Issues	(25.4)	(25.4)	0.0
(1) Sales	2.0	2.0	0.0
(2) Returns to Suppliers	0.0	0.0	0.0
(3) Disposals	(27.4)	(27.4)	0.0
c. Adjustments	0.0	0.0	0.0
(1) Capitalizations	0.0	0.0	0.0
(2) Gains and losses	0.0	0.0	0.0
(3) Other	0.0	0.0	0.0
<b>5. Inventory End of Period (EOP)</b>	<b>1,691.1</b>	<b>1,691.1</b>	<b>0.0</b>
6. Stockpile Costs			
a. Storage	0.0		
b. Manage	0.0		
c. Maintenance/Other	0.0		
<b>Total Costs</b>	<b>0.0</b>		
7. Obligations @ Cost			
a. Additional WRM	71.3		
b. Replenishment/Repair WRM	2.0		
c. Stock Rotation/Obsolescence	0.0		
d. Assemble/Disassemble	0.0		
e. Other	0.0		
<b>Total Request</b>	<b>73.3</b>		

**NARRATIVE:** War Reserve inventory is aligned with the Logistics War Reserve reports for each LCMC.

# Industrial Operations

## Introduction

The Industrial Operations activity group is comprised of thirteen government-owned and operated installation activities, each with unique core competencies. Industrial Operations promotes business-like behavior by relying on revenue instead of direct appropriations to finance continuing operations. Customers purchase services from Industrial Operations activities. These services include, but are not limited to, repairing and upgrading equipment, producing weapons and munitions, and storing and demilitarizing materiel. The goal for the Industrial Operations activity is to generate enough revenue to recover the full cost of operations while breaking even over the long term.

The core financial measures for Industrial Operations are the net operating result (NOR) and accumulated operating result (AOR). The NOR measures the activity's gain or loss within a single fiscal year and is used to monitor how closely the activity performs compared to its budget. The AOR measures the activity's accumulated gains and losses since the fund's inception. Rates are set during budget development to break even by bringing the AOR to zero over a budget cycle. This method returns accumulated gains through reduced rates and recovers accumulated losses through increased rates. The rates are set to:

- Recover the activity's costs such as payroll, supplies, contracts, equipment, inventory, depreciation, and maintenance
- Maintain a sufficient cash corpus to cover operating disbursements and six months of capital disbursements
- Break even over time

The Industrial Operations activity relies heavily on customers funded by direct appropriations to support its operations. The activity synchronizes rates and budget assumptions with the appropriated funding levels of its customers. Reductions to customer appropriated funding requests impact the business by adversely affecting workloading decisions and projected staffing levels and may also affect equipment readiness of supported customers.

### **Mission:**

- ***Provide an organic industrial capability to conduct depot level repair and upgrade***
- ***Produce munitions and large caliber weapons***
- ***Store, maintain, and demilitarize materiel for the Department of Defense***



## Efficiencies and Business Process Improvements

Cost efficiency is an inherent attribute of the AWCF. The revolving fund construct promotes total cost visibility, full cost recovery, and fosters a business-like, competitive atmosphere. In the same way that commercial businesses focus on their bottom line profit, Industrial Operations (IO) activities focus on their Net Operating Result and other indicators to gauge the efficiency of their operations. To increase efficiency and maintain their competitive edge, Industrial Operations activities have been fully engaged in cost-cutting and business process improvement initiatives for many years. Industrial Operations customers ultimately garner the benefit of these efficiencies through reduced turn-around times, lower prices, and increased throughput. Examples of these initiatives include:



An Anniston Army Depot employee works on installing new internal parts on a Stryker.

- **Lean Six Sigma (LSS)**: LSS is a philosophy used in manufacturing to streamline and reduce variations in the production process. In FY 2015, Army Materiel Command (AMC) validated financial benefits from LSS initiatives totaling \$29.5 million. These benefits come in the form of hard savings from budgeted programs, cost avoidances, and increased capacity (e.g. throughput). IO activities either re-invest the financial benefits or pass them on to their customers in future budgets through lower rates. AMC currently has 19 Certified Master Black Belts which ensures the program is self-sufficient.
- **International Organization for Standardization (ISO)**: ISO is a worldwide federation of national standards bodies that independently audit and certify companies and organizations for conformance with established standards. The Industrial Operations activities currently hold ISO certifications for Quality Management Systems, International Aerospace Quality Systems, Environmental Management Systems, and Occupational Safety and Health Administration Systems. All IO activities are ISO 9000 certified at a minimum and many are pursuing higher levels of certification. Eighteen ISO certifications have been issued to AMC organizations.
- **Adaptable Workforce Structure**: IO activities employ an adaptable workforce structure to maintain flexibility in response to shifting workload



requirements. Activities adjust the size of their workforce through the judicious use of contractor, term, temporary personnel, and overtime to accommodate changes in workload.

- **Safety Improvements**: Improving safety is a high priority throughout Army Materiel Command (AMC); it improves morale and productivity and reduces costs. Industrial Operations (IO) activities continue to participate in the Occupational Safety and Health Administration (OSHA) Voluntary Protection Program (VPP) and currently have four IO activities with an OSHA VPP Star<sup>4</sup> rating. These include Crane Army Ammunition Activity, Letterkenny Army Depot, McAlester Army Ammunition Plant, and Tobyhanna Army Depot. In addition, Red River Army Depot has merit status. VPP participants must maintain an effective safety and health management system that meets rigorous performance-based criteria and requires a total written commitment from labor to work safely. In addition, several IO activities are actively pursuing their OSHA Series 18001 (Safety Management System) Program certifications (five IO activities certified and one in process).
- **Enterprise Resource Planning (ERP) Solutions**: The Logistics Modernization Program (LMP), an ERP solution, provides AMC and the Army with new and improved capabilities for logistics management and better cost performance. It provides real time updates and improved visibility of maintenance, production, and financial data when compared with legacy batch processes. It streamlines material/parts requisitioning and asset movements between Defense Logistics Agency (DLA) and the depots, improves visibility and accountability for inventory, improves collaboration in program planning, and shortens the time to accept and negotiate programs between the Life Cycle Management Commands (LCMCs), depots, and customers.
- **Energy and Water Savings Programs**: AMC has instituted a command wide policy to identify performance standards to reduce consumption of energy and water resources, achieve energy security, and comply with DOD goals and objectives. Savings are being realized through the use of advanced metering programs, energy management and control systems, and implementation of energy conservation measures. Longer term energy savings are expected from renewable energy sources. IO activities use a variety of funding sources for energy projects which reduce energy consumption, improve energy efficiency, and increase energy security. Available funding sources include: AWCF IO, Energy

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<sup>4</sup> The STAR Program is designed for exemplary worksites with comprehensive, successful safety and health management systems. Companies in the Star Program have achieved injury and illness rates at or below the national average of the respective industries.



Conservation Investment Program (ECIP), and third-party financing via Energy Savings Performance Contracts (ESPC) and Utility Energy Services Contracts (UESC). The following highlights the major projects completed recently and projects planned for the near future at IO activities.

Table IO 1 – Energy Conservation and Renewable Energy projects

Activity	Amount (\$M)	Description of Project
Blue Grass Army Depot	\$2.9	Install up to 12 five kilowatt solar- Photovoltaic panels & skylights for 18 building providing general and backup power.
McAlester Army Ammunition Plant	\$4.6	Awarded \$4.6 million project for boiler replacement, advanced energy monitoring, and controls. The estimated cost savings of \$300 thousand per year begins in FY 2016.
Red River Army Depot	\$0.2	Preventative maintenance on equipment installed for an energy performance savings contract. The estimated savings is \$500 thousand.
Red River Army Depot	\$10.0	Energy performance savings contract for a biomass boiler. The estimated yearly savings is \$600 thousand.
Rock Island Arsenal- Joint Manufacturing & Technology Center	No cost	This project focuses on improvements to arsenal plating shop and critical infrastructure that will cut energy use by approximately 35% and generate up to \$5.3 million in annual energy and operational savings.
Tobyhanna Army Depot	\$0.8	Retro-commission facilities to include: controlled building exhausts, proper temperature set points, heating and cooling adjustments set accordingly, and integration into the overall existing building management system.
Tooele Army Depot	\$3.8	This project will install a self-contained 1,000 kilowatt Hydro-Electric power plant on the depot's south area. This will enhance energy security posture and make the depot less dependent on the local utility.

## Functional Description

The AWCF Industrial Operations activity group includes five depots, three arsenals, two munitions production facilities, and three storage sites. This activity group performs the following mission functions:

- Provides depot level maintenance, repair, and modernization of weapon systems and component parts
- Manufactures, renovates, and demilitarizes materiel
- Produces munitions and large caliber weapons



- Performs a full range of ammunition maintenance services for DOD and U.S. allies
- Performs ammunition receipt, storage, and issue functions

In addition to the mission functions, ten of the thirteen activities provide installation base support for both internal operations and tenant activities. Corpus Christi Army Depot and Crane Army Ammunition Activity are tenants on Navy installations. The Rock Island Arsenal-Joint Manufacturing and Technology Center (RIA-JMTC) receives installation base support from the Army Installation Management Command.

Industrial Operations activities collaborate with the private sector through formal public-private partnership agreements to perform work or utilize facilities and equipment. Under authority granted by Title 10, United States Code, § 2474, these partnerships create opportunities for both the public and private sectors by capitalizing on each other's strengths and efficiencies. The benefits to the Army and its customers include: leveraging capacity; sustaining core maintenance capabilities; sharing of overhead costs; and enhancing technical expertise in the workforce. The benefits to private industry include access to specialized facilities, equipment and processes, and stimulating local economies. Current public-private partnership agreements are held with companies such as The Boeing Company, General Dynamics Land Systems, Sikorsky Aircraft Corporation, and Honeywell International.



M240B Machine Guns and M14 Rifle parts being assembled at Anniston Army Depot.

The five hard-iron maintenance depots (Anniston, Corpus Christi, Letterkenny, Red River, and Tobyhanna) and Pine Bluff Arsenal, Rock Island Arsenal-Joint Manufacturing and Technology Center, Sierra Army Depot, Tooele Army Depot, and Watervliet Arsenal are designated as Centers of Industrial and Technical Excellence (CITE) for the performance of core<sup>5</sup> maintenance workload in support of DOD and foreign allies. The CITE designation provides authority under Title 10, United States Code, § 2474 to partner with and lease facilities to industry on programs relating to core maintenance and technical expertise.

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<sup>5</sup> Title 10, United States Code, § 2464. Core Logistics Capabilities - Government-owned and Government-operated equipment and facilities required to ensure a ready and controlled source of technical competence and resources necessary to ensure effective and timely response to a mobilization, national defense contingency situations, and other emergency requirements.



The Shingo Prize, administered by the Jon M. Huntsman School of Business at Utah State University, is the premier award for operational excellence world-wide. Since FY 2005, the Army Materiel Command has received 29 Shingo Prizes for various programs at its depots and arsenals, including eight at Red River Army Depot, seven at Tobyhanna Army Depot, eight at Letterkenny Army Depot, three at the Rock Island Arsenal-Joint Manufacturing and Technology Center, two at Anniston Army Depot and one at Corpus Christi Army Depot. This award recognizes industry leaders who promote world-class business and manufacturing processes that enable on-time delivery and customer satisfaction.

