ARMY

DEPOT MAINTENANCE ENTERPRISE

STRATEGIC PLAN

2008 - 2025

April 2008

HQDA G-4
DALO-MNN
The critical role depot level maintenance plays in our national security strategy has never been more apparent. The requirement to rapidly reset the equipment of units redeploying from Iraq and Afghanistan has demonstrated the need for a Depot Maintenance Enterprise that is agile, effective, forward deployable, and able to surge.

The **mission** of the Army’s Depot Maintenance Enterprise (DME) is to provide the resources, skills and capabilities to sustain the life cycle readiness of the Warfighter’s weapon systems and equipment worldwide in a reliable and efficient manner.

Three key challenges face the Depot Maintenance Enterprise between now and 2025:

1. **Supporting Reset/ARFORGEN** – The immediate challenge (FY09) is to continue to support an Army at war which requires the DME to reset equipment as quickly as possible so it is available for training the next deployers. To meet this challenge, maintenance providers have surged and have more than doubled output from pre-2003 levels. The DME is a major source of supply that fills materiel shortages within warfighting units. The DME must transform processes, programs and policies to ensure timely repair of Army equipment to address these shortages. The Army Campaign Plan requires the adaptation of processes to support the equipping and readiness goals of Army Force Generation (ARFORGEN). To meet these goals, DME planning must be tightly linked to ARFORGEN so that the Army’s priorities inform depot maintenance production schedules. Also, DME processes must be transformed so that equipment spends less time in the sustainment base and more time in the hands of the warfighter.

2. **Ensuring Core Capabilities are Established and Sustained** – The intermediate challenge (FY10 – FY15) centers upon how the DME will ramp down current production levels while retaining the ability to meet surge requirements in the future. The Army’s five primary organic depots will remain essential providers of reliable equipment to the Joint Warfighter. To ensure the depots are postured to perform this role, the Army must perform future core capability planning; the planning must incorporate the experience gained in resetting equipment redeployed from Iraq and Afghanistan; and the planning must inform current and future investments in the infrastructure and the workforce.

3. **Ensuring Life Cycle Readiness** – The long-term challenge (through FY25) is modernizing the Enterprise’s capabilities to keep current with technology so the DME can support the sustainment of future equipment and weapon systems. The DME must integrate Strategic and Life Cycle Management planning to provide efficient weapon system support and to ensure the sustainment base is effective. The transition of new weapon systems to the sustainment base must be efficient and timely. The DME must also pursue initiatives to provide life cycle readiness more efficiently. The application of Condition Based Maintenance strategies, where appropriate, can enhance efficiency and
effectiveness of the Army’s maintenance program. Public-private partnership (PPP) initiatives, which capitalize on the technical excellence of organic and contractor capabilities, can increase the efficiency of the operations at Army depots and commercial facilities.

The DME vision or end-state is a modern, reliable, cost effective and highly responsive enterprise that is flexible enough to meet Army requirements in both war and peacetime. Multiple activities must be initiated and integrated to successfully transform the DME’s processes to support the Current and Future Force. The Depot Maintenance Corporate Board, which consists of the senior leaders of the DME, will provide the oversight and direction to enable successful transformation. The Depot Maintenance Execution Council, a working level group chartered by the Board, will organize action officer teams to implement the Board’s direction.

In light of these challenges and to effect the transformation of the depot maintenance business area, the Depot Maintenance Corporate Board has established three goals supported by nine objectives and detailed action plans.