On-site examiners conduct Shingo Prize evaluations and score the following areas:

- Cost improvement
- Partnering practices with suppliers and customers
- Quality and results
- Innovation and development
- Environmental practices
- Vision and strategy
- Leadership & Empowerment
- Continuous improvement

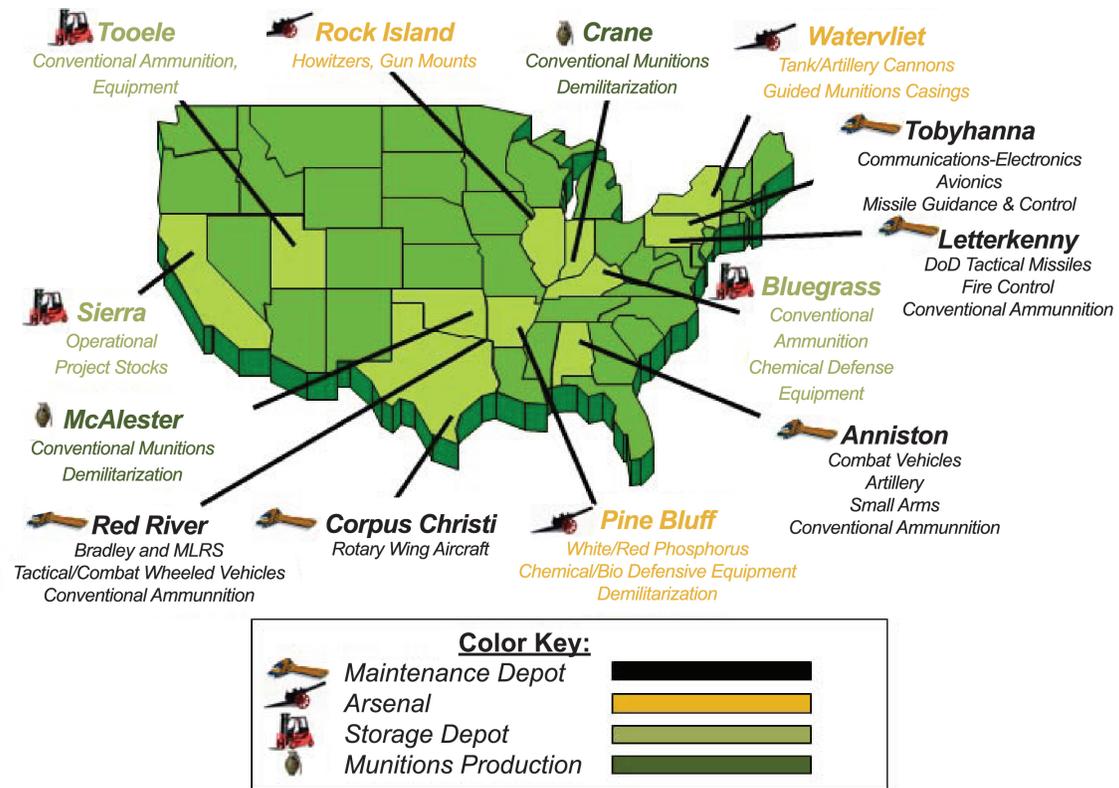


Electricians from Corpus Christi Army Depot install the wiring harness for a Blackhawk helicopter.



# Activity Group Composition

Figure IO 1 - Industrial Operations Activity Group Composition



**Army Materiel Command** is located in Huntsville, Alabama and serves as the management command for the Industrial Operations activity group. Installations or activities in this group fall under the direct command and control of the Life Cycle Management Commands each aligned in accordance with the nature of its mission. The following are descriptions of the Industrial Operations activities and their major core mission functions.

## Anniston Army Depot (ANAD)

**Location:** Anniston, Alabama

**2015 Workforce:** 2,679



**Description:** A vital part of the community since opening in 1941, the depot's annual economic impact is estimated to be \$1.0 billion and indirectly supports over 25,000 jobs in the Anniston area. It is the only Army depot capable of performing maintenance on both heavy and light-tracked combat vehicles (with the exception of the Bradley), and their components. ANAD is the Center of Industrial and Technical Excellence (CITE) for ground combat vehicles, assault bridging, small arms as well as towed



and self-propelled artillery systems, and rail equipment and non-tactical generators. Combat vehicles include the M1 Abrams Tank, M113 Family of Vehicles (FOV), Stryker FOV, M109 Paladin, Field Artillery Ammunition Support Vehicle (FAASV), M88 Recovery Vehicles, Joint Assault Bridge (JAB), Assault Breacher Vehicle (ABV), Armored Vehicle Launched Bridge (AVLB), and M9 Armored Combat Earthmover. The depot is actively engaged in the Reset of equipment returning from operations in Southwest Asia, to include performing maintenance on individual and crew-served weapons. ANAD is a leader in the development of Public-Private Partnerships with 42 active partnerships.

## Blue Grass Army Depot (BGAD)

**Location:** Richmond, Kentucky

**2015 Workforce:** 771



**Description:** BGAD is a Strategic Mobility Power Projection ammunition depot with the mission to receive, store, issue, renovate, modify, maintain, and demilitarize conventional munitions for all DOD Services. BGAD stores and manages all Army Special Operations Forces ammunition. The depot is DOD's primary center for surveillance, receipt, storage, issue, testing, and minor repair of Individual Protection Chemical Defense Equipment. Additionally, BGAD maintains an Industrial Services capability providing receipt, storage, cutting, and fabrication of raw materials and metal parts for high visibility programs such as the Mine Resistant Ambush Protected (MRAP) family of vehicles. Anniston Munitions Center, located at Anniston Army Depot, is under the command and control of BGAD and serves as a multifunctional production facility, primary missile storage and maintenance depot, and as a storage and demilitarization depot for other conventional ammunition items.

## Corpus Christi Army Depot (CCAD)

**Location:** Corpus Christi, Texas

**2015 Workforce:** 3,246



**Description:** CCAD returns Army rotary wing aircraft and components to full service with uncompromising quality, at the lowest cost possible in the shortest amount of time. CCAD supports the Joint Warfighter (Army, Marines, Navy, Air Force, Department of Homeland Security and partner nations) through the Department of State. CCAD leads the Army Aviation accident investigation processes with subject matter expertise and reliable laboratory analysis anywhere in the world by a team of highly skilled artisans who assess, evaluate and repair forward deployed aircraft and components to include depot forward capabilities. The depot supports Active, Reserve and National Guard Soldiers in their maintenance skills development with hands-on experience under the watchful eyes of depot artisans. Designated as the Center of Industrial and Technical



Excellence for rotary wing aircraft, CCAD supports the Apache, Black Hawk, Chinook, Kiowa, and Pave Hawk helicopters as well as Unmanned Aerial Vehicles (UAV).

## Crane Army Ammunition Activity (CAAA)

**Location:** Crane, Indiana

**2015 Workforce:** 896



**Description:** CAAA is a Strategic Mobility Platform located in Crane, Indiana offering logistical support in receiving, storing, shipping, and surveillance of munitions. As a Munitions Center of Excellence, CAAA is the producer of pyrotechnic candle loads for mortar and artillery illumination in both the visible and infrared spectrums. CAAA supports the Navy with the production and renovation of advanced countermeasures for aircraft, and large caliber gun ammunition. Production and renovation capabilities include loading (cast and press) bombs and other munitions, missile warhead pressing, and a large variety of munitions components and assemblies. CAAA also has extensive demilitarization capabilities including steam out, high pressure washout, open burn/open detonation, and white phosphorous conversion. The CAAA machine center fabricates tools, dies, fixtures, gauges, production equipment and components. Letterkenny Munitions Center (LEMC), located on Letterkenny Army Depot in Chambersburg, Pennsylvania is under the command of CAAA. LEMC is also a Strategic Mobility Platform for both conventional ammunition and missile support. LEMC performs testing and minor repair for the Army Tactical Missile System and Guided Multiple Launch Rocket Missile systems, as well as several Air Force and Navy missile families. LEMC conducts demilitarization research and development, resource recovery and reutilization for missiles, container repair, and renovation of conventional munitions.

## Letterkenny Army Depot (LEAD)

**Location:** Chambersburg, Pennsylvania

**2015 Workforce:** 1,372



**Description:** Letterkenny provides state-of-the-art electronics, mission systems integration and other capabilities in the areas of route clearance vehicles, and power generation. LEAD is the designated Center of Industrial and Technical Excellence for air defense and tactical missile ground support equipment. In addition, LEAD supports repair maintenance on a multitude of generators. LEAD also provides installation support to attached organizations and assigned operating facilities.



## McAlester Army Ammunition Plant (MCAAP)

**Location:** McAlester, Oklahoma

**2015 Workforce:** 1,293



**Description:** MCAAP is located on 45,000 acres in southeastern Oklahoma. It has six ammunition production, maintenance and renovation complexes and is a major ammunition storage site for all branches of the Armed Forces. Additionally, the plant has nearly 2,300 storage magazines and six million square feet of covered explosive storage space. MCAAP produces and renovates conventional ammunition, bombs, warheads, rockets, missiles, and ammunition-related components; performs engineering and product assurance in support of production; and receives, stores, ships, demilitarizes, and disposes of conventional and missile ammunition and related items.

## Pine Bluff Arsenal (PBA)

**Location:** Pine Bluff, Arkansas

**2015 Workforce:** 679



**Description:** With a local economic impact exceeding \$140 million annually, PBA produces, renovates, and stores more than sixty different conventional ammunition products ranging in caliber from 40 mm to 175 mm. Specialties include production of munitions containing payloads for smoke, non-lethal, riot control, incendiary, illumination, and infrared uses. Designated the Center of Industrial and Technical Excellence for Chemical and Biological Defense Equipment, PBA provides maintenance, upgrade, storage, and mission support for various mobile and powered Soldier support systems. PBA has strengthened its expertise by forming Public-Private Partnerships with mission related entities in the ammunition and chemical biological defense business sectors.

## Red River Army Depot (RRAD)

**Location:** Texarkana, Texas

**2015 Workforce:** 2,662



**Description:** RRAD's mission is to conduct ground combat and tactical systems sustainment maintenance operations, and related support services worldwide for the Army, other DOD components, and allied nations. RRAD is the Center of Industrial and Technical Excellence for the Bradley Fighting Vehicle (BFV), Multiple Launch Rocket System (MLRS), Tactical Wheeled Vehicles (light, medium, heavy, all size trailers), Small Emplacement Excavator (SEE), and rubber products. Other supported systems include Army boats and bridges, cranes, material handling



equipment, egress trainers, and a multitude of secondary items such as engines and transmissions. Red River Army Depot (RRAD) continues to support high levels of production for the Mine Resistant Ambush Protected (MRAP) All Terrain, Cougar and MaxxPro vehicles to support fielding schedules for TACOM and the Marine Corps. RRAD specializes in forward deployment of maintenance operations in support of U.S. and allied military operations, and will project training and operations in support of Foreign Military Sales. The depot continuously engages in best business practices and process improvements designed to maximize quality throughput at optimal cost. RRAD supports operational transformation in alignment with its strategic plan, with an eye to flexible solutions that will attract future business.

### Rock Island Arsenal-Joint Manufacturing and Technology Center (RIA-JMTC)

**Location:** Rock Island Arsenal, Illinois

**2015 Workforce:** 1,052



**Description:** RIA-JMTC is a heavy-metal manufacturer that specializes in artillery, weapon components, armor and mobile maintenance systems. RIA-JMTC is currently producing the M997A3 Ambulance, Line of Communication Bridge (prototype), Metalworking and Machining Shop Set, and manufacturing artillery parts, gun mounts, recoil mechanisms, small arms repair parts, aircraft weapon sub-systems, and weapons simulators. Additionally, RIA-JMTC produces a host of spare and repair parts for DOD and commercial/private industry customers. RIA-JMTC is the only multi-purpose and vertically integrated metal manufacturer in DOD and is a designated Center for Industrial and Technical Excellence for mobile maintenance systems, Add-on-Armor design, development, and prototype fabrication, and foundry operations. The center possesses the unique technical expertise and equipment to manufacture high quality and sustainable products. RIA-JMTC strives to remain on the cutting edge of technological developments.

### Sierra Army Depot (SIAD)

**Location:** Herlong, California

**2015 Workforce:** 1,228



**Description:** SIAD is a recognized multi-functional installation that provides rapid expeditionary logistics support and long-term sustainment solutions to the Army and the Joint Force. SIAD is designated by the Department of the Army as the Center for Industrial Technical Excellence (CITE) for all Petroleum and Water Distribution Systems (PAWS). In addition, SIAD is the redistribution point for containers of secondary items returning from Southwest Asia, and provides equipment receipt and asset visibility for these items. SIAD has also been designated as the Army's main consolidation and redistribution center for the



Clothing Management Office (CMO) to perform Brigade-level Organizational Clothing and Individual Equipment Reset operations. These unique operations clearly provide a readiness and operational value to the Army and the Nation through management and controlled redistribution of equipment to meet urgent demands and support to deploying Soldiers.

### Tobyhanna Army Depot (TYAD)

**Location:** Tobyhanna, Pennsylvania

**2015 Workforce:** 2,793



**Description:** TYAD is a full-service repair, overhaul, and fabrication facility for communications-electronics systems, equipment, and select missile guidance systems, and it provides for the maintenance, issue, and disposal of assigned commodities for DOD and other customers. It is designated as the Center of Industrial and Technical Excellence for Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR), electronics, avionics, and missile guidance and control. TYAD is the Air Force Technology Repair Center for radio and satellite communication equipment, computers, air traffic control, surveillance, and range threat systems. The depot is also actively engaged in the Reset of equipment returning from operations in theater. It provides installation support to attached organizations and assigned operating facilities.

### Tooele Army Depot (TEAD)

**Location:** Tooele, Utah

**2015 Workforce:** 435



**Description:** TEAD provides America's joint fighting forces with munitions and Ammunition Peculiar Equipment (APE) in support of military missions before, during, and after any contingency. The depot receives, stores, issues, renovates, modifies, maintains, and destroys conventional munitions for all of DOD. TEAD is designated as the Center of Industrial and Technical Excellence for APE. TEAD is the life cycle engineering depot for design, development, manufacturing and fielding of munitions systems and APE throughout the world.

### Watervliet Arsenal (WVA)

**Location:** Watervliet, New York

**2015 Workforce:** 528



**Description:** WVA produces armaments, mortars, recoilless rifles, howitzers and is recognized as the premier cannon-maker for the Army. This includes all life cycle support elements from research and development through prototype, manufacturing, testing support, legacy system support, and technical expertise. The guns manufactured at WVA



provide the firepower for the Army’s main battlefield tank, the M1A1 Abrams. WVA has established several unique and valuable partnerships with manufacturing industries resulting in increased workload, absorption of excess capacity, industry supplied capital improvements, cost sharing, and has recently gained American Bureau of Ship Building certification for WVA’s forging process.

# Budget Highlights

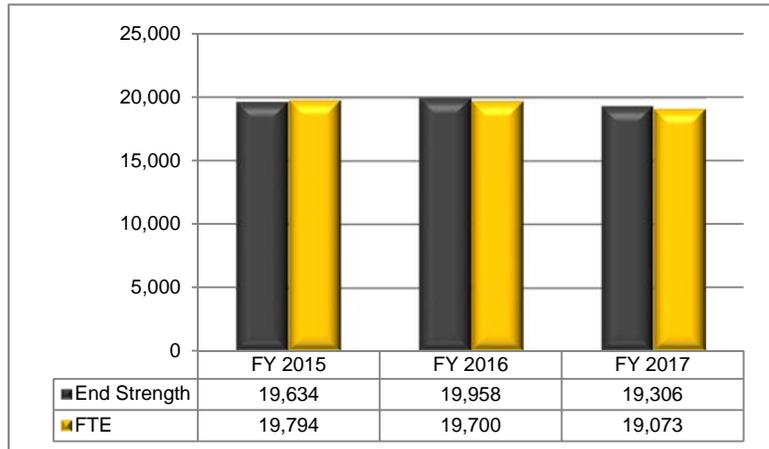
## Assumptions

This submission represents a business plan that supports equipment readiness requirements and assumes a lower operating tempo (OPTEMPO) for the Nation’s continued efforts in Overseas Contingency Operations. The budget reflects workload assumptions developed in coordination with our customers that support both baseline and Reset requirements and incorporates historical trend analysis when developing future workload requirements. However, as unit rotations and weapon system delivery schedules shift, annual projections can change significantly. To offset these risks, the Industrial Operations activity remains poised to increase or decrease output in order to accommodate customers’ changing demands.

## Personnel

Civilian end-strength represents the number of personnel employed at the end of each fiscal year. Full time equivalents represent the manpower level of effort necessary to accomplish the projected workload on an annual basis. The Industrial Operations labor pool includes a mix of permanent, temporary, and term-appointed employees, in addition to contract labor, which allow for workforce flexibility to accommodate changing requirements.

Chart IO 1 - Civilian Personnel (excludes contractors)

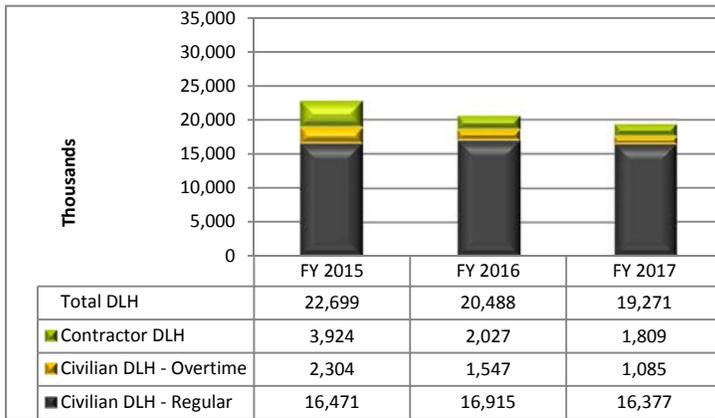


Maintaining a trained and ready workforce is critical to this labor intensive business area. Industrial Operations activities engage in various intern and apprentice programs to help meet this requirement. Due to the specialized nature of the work and skill level requirements, training may require two to three years before an employee is able to perform specific tasks without supervision. In addition to civilian personnel, 25 military personnel are assigned to Industrial Operations (IO) activities in FY 2017.



## Direct Labor Hour (DLH)

Chart IO 2 - Direct Labor Hours



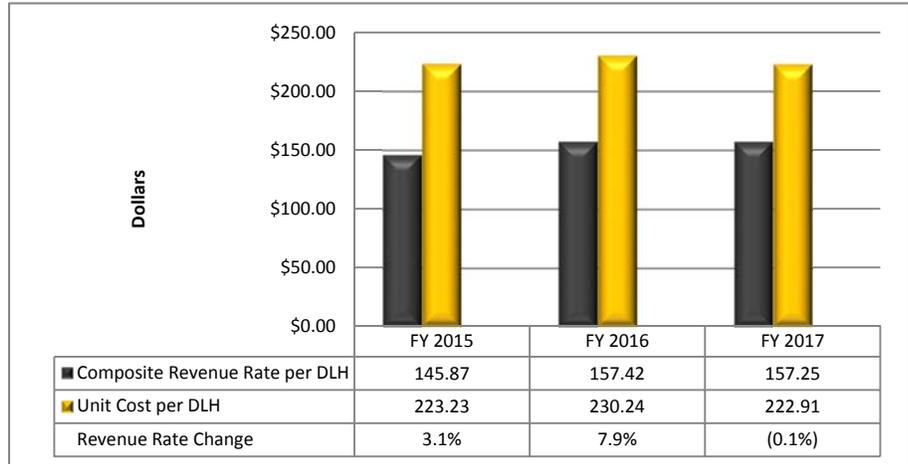
Total direct labor hours represent the number of hours required to complete the Industrial Operations direct mission workload. FY 2017 DLHs decrease by more than 3 million compared to FY 2015 levels but production remains relatively high to complete work carried over from prior fiscal years. IO activities remain prepared

to increase overtime and contractor DLHs in the event workload estimates increase.

## Direct Labor Hour Rate

The composite revenue rate is an aggregate hourly rate established in the budget cycle and used to price rate-stabilized workload. It is comprised of direct labor and material costs, overhead costs (mission indirect and non-mission indirect costs), and accumulated operating

Chart IO 3 - Direct Labor Hour Rate



result adjustments that are designed to return gains or recover losses. In contrast to rate-stabilized workload, cost reimbursable workload represents workload that is prototype in nature or has very little repair history. It is not included in the stabilized rate calculation until sufficient repair information has been established. The composite revenue rate calculation is complex and influenced by several factors: 1) commodity mix of the workload planned (labor intensive, material intensive or both); 2) the amount of gains to be returned or losses to be recovered over the budget years; 3) the amount of stabilized direct labor hours available to return gains or recover losses; and 4) the number of total direct labor hours available to distribute overhead cost (stabilized and non-stabilized workload). A change to the composite revenue rate directly affects the total revenue and new order values for the budget year. The FY 2017 composite revenue rate is \$157.25 and is set to return

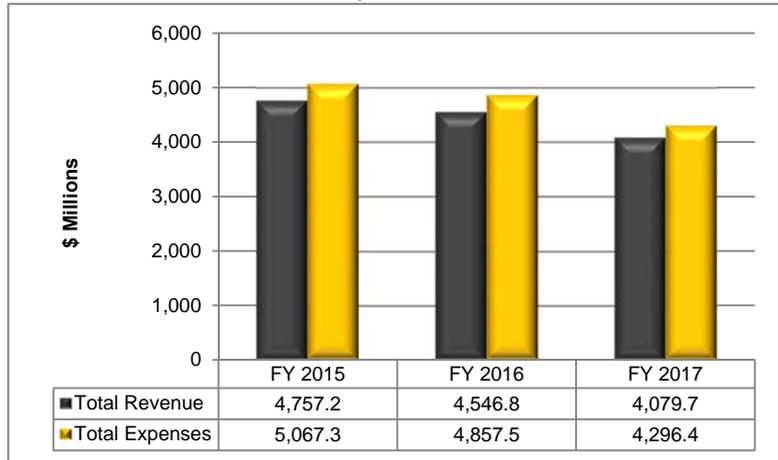


\$169.9 million of prior year accumulated operating result (AOR). Unlike the composite revenue rate, which is adjusted for AOR and applied to new rate stabilized workload, the unit cost per direct labor hour represents total costs of work performed on both prior year and current year orders. The unit cost does not include adjustments for AOR. The return of operating gains to customers causes the revenue rate to be lower than unit cost.

## Revenue and Expenses

The Industrial Operations revenue amount represents earnings from work performed on customer equipment. Total expenses cover full costs, including material, labor, storage, and other direct or indirect costs associated with the products or services being provided. Revenue and expense projections in FY 2017 decrease as total workload declines. Revenue in each year reflects the return of operational gains back to customers. Revenue and expenses are displayed in more detail on Exhibit Fund 14, *Revenue and Costs*.

Chart IO 4 - Revenue and Expenses



## Operating Result

The Net Operating Result (NOR) represents the difference between revenue and expenses within a fiscal year. The recoverable NOR in FY 2015 and FY 2016 includes the \$225 million and \$145 million direct appropriations provided to maintain competitive rates at the arsenals. The AOR represents the summation of all operating gains or losses since activity group inception along with any prior period adjustments. AOR at the end of FY 2015 was \$384.7 million. The Industrial Operations business received approval from the Office of the Under Secretary of Defense (OUSD) Comptroller to defer the return of \$299.8 million of AOR for future rate stabilization as workload decreases. The Recoverable NOR, Deferred AOR, and AOR are displayed in the following table and on Exhibit Fund 14, *Revenue and Costs*.



Table IO 2 - Operating Results

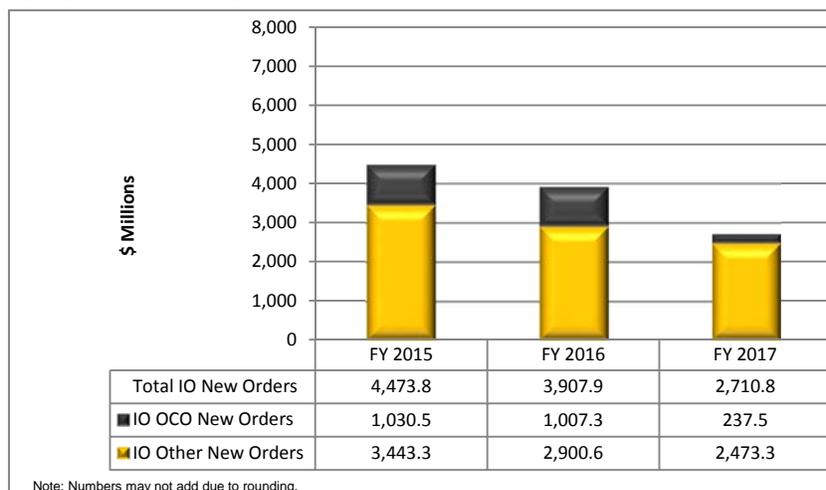
(\$ Millions)	FY 2015	FY 2016	FY 2017
Recoverable Net Operating Result	(47.5)	85.0	(169.9)
Deferred Accumulated Operating Result	0.0	0.0	(299.8)
Accumulated Operating Result	384.7	469.7	0.0

## New Orders

Industrial Operations activities develop workload projections based on close coordination with customers and their delivery schedule requirements. Accurately predicting workload two to three years in advance in a war-time environment with fluid requirements and priorities has

proven difficult. This war-time operational variability in addition to increasing fiscal uncertainty has made accurately projecting new orders a challenge. This budget includes workload assumptions associated with base program requirements and anticipated Reset workload included in the Overseas Contingency Operations (OCO) request. The Reset program ensures Army equipment is restored to a level of combat capability commensurate with a unit's future mission. The projected workload decreases significantly in FY 2016 and FY 2017, in line with customer projections and budgeted requirements. Exhibit Fund 11, *Source of New Orders and Revenue*, displays total new order estimates by fund category.

Chart IO 5 - New Orders



## Carryover

Carryover, or unfilled orders, represents the dollar value of the production orders (parts, labor, and overhead) that have been ordered and funded by customers but not completed by the industrial activities at the end of each fiscal year. Carryover leads to better planning, better decision making, and cost efficiencies at the depots and arsenals. It provides lead time to assemble necessary workforce skill sets, to establish supply chains, and to coordinate workload routing. Carryover also prevents production line stoppages and ensures the activities have funded work to provide a smooth transition between fiscal years.



The Army has reduced its total carryover by \$1.4 billion from a high of \$5.8 billion in FY 2011. The Army is focused on further reducing carryover by leveraging recently implemented policy and process improvements aimed at increasing production, improving customer-provider communication, and strengthening controls over the acceptance of new orders. These initiatives were developed in response to the Government Accountability Office's FY 2013 carryover audit recommendations.<sup>6</sup> The newly implemented policy for accepting new workload requires:

- The customer and the executing industrial activity to assess the availability of skilled labor to execute the workload
- The viability of the supply chain and availability of parts
- The availability of tools and equipment needed during production
- The availability of unserviceable assets
- The scheduled requirements per month
- The availability of funding to support the production

As of FY 2015, all AWCF activities have fully implemented and indoctrinated this criteria for accepting new orders.