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| **Goal 1:** ARFORGEN will drive depot maintenance operations | ▶ Institutionalizes policy and process improvement  
▶ Enables alignment of DME production to Army Priorities  
▶ Minimizes risk | **Obj 1:** Update policies and regulations governing depot maintenance priorities as required to support the transforming Army  
**Obj 2:** Establish processes resulting in depot production that supports high priority DARPL unit equipment needs |
| **Goal 2:** Establish an effective sustainment base | ▶ Ensures depots are poised to meet future requirements and able to surge  
▶ Ensures depots remain essential providers of reliable equipment to the Warfighter | **Obj 3:** Improve policy and procedures across the DME to identify core capabilities and workloads that must be programmed through the Future Years Defense Plan (FYDP)  
**Obj 4:** Improve and enforce policy and procedures that assess the impact of future Depot Source of Repair (DSOR) decisions and inserts the DME in the DSOR decision process  
**Obj 5:** Establish an integrated human capital plan that supports the depots’ current and future core capability requirements  
**Obj 6:** Update the infrastructure planning to support the depots’ current and future core capability requirements |
| **Goal 3:** Plan and implement weapons system support efficiency initiatives | ▶ Minimizes burden on customers  
▶ Improves readiness and availability of Army equipment  
▶ Adds capacity at organic depots  
▶ Reduces total cost of ownership | **Obj 7:** Use Condition Based Maintenance (CBM) to optimize the use of depot maintenance to extend the economic useful life of materiel based upon CBM derived strategies  
**Obj 8:** To optimize the Army’s use of Public Private Partnerships (PPP), the U.S. Army Materiel Command (AMC) will continue or initiate strategies outlined in the U.S. Army Industrial Base Strategic Plan and AMC Partnership Program Business Development Plan  
**Obj 9:** Use Value Stream Analysis (VSA) to continuously improve depot maintenance processes and reduce repair cycle time |
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INTRODUCTION

The purpose of Army maintenance is to regenerate combat power and to preserve the capital investment in combat systems and equipment over time to enable training and provide the readiness to execute full spectrum operations.

The critical role depot level maintenance plays in regenerating combat power has never been more apparent. The need to rapidly reset units redeploying from current and future contingency operations requires depot maintenance operations that are agile, effective, forward deployable, and able to surge. This Strategic Plan confirms the Army’s intent to sustain a Depot Maintenance Enterprise (DME) with the robust capabilities needed to successfully perform this critical role in the future. It establishes a vision, mission statement, goals, objectives and metrics to ensure the Army Depot Maintenance Enterprise (DME) continues to accomplish its mission. It encompasses the Future Years Defense Plan (FYDP) for fiscal years 2008 through 2015 (FY08-15). The plan is in consonance with the Army Campaign Plan (ACP), the Industrial Base Strategic Plan, the DoD Depot Maintenance Strategic Plan and the Army Materiel Command’s (AMC) Strategic Plan.

How to Use this Plan

The Army’s Depot Maintenance Enterprise Strategic Plan should be used in conjunction with the U.S. Army Industrial Base Strategic Plan which is a strategic plan for the organic and commercial Industrial Bases, the Army Materiel Command Human Capital and Capital Investment Plans. The goals and objectives discussed in this plan are detailed in action plans that describe specific actions to implement the goals and objectives, assign accountability, and provide a timeline for their accomplishment.
Organizational Overview

The Depot Maintenance Enterprise consists of resource providers, acquisition and sustainment planners, and maintenance performers. Their relationship and the roles they perform are described in Figure 1.

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Figure 1. Overview of the Depot Maintenance Enterprise

**Governance and Oversight:**

The Depot Maintenance Corporate Board (DMCB), comprised of key Army General Officers (GOs) and Senior Executive Service (SES) civilians and chaired by the Army Deputy Chief of Staff, G-4, provides strategic planning oversight and direction to the Army’s depot level maintenance program. The DMCB provides corporate-level strategic direction and policy recommendations across the various elements of the Army in light of the role that depot maintenance plays as a critical component of overall force readiness and logistics transformation. Meeting on a quarterly basis, it will oversee the implementation of this strategic plan.