Additionally, Army program acquisition managers are required to identify organic procurement funded requirements to the appropriate Life Cycle Management Command (LCMC) no later than the end of the first quarter of the year of execution. The Army's goal is to ensure procurement funded depot maintenance workloads are inducted into the depots no later than the end of the second quarter of the fiscal year. This will reduce orders placed late in the fiscal year that increase carryover.

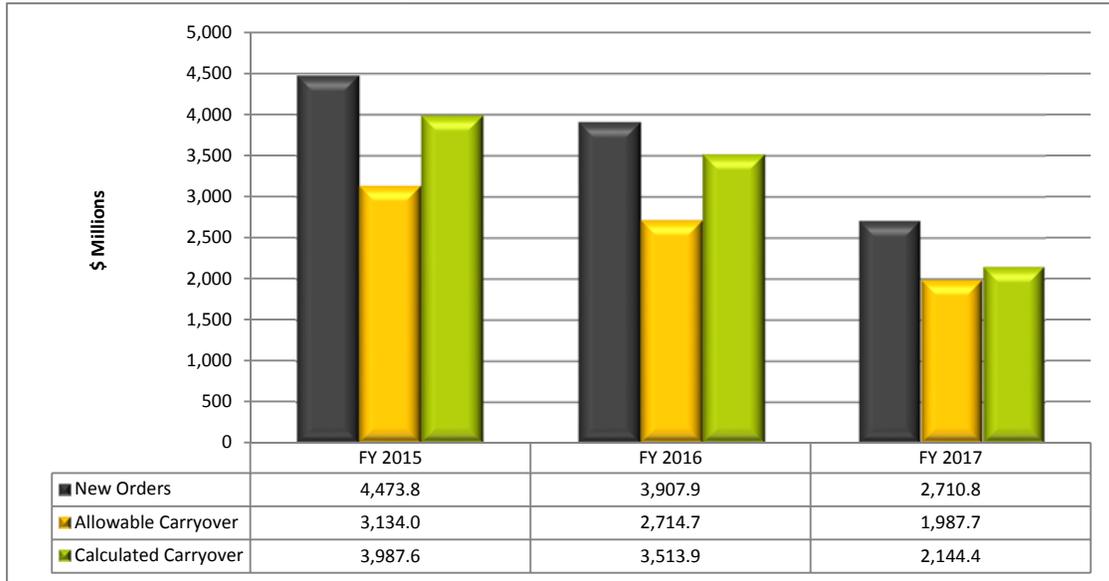
Army leadership is committed to monitoring carryover and production goals on a recurring basis through senior leader forums such as weekly Organic Industrial Base Reviews and quarterly Organic Industrial Base Corporate Boards. The Army plans to reduce carryover by \$600.9 million in FY 2016 and \$1,465.9 million in FY 2017. Carryover is displayed on Exhibit Fund 11, *Source of New Orders and Revenue*, and Exhibit Fund 11a, *Carryover Reconciliation*.

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<sup>6</sup> U.S. Government Accountability Office, *Army Industrial Operations: Budgeting and Management of Carryover Could Be Improved*, GAO-13-499 (Washington, DC, 2013).



Chart IO 6 - New Orders and Carryover



Note: Carryover amounts displayed account for carryover exclusions.

## Performance Measurements

Performance measurements and goals for the Industrial Operations activity group include Recoverable Net Operating Result (NOR) and Productive Yield. FY 2015 actual results and projections for FY 2016 and FY 2017 are shown in the following table.

Table IO 3 - Performance Measurements

Measurements/Goals	FY 2015	FY 2016	FY 2017
Recoverable Net Operating Result	(47.5)	85.0	(169.9)
Productive Yield	1,514	1,571	1,604

The customer rates in the budget return prior year gains, as reflected by the negative NOR, and also preserves \$299.8 million of Accumulated Operating Result (AOR) for future rate stabilization.

Productive Yield represents the average number of regular direct labor hours for each full time equivalent position involved in production and is an indicator of whether direct labor employees can support projected workload. The historical goal for productive yield has been 1,615 direct labor hours per work position and represents total available work hours after holidays, leave, and training are removed. However, the 1,615 hours should be multiplied by a 95 percent availability factor to account for facility and equipment non-availability due to reasons such as calibration, maintenance, utility failure, adverse weather, and equipment installation or rearrangement (per DOD 4151.18-H, *Depot*



*Maintenance Capacity and Utilization Measurement Handbook*). Once this factor is applied, the goal is reduced to 1,534 productive labor hours per employee. The productive yield for FY 2015 was slightly lower than planned but projections for FY 2016 and FY 2017 are within expected parameters.

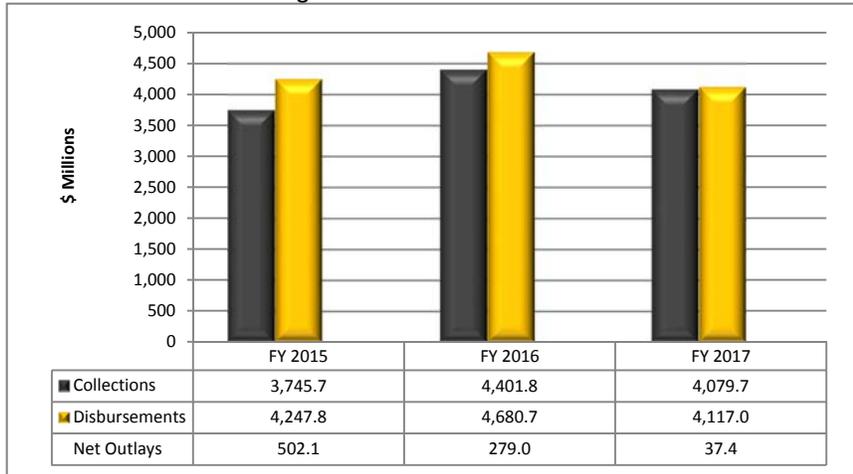
## Appropriations

The Industrial Operations (IO) activity received Direct Appropriations of \$225.0 million and \$145.0 million during FY 2015 and FY2016 respectively, to maintain competitive rates at the Army’s arsenals.

## Collections, Disbursements, and Outlays

Collections are calculated based on projected revenue and changes in accounts receivable. Disbursements are projected based on monthly operating expenses, changes in accounts payable, and Capital Investment Program obligations. Net outlays reflect the

Chart IO 7 - Cash Management



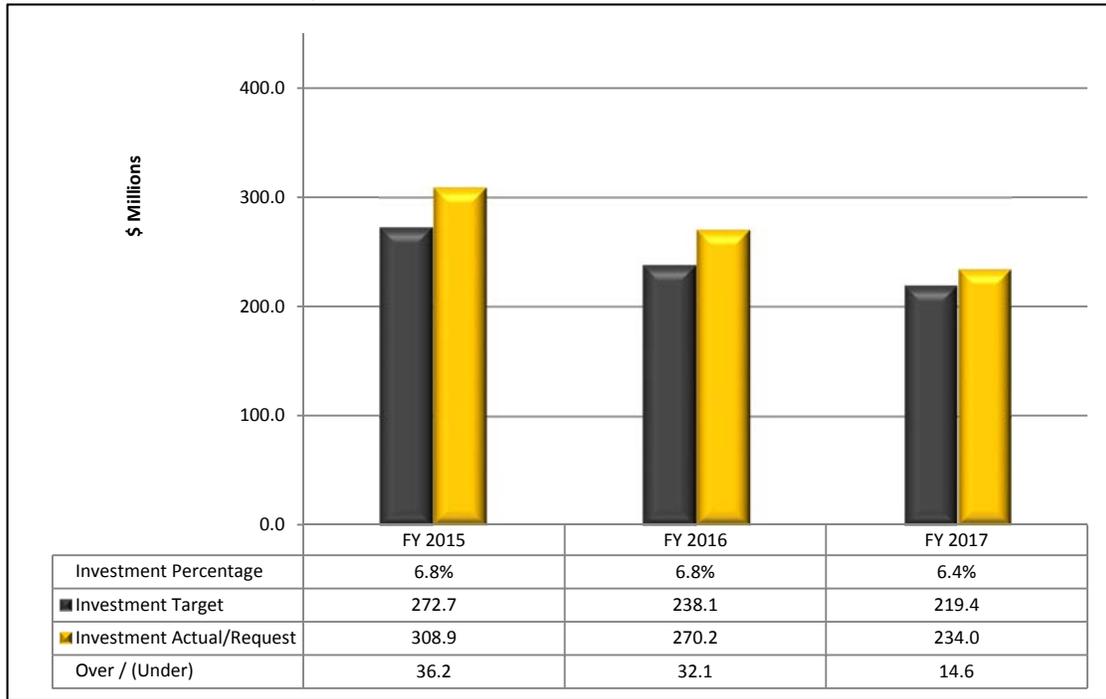
return of accumulated operating result to customers. Beginning in FY 2016, collections and disbursements between the Industrial Operations and Supply Management activity groups will process for all internal work performed.

## Minimum Capital Investment for Certain Depots and Arsenals

The National Defense Authorization Acts for FY 2007, FY 2009, and FY 2012 require the five Army maintenance depots (Anniston, Red River, Letterkenny, Tobyhanna, and Corpus Christi), the three arsenals (Rock Island, Pine Bluff, and Watervliet) and Tooele Army Depot to invest the equivalent of at least 6 percent of funded workload.



Chart IO-8 – Minimum Capital Investment



The chart displays the total investment target and total investment amount planned. Since the minimum capital investment became law, the Army has invested over \$2.9 billion, representing an average of 6.9 percent of revenue spent on capabilities and infrastructure. Industrial Operations (IO) activities review future production and infrastructure requirements and project return on investment when developing capital budgets. With the expected decrease in workload, investments tied to high revenue producing years are creating a challenge to achieve the minimum. The Army is committed to investing 6 percent in each year. Exhibit Fund 6, *Depot Maintenance 6% Capital Investment* provides investment details by category for each activity.



**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Revenue and Costs  
(\$ in Millions)**

	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
<b>Revenue</b>			
Gross Sales:	4,528.5	4,401.8	4,079.7
Operations	4,301.0	4,202.2	3,886.5
Depreciation excluding Major Construction	227.5	199.5	193.2
Other Income (DWCF Direct Appropriation)	225.0	145.0	0.0
Other Income (Misc Gains/losses)	1.4	0.0	0.0
Other Income (Other)	2.3	0.0	0.0
<b>Total Income:</b>	<b>4,757.2</b>	<b>4,546.8</b>	<b>4,079.7</b>
<b>Costs</b>			
Salaries and Wages:	1,767.6	1,718.8	1,676.8
Military Personnel Compensation & Benefits	2.8	3.2	3.3
Civilian Personnel Compensation & Benefits	1,764.8	1,715.7	1,673.5
Travel & Transportation of Personnel	29.0	29.0	28.1
Materials & Supplies (For Internal Operations)	1,945.0	1,741.7	1,503.9
Equipment	65.7	71.3	59.9
Other Purchases from Revolving Funds	119.8	108.0	109.9
Transportation of Things	8.1	8.3	8.6
Depreciation	227.5	199.5	193.2
Printing and Reproduction	1.8	1.3	1.3
Advisory and Assistance Services	59.0	95.7	90.2
Rent, Communication, Utilities, & Misc. Charges	97.6	107.2	107.8
Other Purchased Services	746.1	776.7	516.5
<b>Total Costs:</b>	<b>5,067.3</b>	<b>4,857.5</b>	<b>4,296.4</b>
<b>Operating Result</b>	<b>(310.0)</b>	<b>(310.7)</b>	<b>(216.7)</b>
Other Changes Affecting NOR:	262.5	395.7	46.8
Non-Recoverable Expenses (Unfunded Costs)	88.8	49.0	46.8
Non-Recoverable Expenses (Inventory Losses)	18.6	161.9	0.0
Non-Recoverable Expenses (FRM)	155.0	184.8	0.0
<b>Recoverable Net Operating Result</b>	<b>(47.5)</b>	<b>85.0</b>	<b>(169.9)</b>
Other Changes Affecting AOR			
a. AOR Beginning of Year (Unadjusted)	432.3	384.7	469.7
b. +/- Prior Year Adjustments			
c. Equals AOR BOY (Adjusted)	432.3	384.7	469.7
d. +/- Net Operating Result	(47.5)	85.0	(169.9)
e. Deferred AOR	0.0	0.0	(299.8)
f. Equals Recoverable AOR EOP	384.7	469.7	0.0

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Source of New Orders and Revenue  
(\$ in Millions)**

	FY 2015	FY 2016	FY 2017
<b>1. New Orders</b>			
a. Orders from DoD Components:			
Department of Army			
Operations & Maintenance, Army	1,774.3	1,852.6	1,022.8
Operations & Maintenance, ARNG	56.4	58.9	40.0
Operations & Maintenance, AR	32.3	48.3	52.0
Subtotal, O&M:	1,862.9	1,959.8	1,114.9
Aircraft Procurement	79.3	81.9	81.7
Missile Procurement	55.4	47.6	3.2
Weapons & Tracked Combat Vehicles	182.3	108.0	61.1
Procurement of Ammunition	159.6	139.1	177.0
Other Procurement	296.4	164.8	278.0
Subtotal, Procurement:	772.9	541.4	601.1
RDTE	20.2	6.4	16.7
BRAC	0.1	0.1	0.2
Family Housing	2.7	1.9	1.6
Military Construction	0.4	0.0	0.0
Chem Agents & Munitions Dest, Army	8.4	0.1	0.1
Other	0.3	0.5	0.5
Subtotal, Other Army:	32.1	9.0	19.1
Subtotal, Department of Army:	2,668.0	2,510.2	1,735.0
Department of Air Force O&M	102.6	72.8	69.0
Department of Air Force Investment	42.1	45.0	39.4
Department of Navy O&M	34.0	21.6	20.8
Department of Navy Investment	18.6	16.1	19.0
US Marines O&M	321.9	91.0	69.5
US Marines Investment	16.7	15.3	1.3
Other Department of Defense	79.3	89.7	75.6
Subtotal, Other DoD Services:	615.2	351.5	294.6

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Source of New Orders and Revenue  
(\$ in Millions)**

	FY 2015	FY 2016	FY 2017
b. DWCF:			
Industrial Operations, Army	25.5	17.7	17.9
Supply Management, Army	781.9	668.7	459.6
Supply Management, Air Force	35.8	36.8	38.4
Supply Management, Navy	45.7	49.0	35.4
Supply Management, Marine Corps	4.4	18.7	24.6
DECA	0.0	0.1	0.1
DFAS	0.3	0.3	0.3
DISA	1.4	2.4	2.4
DLA	54.3	23.7	25.4
TRANSCOM	0.1	0.1	0.2
Other			
Subtotal, DWCF:	949.5	817.4	604.3
c. Total DoD	4,232.7	3,679.0	2,633.9
d. Other Orders:			
Other Federal Agencies	38.4	0.8	4.1
Foreign Military Sales	151.4	170.7	27.2
Trust Fund	0.1	0.0	0.0
Nonappropriated	1.4	39.0	30.1
Non-Federal Agencies	49.7	18.3	15.4
Subtotal, Other Orders:	241.1	228.8	76.8
<b>Total New Orders:</b>	<b>4,473.8</b>	<b>3,907.9</b>	<b>2,710.8</b>
<b>2. Net Carry-in Orders</b>	<b>4,474.9</b>	<b>4,317.6</b>	<b>3,726.7</b>
<b>3. Total Gross Orders</b>	<b>8,948.7</b>	<b>8,225.5</b>	<b>6,437.5</b>
<b>4. Revenue (-)</b>	<b>4,528.5</b>	<b>4,401.8</b>	<b>4,079.7</b>
<b>5. Accounting Adjustments to Unfilled Orders (-)</b>	<b>(4.4)</b>	<b>0.0</b>	<b>0.0</b>
<b>6. FMS, BRAC, Other Federal, and Non-Federal orders (-)</b>	<b>247.8</b>	<b>309.1</b>	<b>213.4</b>
<b>Crash Damage</b>	<b>70.9</b>	<b>0.7</b>	<b>0.0</b>
<b>4th Qtr Other Service Wkld</b>	<b>118.4</b>	<b>0.0</b>	<b>0.0</b>
<b>7. Funded Carry-over</b>	<b>3,987.6</b>	<b>3,513.9</b>	<b>2,144.4</b>
<b>8. Allowable Carry-over</b>	<b>3,134.0</b>	<b>2,714.7</b>	<b>1,987.7</b>
<b>9. Over/(Under) Allowable Carry-over</b>	<b>853.6</b>	<b>799.2</b>	<b>156.7</b>

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Carryover Reconciliation  
(\$ in Millions)**

	FY 2015	FY 2016	FY 2017
1. Gross Carry-In	4,881.1	4,424.7	3,823.7
Adjustments to Prior Year Orders	(406.1)	(107.1)	(97.1)
Net Carry-In	4,474.9	4,317.6	3,726.7
2. Revenue (Gross Sales)	4,528.5	4,401.8	4,079.7
3. New Orders	4,473.8	3,907.9	2,710.8
4. Exclusions:			
FMS	151.4	170.7	27.2
BRAC	0.1	0.1	0.2
Other Federal Depts & Agencies	38.4	0.8	4.1
Non-Federal and Others	51.3	57.3	45.5
Crash Damage	24.3	0.0	0.0
4th Qtr Other Service Wkld	138.7	0.0	0.0
5. Orders for Carryover Calculation	4,069.6	3,678.9	2,633.8
2nd Yr Orders for Carryover Calculation	741.9	850.4	617.8
6. Weighted Composite Outlay Rate	33.1%	39.0%	37.4%
2nd Yr Weighted Composite Outlay Rate	44.7%	44.8%	45.3%
7. Carryover Rate	66.9%	61.0%	62.6%
2nd Yr Carryover Rate	55.3%	55.2%	54.7%
8. Allowable Carryover (1st Year Outlay Rate)	2,723.7	2,245.2	1,649.8
Prior Year 2nd Yr Outlay Rate	410.3	469.5	337.9
Total Allowable Carryover	3,134.0	2,714.7	1,987.7
9. Balance of Customer Orders at Year End	4,424.7	3,823.7	2,357.8
10. Exclusions:			
FMS	181.1	217.2	120.4
BRAC	0.1	0.1	0.1
Other Federal Depts & Agencies	39.1	37.0	38.2
Non-Federal and Others	27.5	54.8	54.6
Crash Damage	70.9	0.7	0.0
4th Qtr Other Service Wkld	118.4	0.0	0.0
11. Calculated Carryover	3,987.6	3,513.9	2,144.4

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Changes in the Cost of Operations  
(\$ in Millions)**

		<u>Costs</u>
<b>FY 2015 Actual</b>		<b>5,067.3</b>
<b>FY 2016 Estimate in President's Budget</b>		<b>4,636.8</b>
<b>Pricing Adjustments</b>		<b>(1,006.9)</b>
FY 2014 Pay Raise	(275.1)	
-Civilian Personnel	(274.6)	
-Military Personnel	(0.5)	
Materials and Supplies	(424.9)	
Other	(307.0)	
<b>Productivity Initiatives and Other Efficiencies</b>		
Lean Program	(7.2)	
Value Engineering Program	(2.5)	
Reinvestment of Lean savings (-)	9.7	
<b>Program Changes</b>		<b>1,227.6</b>
Labor	295.6	
Travel	12.2	
Material	528.6	
Equipment	21.4	
Transportation	1.5	
Depreciation	16.1	
Advisory and Assistance Services	(5.8)	
Other Purchased Services	356.8	
Other	1.2	
<b>FY 2016 Current Estimate</b>		<b>4,857.5</b>
<b>Pricing Adjustments</b>		<b>(7.5)</b>
FY 2015 Pay Raise	26.2	
-Civilian Personnel	26.2	
-Military Personnel	0.0	
Materials and Supplies	(56.7)	
Other	23.1	
<b>Productivity Initiatives and Other Efficiencies</b>		
Lean Program	(9.0)	
Value Engineering Program	(4.1)	
Reinvestment of Lean savings (-)	13.1	
<b>Program Changes</b>		<b>(553.7)</b>
Labor	(68.2)	
Travel	(1.4)	
Material	(181.0)	
Equipment	(12.5)	
Transportation	0.2	
Depreciation	(6.3)	
Advisory and Assistance Services	(7.2)	
Other Purchased Services	(274.6)	
Other	(2.6)	
<b>FY 2017 Budget Estimate</b>		<b>4,296.4</b>

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Material Inventory Data  
(\$ in Millions)**

FY 2015			
	<u>Total</u>	<u>Mobilization</u>	<u>Operating</u>
Material Inventory BOP	1,222.9		1,222.9
<u>Purchases</u>			
A. Purchases to Support Customer Orders (+)	1,537.5		1,537.5
B. Purchase of long lead items in advance of customer orders (+)	92.0		92.0
C. Other Purchases (list) (+)	1.4		1.4
D. Total Purchases	1,630.8		1,630.8
<u>Material Inventory Adjustments</u>			
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	1,415.4		1,415.4
B. Disposals, theft, losses due to damages (-)	161.9		161.9
C. Other reductions (list) (-)	123.0		123.0
D. IO to SMA Transfer	8.7		8.7
E. Total inventory adjustments	1,708.9		1,708.9
Material Inventory EOP	1,144.7		1,144.7
FY 2016			
	<u>Total</u>	<u>Mobilization</u>	<u>Operating</u>
Material Inventory BOP	1,144.7		1,144.7
<u>Purchases</u>			
A. Purchases to Support Customer Orders (+)	980.7		980.7
B. Purchase of long lead items in advance of customer orders (+)	60.4		60.4
C. Other Purchases (list) (+)	3.0		3.0
D. Total Purchases	1,044.1		1,044.1
<u>Material Inventory Adjustments</u>			
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	1,165.3		1,165.3
B. Disposals, theft, losses due to damages (-)	16.1		16.1
C. Other reductions (list) (-)	65.3		65.3
D. IO to SMA Transfer	1.0		1.0
E. Total inventory adjustments	1,247.7		1,247.7
Material Inventory EOP	941.1		941.1
FY 2017			
	<u>Total</u>	<u>Mobilization</u>	<u>Operating</u>
Material Inventory BOP	941.1		941.1
<u>Purchases</u>			
A. Purchases to Support Customer Orders (+)	943.9		943.9
B. Purchase of long lead items in advance of customer orders (+)	30.1		30.1
C. Other Purchases (list) (+)	2.9		2.9
D. Total Purchases	977.0		977.0
<u>Material Inventory Adjustments</u>			
A. Material Used in Maintenance (and billed/charged to customer orders) (-)	1,080.9		1,080.9
B. Disposals, theft, losses due to damages (-)	11.7		11.7
C. Other reductions (list) (-)	50.2		50.2
D. Total inventory adjustments	1,142.8		1,142.8
Material Inventory EOP	775.2		775.2

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimate  
Industrial Operations**

**Depot Maintenance 6% Capital Investment Plan  
(\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
<u>Anniston Army Depot</u>			
Average Revenue for Investment	652.6	608.3	577.7
WCF Capital Investment Program			
Facilities/Work Environment	0.0	0.0	0.0
Equipment Modernization	1.6	4.7	5.5
Processes	7.4	3.8	0.6
Capital Investment Program	8.9	8.6	6.1
Operating Funds Investments			
Facilities/Work Environment	37.2	9.0	2.9
Equipment Modernization	3.8	9.1	2.5
Processes	0.3	0.3	0.3
Total Operating Funds	41.3	18.4	5.8
Appropriated Funding			
MILCON	0.0	0.0	0.0
Procurement	0.0	0.0	0.0
Operations & Maintenance	0.1	0.8	0.0
Total Appropriated Funding	0.1	0.8	0.0
Actual/ Budgeted Investment	50.3	27.7	11.9
Required Investment	39.2	36.5	34.7
Investment Over / (Under) Required Amount	11.2	(8.8)	(22.8)
<u>Corpus Christi Army Depot</u>			
Average Revenue for Investment	1,242.1	1,027.5	942.1
WCF Capital Investment Program			
Facilities/Work Environment	0.0	0.0	0.0
Equipment Modernization	2.9	6.5	35.2
Processes	14.3	7.4	1.1
Capital Investment Program	17.1	13.9	36.3
Operating Funds Investments			
Facilities/Work Environment	15.9	18.0	20.5
Equipment Modernization	11.4	20.7	22.0
Processes	0.0	0.0	0.0
Total Operating Funds	27.4	38.7	42.5
Appropriated Funding			
MILCON	0.0	85.0	0.0
Procurement	0.0	0.0	0.0
Operations & Maintenance	0.0	0.0	0.0
Total Appropriated Funding	0.0	85.0	0.0
Actual/ Budgeted Investment	44.5	137.6	78.8
Required Investment	74.5	61.6	56.5
Investment Over / (Under) Required Amount	(30.0)	76.0	22.3

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimate  
Industrial Operations**