The Depot Maintenance Execution Council (DMEC), operating at the Colonel (COL)/General Schedule 15 (GS-15) level as a sub-committee of the Depot Maintenance Corporate Board (DMCB), has the primary responsibility for day-to-day business management oversight of the DME such as tracking depot maintenance execution, resolving issues, and ensuring the program remains in statutory compliance. The DMEC fulfills the oversight and management functions necessary to improve the manner and method in which depot maintenance operations are executed. Meeting monthly, the DMEC will accomplish the objectives in this plan and report progress to the DMCB.
In addition, the DMEC will measure performance against the metrics discussed in this plan, assess the program’s overall performance and periodically report its conclusions to the DMCB. The DMCB will provide guidance, direction, and resources to ensure the program’s continuous improvement. An overview of the DME governance structure is depicted in Figure 2.

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<th>Governing Body</th>
<th>Composition</th>
<th>Roles and Responsibilities</th>
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| **Depot Maintenance Corporate Board** | **Chair**: AMC Chief of Depot Maintenance and Arsenals  
**Members**: Colonels (COLs) and General Schedule 15 (GS-15s) | Provides strategic planning oversight and direction to the DME  
Provides corporate-level strategic direction and policy recommendations across the various elements of the Army in light of the role that depot maintenance plays as a critical component of overall force readiness and logistics transformation  
Provides guidance, direction and resources to ensure continuous improvement of DME metrics |
| **Meeting Frequency**:                | **Quarterly**                                                              |                                                                                           |
| **Depot Maintenance Executive Council**| **Chair**: Army Deputy Chief of Staff, G4  
**Members**: Key Army General Officers (GOs) and Senior Executive (SES) civilians to include Army Reserves and National Guard | Fulfills the oversight and management functions necessary to improve the manner and method by which depot maintenance operations are executed  
Measures performance against metrics, assesses overall performance, and reports conclusions to the DMCB  
Ensures that the Depot Maintenance Program remains in statutory compliance |
| **Meeting Frequency**:                | **Monthly**                                                                |                                                                                           |

**Figure 2: Depot Maintenance Enterprise Governance Structure**

**Customers and Stakeholders:**

The DME exists to serve our ultimate customer, the Warfighter, by providing reliable and affordable equipment and weapons systems. Our stakeholders also have a vested interest in depot maintenance operations. Our stakeholders seek to ensure that depot level maintenance operations are operating in alignment with Army materiel priorities. A listing of our customers and stakeholders is depicted in Figure 3.
Figure 3: Depot Maintenance Enterprise Customers and Stakeholders

More than a stakeholder, Congress is a partner in effecting many of the transformational changes detailed in this plan. For example, Congressional support is required to provide the resources for many of DME’s programs such as capital investments and military construction projects.

**Organic Base**

The Army’s government-owned and operated depots are crucial depot level maintenance providers within the DME that support not only Army, but also Joint depot level maintenance capability requirements. The Army’s depot system is a proven critical strategic asset that must be managed to ensure it is capable to efficiently and effectively accomplish peacetime workloads while remaining postured to surge in response to maintenance requirements generated by full spectrum operations.

![Organic Base Diagram]

Figure 4: Army Materiel Command Life Cycle Management Commands and Depots
Commercial Base

The Organic base and the Commercial base share a common purpose and customer. In light of the current OPTEMPO, leveraging the capabilities of both creates a synergy that is critical to our success. The combined infrastructure and scalability of organic and commercial facilities provide the DME with skilled labor, supply chain management approaches, and capacity to respond to the high-demand dictated by today’s Army depot level maintenance requirements. The Industrial Base Strategic Plan sets forth several initiatives targeted to strengthen both the organic and commercial base operations.

CURRENT CHALLENGE (FY09)

The Army Campaign Plan (ACP) directs planning, preparation, and execution of Army transformation and Service Title 10 activities. The ACP establishes Campaign Objectives and supporting Major Objectives to accomplish each of the four Army Imperatives. The Depot Maintenance Enterprise supports the Army Imperative to “Reset Forces to Rebuild Readiness and for Future Deployments and Contingencies.”

As seen in Figure 5, DME output in terms of repaired, rebuilt, and overhauled equipment is at record levels. Output levels have nearly doubled since 2003 levels and have not been this high since the Vietnam War. An increase in workload has created a need for an increase in the human capital assets supporting the DME. To meet the increase in workload, depots are utilizing their Human Capital Plans to augment the current workforce with contractor field teams and temporary government employees, increasing overtime, and working multiple shifts.

In response to the readiness needs of the operational Army, the DME has utilized mobile teams to provide in-theater, depot-level maintenance support. These Forward Repair Activities (FRA) provide depot-level maintenance and repair-level support and services for weapon systems, commodities, single systems, and major end items.

Figure 5: Supplemental Depot Maintenance - Fiscal Year Quantity Comparisons

* FY08 Data will be finalized with FY08 DA FRAGO

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1 Quantities and Projections accurate as of 29 February 2008
Army Force Generation (ARFORGEN)

The purpose of ARFORGEN is to provide combatant commanders and civil authorities with trained and ready units, task organized in modular expeditionary forces tailored to Joint mission requirements. ARFORGEN establishes an operational readiness cycle through which units will progress. The structured progression will result in increased readiness as units move through the Reset/Train, Ready, and Available force pools. The Army Chief of Staff stated, “We will implement the Army Force Generation model by 2011 to manage preparation of forces for employment and improve predictability for soldiers and families.”

In order to implement ARFORGEN, the Army must adapt necessary policies, regulations, procedures, capacity and capabilities in the Generating Force to support the Operating Force. Depot Maintenance restores reliability to equipment required by the Operating Force. DME planning must be tightly linked to ARFORGEN so that the Army’s priorities inform depot maintenance production schedules. Also, DME processes must be transformed so that equipment spends less time in the sustainment base and more time in the hands of the Warfighter.

Supporting Reset/ARFORGEN

The ACP requires the adaptation of processes to support the equipping and readiness goals of ARFORGEN. To remain effective in the achievement of these goals, DME planning should be based on ARFORGEN so that the sustainment base is accurately providing for Army’s priorities.

Management tools that guide depot maintenance operations and align depot maintenance planning and programming with ARFORGEN must be developed. The DME has established two objectives to ensure depot maintenance operations become aligned with ARFORGEN. First, policies, regulations, and resource guidance governing depot maintenance must be updated. Second, processes must be transformed. Improvements in communications and information flows will enable the DME planners to provide timely guidance so that the maintenance providers can produce what the Army needs when it needs it. Improvements in asset visibility will enable all DME stakeholders to measure the effectiveness of the enterprise. The depot maintenance community’s efforts to improve asset visibility and information flows will be synchronized with the larger effort to establish and maintain a 360 degree enterprise view of readiness.

Value stream mapping is a powerful tool that will be used to capture the current depot maintenance processes from requirements generation to maintenance performed. Laying out this complicated network of processes will reveal numerous opportunities for improvement. Improvements may include results such as reduced costs, increased productivity, reduced turnaround time, or increased performance.

Reset is a relatively new paradigm for depot maintenance. The real challenge with Rest is linking the equipment needs of the operational Army as it goes through ARFORGEN with our sustainment base production capabilities. Reset differs from traditional overhauls in that there are different scopes of work for certain pieces of equipment, based
upon the history and usage of the equipment. Thus, the DME is transforming processes, programs, and policies with these ideals in mind to ensure timely repair of Army equipment.

**Goal 1: ARFORGEN will drive depot maintenance operations**

The assignment of priorities to the equipment within the depot maintenance program determines the allocation of scarce resources. Goal 1 seeks to put the mechanisms in place to ensure that the Army DME is resourcing and executing to support what the Army needs most. Resource availability does not support 100% readiness of all equipment, so risk must be accepted and requirements must be prioritized to determine where to allocate resources so that the best equipment readiness for the Army can be achieved.

A process for prioritization of depot maintenance Program Objective Memorandum (POM) requirements has been in existence for some time; however, this process is outdated and does not reflect the Army’s priorities as outlined in the Dynamic Army Resourcing Priorities List (DARPL). The depot maintenance priority schema was last updated in 2000. Since that time, the ACP directed the adaptation of processes to support the ARFORGEN strategy and to support equipping and readiness goals for units in accordance with the DARPL.