**Depot Maintenance 6% Capital Investment Plan  
(\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
<u>Letterkenny Army Depot</u>			
Average Revenue for Investment	599.1	572.8	529.8
WCF Capital Investment Program			
Facilities/Work Environment	1.3	0.0	0.0
Equipment Modernization	0.0	5.1	1.3
Processes	5.6	2.9	0.4
Capital Investment Program	6.8	8.0	1.7
Operating Funds Investments			
Facilities/Work Environment	19.0	1.7	14.2
Equipment Modernization	2.6	0.0	0.0
Processes	0.1	0.0	0.0
Total Operating Funds	21.7	1.7	14.2
Appropriated Funding			
MILCON	16.0	0.0	0.0
Procurement	0.0	0.0	0.0
Operations & Maintenance	0.0	0.0	0.0
Total Appropriated Funding	16.0	0.0	0.0
Actual/ Budgeted Investment	44.6	9.6	15.9
Required Investment	35.9	34.4	31.8
Investment Over / (Under) Required Amount	8.6	(24.8)	(15.8)
<u>Red River Army Depot</u>			
Average Revenue for Investment	888.3	784.1	729.5
WCF Capital Investment Program			
Facilities/Work Environment	0.0	0.7	0.0
Equipment Modernization	0.0	8.9	8.6
Processes	12.3	6.4	0.9
Capital Investment Program	12.3	16.0	9.6
Operating Funds Investments			
Facilities/Work Environment	29.1	18.0	7.6
Equipment Modernization	5.0	10.5	11.1
Processes	0.0	0.0	0.0
Total Operating Funds	34.1	28.5	18.7
Appropriated Funding			
MILCON	0.0	0.0	44.7
Procurement	0.4	1.2	0.0
Operations & Maintenance	1.4	0.0	0.0
Total Appropriated Funding	1.9	1.2	44.7
Actual/ Budgeted Investment	48.2	45.8	73.0
Required Investment	53.3	47.0	43.8
Investment Over / (Under) Required Amount	(5.1)	(1.3)	29.2

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimate  
Industrial Operations**

**Depot Maintenance 6% Capital Investment Plan  
(\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
<u>Tobyhanna Army Depot</u>			
Average Revenue for Investment	720.5	612.6	539.9
WCF Capital Investment Program			
Facilities/Work Environment	1.2	1.7	1.8
Equipment Modernization	0.5	0.9	1.7
Processes	8.0	4.1	0.6
Capital Investment Program	9.7	6.7	4.1
Operating Funds Investments			
Facilities/Work Environment	46.4	11.1	6.6
Equipment Modernization	5.4	5.1	5.4
Processes	0.3	0.3	0.3
Total Operating Funds	52.2	16.5	12.2
Appropriated Funding			
MILCON	0.0	0.0	0.8
Procurement	3.3	3.0	0.0
Operations & Maintenance	2.0	0.4	0.0
Total Appropriated Funding	5.3	3.4	0.8
Actual/ Budgeted Investment	67.2	26.6	17.2
Required Investment	43.2	36.8	32.4
Investment Over / (Under) Required Amount	23.9	(10.1)	(15.2)
<u>Pine Bluff Arsenal</u>			
Average Revenue for Investment	119.0	99.5	96.0
WCF Capital Investment Program			
Facilities/Work Environment	0.0	0.0	0.0
Equipment Modernization	0.0	0.7	1.1
Processes	1.4	0.7	0.1
Capital Investment Program	1.4	1.4	1.2
Operating Funds Investments			
Facilities/Work Environment	8.6	0.3	0.3
Equipment Modernization	3.2	3.5	2.4
Processes	0.0	0.0	0.0
Total Operating Funds	11.9	3.8	2.7
Appropriated Funding			
MILCON	0.0	0.0	0.0
Procurement	0.0	0.0	0.0
Operations & Maintenance	1.2	0.2	0.0
Total Appropriated Funding	1.2	0.2	0.0
Actual/ Budgeted Investment	14.4	5.4	3.9
Required Investment	7.1	6.0	5.8
Investment Over / (Under) Required Amount	7.3	(0.6)	(1.8)

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimate  
Industrial Operations**

**Depot Maintenance 6% Capital Investment Plan  
(\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
<u>Rock Island Arsenal</u>			
Average Revenue for Investment	180.9	131.0	118.4
WCF Capital Investment Program			
Facilities/Work Environment	0.0	0.0	0.0
Equipment Modernization	0.0	0.0	0.0
Processes	4.1	2.1	0.3
Capital Investment Program	4.1	2.1	0.3
Operating Funds Investments			
Facilities/Work Environment	0.7	1.0	1.4
Equipment Modernization	1.0	3.3	3.0
Processes	0.0	0.0	0.0
Total Operating Funds	1.8	4.3	4.4
Appropriated Funding			
MILCON	0.0	0.0	0.0
Procurement	0.0	0.0	0.0
Operations & Maintenance	0.0	0.0	0.0
Total Appropriated Funding	0.0	0.0	0.0
Actual/ Budgeted Investment	5.9	6.4	4.7
Required Investment	10.9	7.9	7.1
Investment Over / (Under) Required Amount	(5.0)	(1.5)	(2.4)
<u>Watervliet Arsenal</u>			
Average Revenue for Investment	83.3	73.5	67.0
WCF Capital Investment Program			
Facilities/Work Environment	0.5	1.7	3.8
Equipment Modernization	1.0	0.0	3.9
Processes	0.9	0.5	0.1
Capital Investment Program	2.4	2.2	7.8
Operating Funds Investments			
Facilities/Work Environment	16.5	2.6	3.0
Equipment Modernization	0.0	0.0	0.0
Processes	0.0	0.0	0.0
Total Operating Funds	16.5	2.6	3.0
Appropriated Funding			
MILCON	0.0	0.0	0.0
Procurement	0.0	2.5	0.0
Operations & Maintenance	0.0	0.8	0.0
Total Appropriated Funding	0.0	3.3	0.0
Actual/ Budgeted Investment	18.8	8.1	10.8
Required Investment	5.0	4.4	4.0
Investment Over / (Under) Required Amount	13.8	3.7	6.8

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimate  
Industrial Operations**

**Depot Maintenance 6% Capital Investment Plan  
(\$ in Millions)**

	<u>FY 2015</u>	<u>FY 2016</u>	<u>FY 2017</u>
<b>Tooele Army Depot</b>			
Average Revenue for Investment	58.9	58.6	56.6
<b>WCF Capital Investment Program</b>			
Facilities/Work Environment	0.7	0.0	0.0
Equipment Modernization	0.0	1.2	0.0
Processes	1.2	0.3	0.0
Capital Investment Program	1.9	1.5	0.0
<b>Operating Funds Investments</b>			
Facilities/Work Environment	12.1	0.2	0.1
Equipment Modernization	0.2	1.0	0.7
Processes	0.0	0.0	0.0
Total Operating Funds	12.3	1.2	0.8
<b>Appropriated Funding</b>			
MILCON	0.0	0.0	17.0
Procurement	0.2	0.0	0.0
Operations & Maintenance	0.6	0.4	0.0
Total Appropriated Funding	0.8	0.4	17.0
Actual/ Budgeted Investment	15.0	3.0	17.8
Required Investment	3.5	3.5	3.4
Investment Over / (Under) Required Amount	11.4	(0.5)	14.4
<b>Total Army</b>			
Average Revenue for Investment	4,544.7	3,967.9	3,657.1
<b>WCF Capital Investment Program</b>			
Facilities/Work Environment	3.7	4.2	5.6
Equipment Modernization	5.9	27.9	57.4
Processes	55.0	28.3	4.2
Capital Investment Program	64.6	60.4	67.2
<b>Operating Funds Investments</b>			
Facilities/Work Environment	185.7	61.7	56.6
Equipment Modernization	32.7	53.3	47.1
Processes	0.7	0.6	0.6
Total Operating Funds	219.1	115.7	104.3
<b>Appropriated Funding</b>			
MILCON	16.0	85.0	62.5
Procurement	3.9	6.7	0.0
Operations & Maintenance	5.3	2.4	0.0
Total Appropriated Funding	25.2	94.1	62.5
Actual/ Budgeted Investment	308.9	270.2	234.0
Required Investment	272.7	238.1	219.4
Investment Over / (Under) Required Amount	36.2	32.1	14.6
Investment Percentage	6.8%	6.8%	6.4%

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Fuel data**

<b>FY 2015</b>			
	<b>FUEL PROCUREMENT</b>		
<b>PRODUCT</b>	<b>BARRELS (millions)</b>	<b>COST PER BARREL (\$)</b>	<b>EXTENDED PRICE (\$ millions)</b>
JP-5	0.000	\$152.88	0.1
DIESEL	0.034	\$136.50	4.7
MOGAS Unleaded	0.007	\$148.26	1.1
JP-8	0.012	\$152.04	1.9
Distillate Heating	0.002	\$151.62	0.3
Burner Fuel	0.006	\$96.18	0.6
Propane (MLP)	0.013	\$43.68	0.6
Diesel Heating Fuel	0.005	\$148.26	0.7
Natural Gas (CNG)	0.229	\$5.88	1.3
Other (list)	0.000	\$95.34	0.0
<b>TOTAL</b>			<b>11.2</b>

<b>FY 2016</b>			
	<b>FUEL PROCUREMENT</b>		
<b>PRODUCT</b>	<b>BARRELS (millions)</b>	<b>COST PER BARREL (\$)</b>	<b>EXTENDED PRICE (\$ millions)</b>
GASOHOL	0.005	\$113.40	0.5
DIESEL	0.055	\$98.28	5.4
MOGAS Unleaded	0.008	\$107.10	0.8
JP-8	0.009	\$109.62	1.0
Distillate Heating	0.003	\$110.46	0.3
Burner Fuel	0.007	\$107.10	0.8
Propane (MLP)	0.008	\$43.68	0.3
Diesel Heating Fuel	0.003	\$109.62	0.3
Natural Gas (CNG)	0.366	\$5.88	2.2
Other (list)	0.000	\$95.34	0.0
<b>TOTAL</b>			<b>11.5</b>

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Fuel data**

FY 2017			
FUEL PROCUREMENT			
PRODUCT	BARRELS (millions)	COST PER BARREL (\$)	EXTENDED PRICE (\$ millions)
GASOHOL	0.005	\$108.36	0.5
DIESEL	0.051	\$94.50	4.8
MOGAS Unleaded	0.008	\$102.48	0.9
JP-8	0.009	\$106.26	1.0
Distillate Heating	0.003	\$105.84	0.3
Burner Fuel	0.007	\$102.48	0.7
Propane (MLP)	0.007	\$43.68	0.3
Diesel Heating Fuel	0.003	\$105.00	0.3
Natural Gas (CNG)	0.368	\$5.88	2.2
Other (list)	0.000	\$95.34	0.0
<b>TOTAL</b>			<b>10.9</b>

# Capital Budget

## Introduction

The primary goal of the Capital Investment Program (CIP) within the AWCF is to establish a capability for reinvestment in the infrastructure of business areas to improve product and service quality and timeliness, reduce costs, and foster state-of-the-art business operations. The CIP provides the framework for planning, coordinating, and controlling AWCF resources and expenditures to obtain capital assets. Included in the capital budget are the following types of assets: automated data processing equipment (ADPE); non-ADPE equipment; automated data processing software, whether internally or externally developed; and minor construction. The capital budget justifies the purchase of assets with a unit cost that is greater than or equal to \$250,000 and have a useful life of two or more years.

Headquarters, Army Materiel Command conducts a thorough vetting process to ensure capital projects deliver a positive return on investment and comply with strategic plans for each industrial facility. Capital projects within the Industrial Operations enterprise focus primarily on replacing and upgrading equipment, while the Supply Management enterprise focuses solely on software development in support of the Logistics Modernization Program.

Capital budget obligation authority is displayed on the following exhibits: Fund 9a, *Capital Investment Summary*; Fund 9b, *Capital Purchase Justification*; and Fund 9c, *Capital Budget Execution*.

The following table shows the Supply Management capital budget and associated cash outlays.

Table CIP 1- Supply Management Capital Budget

(\$ Millions)	FY 2015	FY 2016	FY 2017
Software	45.6	44.2	14.8
<i>Capital Cash Outlays</i>	48.6	44.7	25.1



The following table shows categories and respective values of the Industrial Operations capital budget and the projected capital cash outlays.