The overarching metric of **materiel availability** is directly affected by the policy and processes that the DME uses to provide the Army with equipment. Materiel availability is currently being measured; however the current metric is based on schedule variance of depot production, and this may not necessarily reflect the true needs of the Army. By establishing depot production processes that support DARPL unit equipment needs, the DME will inherently support the high priority needs of the Army. This will allow the materiel availability metric to more accurately reflect the Army’s condition.

Objectives 1 and 2 will provide the depot maintenance program with the requisite policy and processes that will enable the program to support the ARFORGEN strategy. These two objectives create a continuous loop of improving the policy and improving the processes which will allow the DME to remain relevant and to evolve as the Army evolves. Additionally, the ACP objective of providing a 360 degree view of logistics readiness is supported by providing leadership a common view from which to make executive decisions.

**Objective 1. Update policies and regulations governing depot maintenance priorities as required to support the transforming Army**

1.1. Update Resource Formulation Guidance to ensure program funding supports the ARFORGEN strategy

1.2. Update Army Regulation 750-1, Army Materiel Maintenance Policy to enable the program to support the ARFORGEN strategy
Objective 2. Establish processes resulting in depot production that support high priority DARPL unit equipment needs

2.1. Conduct a Rapid Improvement Event on POM requirements prioritization process
2.2. Conduct value stream analysis of depot production scheduling process
2.3. Identify opportunities for continuous process improvement events

Establish processes to support Sustainment Base objectives within 360 Degree Readiness

INTERMEDIATE CHALLENGE (FY09 - FY15)

The Army’s equipment deployed to Iraq and Afghanistan has been subjected to an increased OPTEMPO in a harsh environment. Congress has provided supplemental funding to repair this equipment as it returns from Operation Iraqi Freedom and Operation Enduring Freedom so that it is available for future deployments.

Supplemental funding has enabled the Army’s targeted fleets of equipment to achieve high readiness levels at prescribed maintenance standards. As an offset, resources have been reduced to the depot maintenance base program for a large number of equipment that remains in the continental United States. Although the Army maintains near term readiness of deployed units, we accept risk to the readiness of our CONUS-based equipment as a result of the shift of priorities to these targeted assets.

When supplemental funding is terminated, we are projecting that the base program resourcing shall be inadequate to sustain the readiness levels of the Army’s equipment fleets for future contingencies.

Sufficient base program resources are the Depot Maintenance Enterprise’s key center of gravity. Without sufficient resource levels, the end-state of a modern, reliable, efficient enterprise that meets the Army’s needs in both war and peacetime shall not be achieved. With sufficient resource levels, Army equipment fleets can be maintained to high readiness levels at prescribed maintenance standards. Army maintenance depots can surge to support contingency operations and operate efficiently during peacetime.
As a result of GWOT, the number of non-programs of record has increased to meet wartime requirements, and sustainment strategies for these programs must now be developed after the weapons system has been fielded.

ENSURING CORE CAPABILITIES ARE ESTABLISHED AND SUSTAINED

The Army’s five organic depots will remain essential providers of reliable equipment to the Joint Warfighter. To ensure the depots are postured to perform this role, the Army must perform future core capability planning; the planning must incorporate the experience gained in resetting equipment redeployed from Iraq and Afghanistan; and the planning must inform current and future investments in the infrastructure and the workforce. By allocating sufficient workload to the depots, the Army enables them to operate efficiently and to sustain those core capabilities and skill sets needed to support any operational contingency.

The Army must strengthen policy, procedures and oversight to ensure the depots continue to receive the workloads and resources necessary to sustain the core capabilities needed to support the Warfighter. The Army’s self assessment of the current environment has identified factors affecting depot sourcing decisions.