Table CIP 2 - Industrial Operations Capital Budget

<b>(\$ Millions)</b>	<b>FY 2015</b>	<b>FY 2016</b>	<b>FY 2017</b>
Equipment	9.8	36.1	67.6
ADPE & Telecommunications	0.5	0.7	0.8
Software	63.5	33.0	4.8
Minor Construction	8.3	15.2	15.5
Total	82.1	84.9	88.7
<i>Capital Cash Outlays</i>	<i>109.9</i>	<i>121.5</i>	<i>77.5</i>



**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Mangement**

**Capital Investment Summary  
(\$ in Millions)**

Line No.	Item Description	FY 2015		FY 2016		FY 2017	
		Quantity	Total Cost	Quantity	Total Cost	Quantity	Total Cost
	<b>Software Development - Externally Developed</b>	<b>2</b>	<b>45.586</b>	<b>3</b>	<b>44.177</b>	<b>2</b>	<b>14.815</b>
00-02	Logistics Modernization Program (LMP) Total	2	45.586	2	37.677	1	11.315
	-LMP Increment 1	1	14.773	1	14.699	1	11.315
	-LMP Increment 2	1	30.813	1	22.978		0.000
16-01	Army Price & Credit Tool		0.000	1	6.500	1	3.500
	<b>Total Obligations*</b>		<b>45.586</b>		<b>44.177</b>		<b>14.815</b>
	<i>Total Capital Outlays</i>		48.643		44.670		25.092
	<i>Total Depreciation Expense</i>		19.975		45.312		42.558

\* Note: FY 2015 total of \$45.586M includes a decrease of \$3M (LMP Increment 2) reprogramming action to IO.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates**

**Supply Management  
Capital Purchase Justification  
(\$ in Millions)**

Line No. 00-02	Software Development - Externally Developed		
Supply Management	Logistics Modernization Program (LMP)		
Item Description	FY 2015	FY 2016	FY 2017
<i>Logistics Modernization Program Increment 1</i>	14.773	14.699	11.315
<i>Logistics Modernization Program Increment 2</i>	30.813	22.978	0.000
<b>Total</b>	<b>45.586</b>	<b>37.677</b>	<b>11.315</b>

***Narrative Justification***

**INCREMENT 1:** LMP continues to require enhancements to maintain superior supply chain functionality, supporting National Level Logistics. LMP was fully fielded in October 2010 and is currently used by approximately 21,000 users at more than 50 Army locations worldwide, but is not yet fully integrated into overarching Army transformation efforts or extended into shop floor control activities. LMP is an enabler for the Army to achieve its commitment to having fully auditable AWCF financial statements. LMP continues to enhance the Enterprise Resource Planning (ERP) solution to achieve and meet compliance requirements and trading partner requirements seamlessly. Under the Office of the Secretary of Defense for Acquisition, Technology, and Logistics Acquisition Decision Memorandum effective 28 Dec 2011, LMP Increment 1 is in sustainment. Sustainment tasks include technical upgrades, minor enhancements, compliance, auditability, and transition of services to new service providers. All applicable laws and regulations are followed to identify the appropriate color of money for these tasks.

Failure to fund LMP would prohibit AMC functional requirements from improving operations and put continuing financial compliance at risk. Without further funding, LMP will not be in compliance with Secretary of Defense directive and may not be able to meet the all Federal, DOD, and Army milestones being developed in the Army Standard Line of Accounting implementation plan.

In FY 2005, a Business Case Analysis was completed for LMP Increment 1; an updated Economic Analysis was completed and validated by the Office of the Deputy Assistant Secretary of the Army-Cost and Economics June 2008.

**INCREMENT 2:** LMP supports national logistics mission areas such as item management, depot maintenance, reset, recap, ammunition management, and serves as the Army Working Capital Fund (AWCF) general ledger. Under acquisition framework, LMP Increment 2 will be delivered in three waves, supported by an Initial Operational Test & Evaluation. Development activities in FY 2015 included completing testing activities, a limited fielding release into production for the final wave capabilities of the National Maintenance Program, Ammunition Automatic Identification Technology integration, and Expanded Industrial Base. Funding Increment 2 in FY 2016 will support the delivery and operational testing for the Army's critical requirements pertaining to shop floor automation, specific strategic business transformation goals of the Army (e.g., equipment master), and specific directives of DOD (e.g., item unique identification (IUD)). It is essential that Increment 1 be expanded to address industrial base execution, ammunition management, Non-Army managed items (NAMI) modernization, Army Prepositioned Stock (APS) modernization for secondary items, National Maintenance Program (NMP), and ERP integration to fully enable end-to-end supply chain visibility and achieve integration of AMC mission operations. These releases will cover 17 locations and an additional 14,000 users along with all of the supporting acquisition documentation to support Milestone C, limited fielding decisions, and the full deployment decision.

Failure to fund this would delay functionality and extend the need for over 15 legacy systems to be maintained.

In accordance with the acquisition framework, an Economic Analysis was completed in August 2013.

Full Deployment Capability Date: September 2016 (Increment 2 only)

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates**

**Supply Management  
Capital Purchase Justification  
(\$ in Millions)**

Line No. 16-01	Software Development - Externally Developed		
Supply Management	Army Price & Credit Tool		
Item Description	FY 2015	FY 2016	FY 2017
<i>Army Price &amp; Credit Tool</i>	0.000	6.500	3.500
<b>Total</b>	<b>0.000</b>	<b>6.500</b>	<b>3.500</b>

***Narrative Justification***

The Army Price & Credit Tool (APACT) will consolidate and establish an AMC owned process currently performed by contractors. AMC does not own pricing database for 110,000 National Item Identification Numbers (NIINs) which require yearly price review and potential monthly updates. The Life Cycle Management Centers (LCMCs) have developed their own internal processes for reviewing and identifying price changes related to NIIN demand requirements for repair and replenishment. LCMC processes are not standardized nor adequately capture all required costing data for inclusion into budgets supporting Army customers for OPTEMPO pricing.

A re-engineered business process integrated into the Army ERP systems to support the price and credit process at AMC LCMCs, HQ AMC, and HQ Department of the Army. Reduction in support contract requirements, error rates and the associated man-hours for corrective actions, and establish a single repository for historical price data for Army managed items.

Failure to fund APACT would continue a manually intensive, non-integrated, and error-prone process in the Army for determining the price and credit for secondary items.

Economic Analysis is In the process of being developed.

Full deployment capability date FY 2018.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Supply Management**

**Capital Budget Execution  
(\$ in Millions)**

FY	Major Category	Initial Request	Current Projected Cost	Approved Change	Explanation
<b>2015</b>	Software Development				
	Logistics Modernization Program (LMP)	48.586	45.586	<b>(3.000)</b>	Reprogramming from LMP Increment 2 SMA to IO.
	Enterprise Master Data Challenge System (EMDCS)	1.000	0.000	<b>(1.000)</b>	Obligation was not recorded in the financial system prior to fiscal year end.
	<b>Total FY 2015</b>	<b>49.586</b>	<b>45.586</b>	<b>(4.000)</b>	
<b>2016</b>	Software Development	33.874	44.177	3.803	Increase to FY 2016 Initial Request
	<b>Total FY 2016</b>	<b>33.874</b>	<b>44.177</b>	<b>3.803</b>	
<b>2017</b>	Software Development	14.815	14.815	0.000	Initial Request
	<b>Total FY 2017</b>	<b>14.815</b>	<b>14.815</b>	<b>0.000</b>	

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Investment Summary  
(\$ in Millions)**

Line No.	Item Description	FY 2015		FY 2016		FY 2017	
		QTY	Total Cost	QTY	Total Cost	QTY	Total Cost
05-13	<b>Non-ADPE Equipment</b>	<b>9</b>	<b>9.857</b>	<b>21</b>	<b>36.093</b>	<b>16</b>	<b>67.597</b>
	-Replacement	6	7.063	11	14.980	9	19.768
	-Productivity	3	2.794	10	21.113	7	47.829
	<b>ADPE &amp; Telecommunications Equipment</b>	<b>1</b>	<b>0.503</b>	<b>1</b>	<b>0.658</b>	<b>1</b>	<b>0.792</b>
15-01	-Virtual Desktop Infrastructure	1	0.503		0.000		0.000
16-01	-Telephone Switch & Voicemail System Upgrade		0.000	1	0.658		0.000
16-02	-10 Gigabyte Installation Campus Area Network (ICAN) Upgrade		0.000		0.000	1	0.792
	<b>Software Development - Externally Developed</b>	<b>2</b>	<b>63.460</b>	<b>2</b>	<b>32.964</b>	<b>1</b>	<b>4.849</b>
00-02	Logistics Modernization Program (LMP) Total		<b>63.460</b>		<b>32.964</b>		<b>4.849</b>
	-LMP Increment 1	1	6.331	1	6.300	1	4.849
	-LMP Increment 2	1	57.129	1	26.664		0.000
05-26	<b>Minor Construction</b>	<b>15</b>	<b>8.290</b>	<b>15</b>	<b>15.155</b>	<b>14</b>	<b>15.497</b>
	-Replacement	15	8.290	11	10.507	13	14.512
	-New Construction	0	0.000	4	4.648	1	0.985
	<b>Total Obligations*</b>	<b>27</b>	<b>82.110</b>	<b>39</b>	<b>84.870</b>	<b>32</b>	<b>88.735</b>
	Total Capital Outlays		109.895		121.456		77.453
	Total Depreciation Expense		149.817		150.484		146.422

\*Note: FY 2015 total of \$82.110M includes the following: FY 2012 Non-ADP Equipment reprogramming (\$0.873M); FY 2013 Non-ADP Equipment reprogramming (\$0.189M); FY 2014 Non-ADP Equipment reprogramming (\$0.304M and Minor Construction reprogramming (\$0.015M).

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Purchase Justification  
(\$ in Millions)**

<b>Line No. 05-13 Industrial Operations</b>	<b>Non - ADPE Equipment Capabilities Various Capital Equipment</b>		
Item Description	FY 2015	FY 2016	FY 2017
Various Capital Equipment - <i>Replacement</i>	7.063	14.980	19.768
Various Capital Equipment - <i>Productivity</i>	2.794	21.113	47.829
<b>Total</b>	<b>9.857</b>	<b>36.093</b>	<b>67.597</b>

***Narrative Justification***

This exhibit represents equipment purchases costing more than \$250K, which will improve the installations' efficiency through replacement, modification or addition of production and maintenance capability and compliance with new mission requirements. Equipment supports organic maintenance, overhaul, rebuild, reclamation, conversion, renovation, modification and repair programs.

Acquisition of this equipment improves productivity; increases capacity that cannot be met with current equipment; replaces unsafe, inoperable or unusable assets; and includes requirements for environmentally hazardous waste reduction or regulatory agency mandated requirements. This new equipment increases reliability and productivity, thus enabling the installation to be more efficient.

If not acquired, the impact would be reduced mission capability, cause failure to meet present and future workload requirements, increase man-hour expenditures, cause inability to meet production schedules, lead to excessive downtime, increase maintenance costs, and decrease accuracy and dependability.

Economic Analyses have been performed on individual projects when required and are available upon request.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Purchase Justification  
(\$ in Millions)**

<b>Line No. 16-01 Industrial Operations</b>	<b>ADPE and Telecommunications Telephone Switch &amp; Voicemail System Upgrade</b>		
Item Description	FY 2015	FY 2016	FY 2017
<i>Telephone Switch &amp; Voicemail System Upgrade</i>	0.000	0.658	0.000
<b>Total</b>	<b>0.000</b>	<b>0.658</b>	<b>0.000</b>

***Narrative Justification***

The mission of the Directorate of Information Management (DOIM) is to keep all communications equipment up and ready. By keeping the telephone system maintained, this will assist all other missions on Pine Bluff Arsenal (PBA) (keep all lines of communication open so that people can perform their job duties).

The current telephone system software is called Communication Manager Version 2.1 and is running on two servers. The current system is built with 35,300 right-to-use licenses (the number of telephone numbers and/or extensions that can be used in this system). Each telephone is connected via a two-pair wire to an Expansion Port Network (EPN). An EPN cabinet is a device that has slots that house cards. The cards, typically, can have up to twenty-four telephones connected to them. The EPN cabinets are located in remote buildings at the Pine Bluff Arsenal. Each EPN connects back to the main switch in a central location via single-mode fiber. The EPNs communicate with the main, center-stage switch through a protocol called time-division multiplexing (TDM). There are currently 1,390 telephone extensions, and approximately 669 PBA (as of January 2016) employees that use these phone extensions, including security personnel and firefighters. In April-May 2013 the telephone switch system was down approximately six times for a total of 30 minutes, and no personnel could make phone calls. Maintenance personnel could not identify the problem and suggested an upgrade of the system's software and hardware. The last upgrade to the telephone switch and voicemail system software was May 2010. Recently, ARCYBER and USCYBERCOM identified a vulnerability on the voicemail server of the existing telephone switch. Upon researching the vulnerability, PBA attempted to locate the patch to mitigate the vulnerability but was unsuccessful. The manufacturer confirmed there is no upgrade path available to get the existing voicemail server upgraded to a supported operating system with an available patch. The telephone system has experienced three additional outages between October 2013 and October 2014.

With the purchase of this equipment, new software will be compatible with the telephone switch providing the latest security patches to eliminate existing security vulnerabilities identified by ARCYBER and USCYBERCOM. PBA personnel will be able to accomplish daily tasks without needed repairs due to the outdated system hardware. With this upgrade, replacement parts will be available if maintenance is needed, reducing system downtime. Safety concerns will be alleviated with a reliable telephone system needed for emergency notification of the arsenal's security personnel and firefighters where instant and reliable communication is critical.

Failure to fund this project leaves PBA using a telephone system that is unreliable, insecure, and increases risk to personnel safety. The security vulnerability of the telephone system cannot be without a system upgrade; the primary reason for this is not being able to have the updated patches. Troubleshooting problems causes an issue with trying to secure maintenance service and receive refurbished parts.

An economic analysis has been performed and is available upon request.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Purchase Justification  
(\$ in Millions)**

<b>Line No. 16-02</b>	<b>ADPE and Telecommunications Equipment</b>		
<b>Industrial Operations</b>	<b>10 Gigabyte Installation Campus Area Network (ICAN) Upgrade</b>		
Item Description	FY 2015	FY 2016	FY 2017
<i>10 Gigabyte Installation Campus Area Network (ICAN) Upgrade</i>	0.000	0.000	0.792
<b>Total</b>	<b>0.000</b>	<b>0.000</b>	<b>0.792</b>

***Narrative Justification***

The networking equipment (switches, routers) used to support the Installation Campus Area Network (ICAN) at McAlester Army Ammunition Plant (MCAAP) is rated to support a 1Gb/s network. The Defense Information Systems Agency (DISA) currently supplies MCAAP a 45Mb transmission path for all network data traffic. Approximately 500 network users who rely on the network to perform their daily duties experience data processing delays because of the inadequate network transmission path. The goal of the project is to eliminate this non-productive labor and upgrade MCAAP's network infrastructure to handle additional bandwidth. During normal business hours, most available bandwidth is used because of network based applications and programs. Additional network traffic will push bandwidth consumption well over the available amount because of transition to Internet Protocol (IP) based voice and VTC systems, along with the implementation of LMP Increment 2. Each user loses an average of five minutes each day waiting for network based programs to process data. Additional bandwidth from DISA is needed to address this problem, but MCAAP's current equipment will not handle the extra load.

The preferred alternative is to upgrade existing networking equipment to handle additional bandwidth. This eliminates processing delays due to network saturation and meets goals of LandWarNet 2020 and beyond.

Failure to fund this would leave MCAAP with inadequate bandwidth to handle network needs. Network users will continue to experience processing delays. Without funding, there is risk of network equipment becoming obsolete or non-compliant.

An economic analysis has been performed and is available upon request.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Purchase Justification  
(\$ in Millions)**

<b>Line No. 00-02 Industrial Operations</b>	<b>Software Development - Externally Developed Logistics Modernization Program (LMP)</b>		
Item Description	FY 2015	FY 2016	FY 2017
<i>Logistics Modernization Program Increment 1</i>	6.331	6.300	4.849
<i>Logistics Modernization Program Increment 2</i>	57.129	26.664	0.000
<b>Total</b>	<b>63.460</b>	<b>32.964</b>	<b>4.849</b>

***Narrative Justification***

**INCREMENT 1:** LMP continues to require enhancements to maintain superior supply chain functionality, supporting National Level Logistics. LMP was fully fielded in October 2010 and is currently used by approximately 21,000 users at more than 50 Army locations worldwide, but is not yet fully integrated into overarching Army transformation efforts or extended into shop floor control activities. LMP is an enabler for the Army to achieve its commitment to having fully auditable AWCF financial statements. LMP continues to enhance the Enterprise Resource Planning (ERP) solution to achieve and meet compliance requirements and trading partner requirements seamlessly. Under the Office of the Secretary of Defense for Acquisition, Technology, and Logistics Acquisition Decision Memorandum effective 28 Dec 2011, LMP Increment 1 is in sustainment. Sustainment tasks include technical upgrades, minor enhancements, compliance, auditability, and transition of services to new service providers. All applicable laws and regulations are followed to identify the appropriate color of money for these tasks.

Failure to fund LMP would prohibit AMC functional requirements from improving operations and put continuing financial compliance at risk. Without further funding, LMP will not be in compliance with Secretary of Defense directive and may not be able to meet the all Federal, DOD, and Army milestones being developed in the Army Standard Line of Accounting implementation plan.

In FY 2005, a Business Case Analysis was completed for LMP Increment 1; an updated Economic Analysis was completed and validated by the Office of the Deputy Assistant Secretary of the Army-Cost and Economics June 2008.

**INCREMENT 2:** LMP supports national logistics mission areas such as item management, depot maintenance, reset, recap, ammunition management, and serves as the Army Working Capital Fund (AWCF) general ledger. Under acquisition framework, LMP Increment 2 will be delivered in three waves, supported by an Initial Operational Test & Evaluation. Development activities in FY 2015 included completing testing activities, a limited fielding release into production for the final wave capabilities of the National Maintenance Program, Ammunition Automatic Identification Technology integration, and Expanded Industrial Base. Funding Increment 2 in FY 2016 will support the delivery and operational testing for the Army's critical requirements pertaining to shop floor automation, specific strategic business transformation goals of the Army (e.g., equipment master), and specific directives of DOD (e.g., item unique identification (IUD)). It is essential that Increment 1 be expanded to address industrial base execution, ammunition management, Non-Army managed items (NAMI) modernization, Army Prepositioned Stock (APS) modernization for secondary items, National Maintenance Program (NMP), and ERP integration to fully enable end-to-end supply chain visibility and achieve integration of AMC mission operations. These releases will cover 17 locations and an additional 14,000 users along with all of the supporting acquisition documentation to support Milestone C, limited fielding decisions, and the full deployment decision.

Failure to fund this would delay functionality and extend the need for over 15 legacy systems to be maintained.

In accordance with the acquisition framework, an Economic Analysis was completed in August 2013.

Full Deployment Capability Date: September 2016 (Increment 2 only)

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Purchase Justification  
(\$ in Millions)**

<b>Line No. 05-26 Industrial Operations</b>	<b>Minor Construction Capabilities Various Minor Construction &lt;\$1M</b>		
Item Description	FY 2015	FY 2016	FY 2017
<i>Replacement</i>	8.290	10.507	14.512
<i>New Construction</i>	0.000	4.648	0.985
<b>Total</b>	<b>8.290</b>	<b>15.155</b>	<b>15.497</b>

***Narrative Justification***

Various minor construction projects costing <\$1M will improve the efficiency of the Industrial Operations through new, modernized additions to renovate existing facilities. The construction projects are additions or modifications to meet mission needs and improve the quality of life (safety/environmental concerns).

The projects will increase productivity and allow for quality of life improvements. Specifically, the efficiency of the mission work will improve with better plant layout, better electrical distribution, and improved lighting, heating, ventilation, and air conditioning. The projects specific to quality of life improvements will improve worker morale and eliminate potential health and safety concerns.

If not approved, facility conditions will continue to deteriorate, worker morale will decline, the work environment will erode, and worker safety and health will continue to be a major concern.

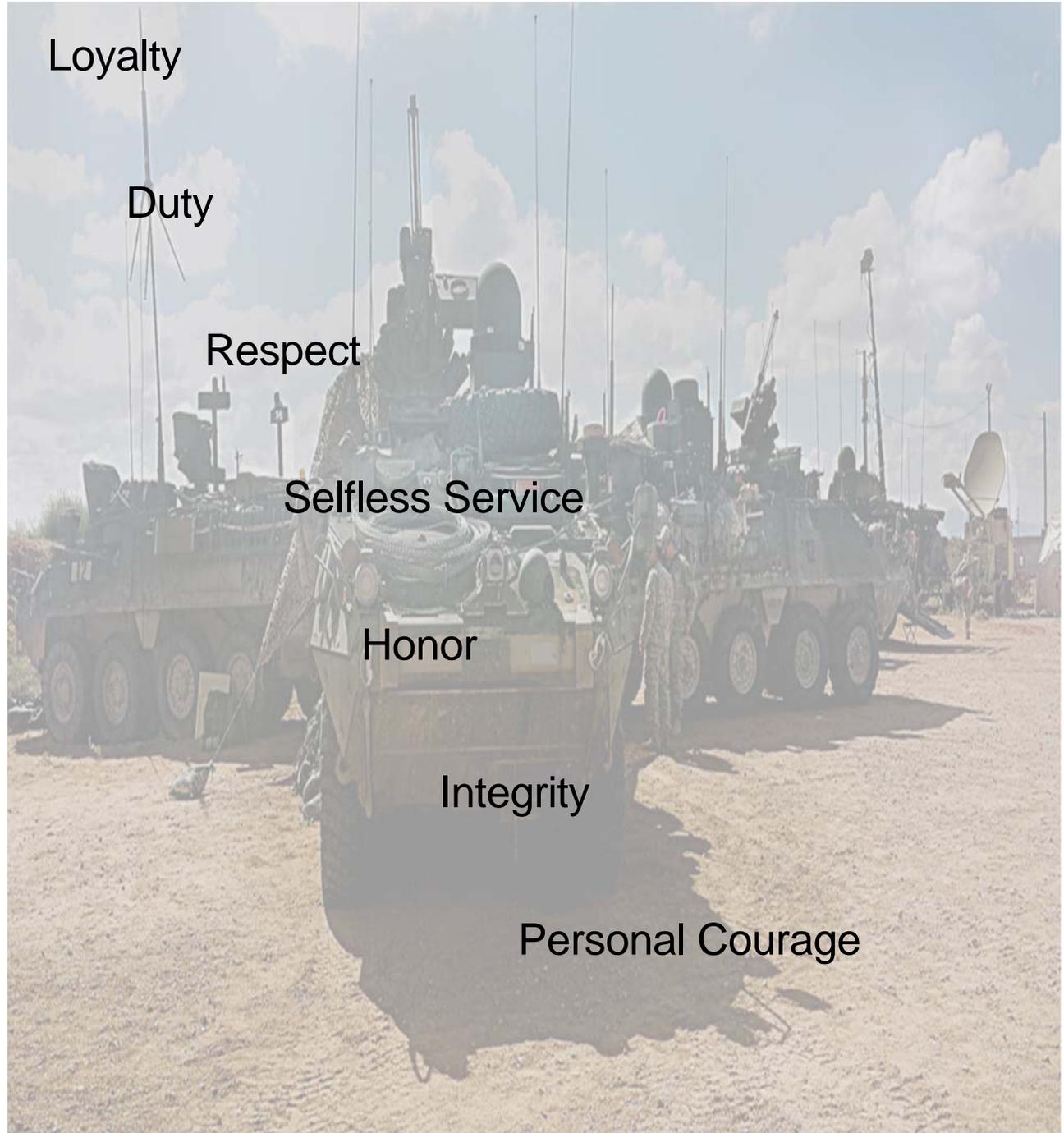
Economic Analyses have been performed on individual projects when required and are available upon request.

**Army Working Capital Fund  
Fiscal Year (FY) 2017 Budget Estimates  
Industrial Operations**

**Capital Budget Execution  
(\$ in Millions)**

<b>FY</b>	<b>Major Category</b>	<b>Initial Request</b>	<b>Current Projected Cost</b>	<b>Approved Change</b>	<b>Explanation</b>
<b>2015</b>	Non-ADPE	34.683	9.857	(24.826)	Review of planned capital investments against capability required to support future customer orders resulted in the cancellation of various projects. Accounts for reprogramming of FY15 funds to various Fiscal Years (FY11-FY14) due to contract cost increases.
	ADPE and Telcom	0.578	0.503	(0.075)	Actual costs less than estimate.
	Software Development	63.094	63.460	0.366	Reprogrammed \$3M from SMA to IO for LMP. Cancelled Automated Storage & Retrieval System (\$0.634). \$2M carried forward to FY 2016. Actual costs adjustments.
	Minor Construction	10.589	8.290	(2.299)	Reprogrammed \$0.015M from FY15 to FY14. Various contracts bids came in a lower than expected.
	<b>Total 2015</b>	<b>108.944</b>	<b>82.110</b>	<b>(26.834)</b>	
<b>2016</b>	Non-ADPE	53.580	36.093	(17.487)	Review of planned capital investments against capability required to support future customer orders resulted in the cancellation of various projects
	ADPE and Telcom	0.453	0.658	0.205	Virtual Desktop Infrastructure project of \$453K for FY16 cancelled. New project of \$658K for Telephone Switch & Voicemail System added.
	Software Development	32.964	32.964	0.000	
	Minor Construction	21.773	15.155	(6.618)	Review of planned capital investments against capability required to support future customer orders resulted in the cancellation of various projects
	<b>Total 2016</b>	<b>108.770</b>	<b>84.870</b>	<b>(23.900)</b>	
<b>2017</b>	Non-ADPE	67.597	67.597	0.000	
	ADPE and Telcom	0.792	0.792	0.000	
	Software Development	4.849	4.849	0.000	
	Minor Construction	15.497	15.497	0.000	
	<b>Total 2017</b>	<b>88.735</b>	<b>88.735</b>	<b>0.000</b>	

# The Army Values



Loyalty

Duty

Respect

Selfless Service

Honor

Integrity

Personal Courage