- Interpretation of the core logistics capabilities determination statute, Title 10, United States Code, Section 2464, is inconsistent;
- The core depot assessment and source of repair analysis processes are hard to navigate and time consuming
Goal 2: Establish an effective sustainment base

A viable depot level maintenance core capability owned and operated by the government is essential to our National Military Strategy. The Army is committed to a depot maintenance infrastructure that is resourced to sustain current and future core capability requirements. Core capability is sustained when critical skill sets are used in the execution of funded workload. To ensure this occurs, the Army requires processes to identify current and future workloads and to acquire the skilled workforce and production equipment and facilities necessary to execute the workloads. The Army Material Command has developed a Human Capital plan that sets forth innovative strategies to ensure the blended DME workforce possesses the right skills, knowledge, and abilities to meet future core capability requirements while maintaining flexibility.

The ACP identifies ARFORGEN as the system for providing the required forces for the combatant commanders. Therefore, ARFORGEN should be the basis of core depot analysis in order for the DME to be most effectively postured to support equipment returning from theater. In January 2008, the DMCB directed the revision of the core process aligning institutional Army processes with operating Army requirements. As a result, the DME’s capital investment plan and human capital plan will also need to be modified to support the revised core results.

As of June 2007, the combined reported population for all Army organic facilities was 20,518, and of this population, there is an average of 37% (or 7,390) eligible for retirement within the next five years. To fill this manpower gap, various forms of recruitment to be used include:

- the Student Educational Employment Program (SEEP);
- the Student Temporary Employee Program (STEP);
- the Student Career Experience Program (SCEP);
- Army Materiel Command Fellows Program;
- Always a Soldier Program;
- Recruitment/Retention/Relocation Bonuses (up to 25% of base pay)

The structure of the depot workforce is dependent upon the mission and workload of the specific depots. The need for personnel transformation is driven by the mission of Army. The DME experiences changes in mission and functions as the strategic environment of the nation and Army changes. In addition, continued implementation of work center improvements based on LEAN and SIX-SIGMA and the onset of new partnerships with private industry impact workforce structure.

It is critical that organic facilities are flexible and maintain the capacity to surge to support contingency situations. Army depots strategically leverage public private partnerships, temporary employees, and contract field team hires to maintain operable manpower levels for new workload and surge workload in support of theater operations.
Objective 3. Improve policy and procedures across the DME to identify core capabilities and workload that must be programmed through the Future Years Defense Program (FYDP)

3.1. Update Army Regulations 700-127, Integrated Logistics Support, and 750-1, Army Materiel Maintenance Policy
3.2. Perform core capabilities analysis of funded workload in the POM 10-15

Objective 4. Improve and enforce policies and procedures that assess impact of future Depot Source of Repair (DSOR) decisions and inserts the DME in the DSOR decision process

4.1. Update Army Regulations 700-127, Integrated Logistics Support, and 750-1, Army Materiel Maintenance Policy
4.2. Provide recommended policy and process changes to improve DSOR decisions to the DMCB for approval

Objective 5. Establish an integrated human capital plan that supports the depots’ current and future core capability requirements.

Objective 6. Update the infrastructure planning to support the depots’ current and future core capability requirements

6.1. Identify military construction projects required to modernize organic depots
6.2. Update the Capital Investment Plan (CIP)
ENSURING LIFE CYCLE READINESS

The DME must integrate Strategic and Life Cycle Management planning to provide efficient weapon system support and attain an effective sustainment base. The transition of new weapon systems to the sustainment base must be efficient and timely. The DME must also pursue initiatives to provide life cycle readiness more efficiently. The application of Condition Based Maintenance strategies, where appropriate, can enhance efficiency and effectiveness of the Army’s maintenance program. Public-private partnership (PPP) initiatives, which capitalize on the technical excellence of organic and contractor capabilities, can increase the efficiency of the operations at Army depots and commercial facilities.

Army maintenance is founded on the principle that the useful service life of Army equipment is achieved when the item is operated within its intended purpose and parameters and is maintained in accordance with its designed or engineered specifications. Depot level maintenance is a key enabler of the latter by sustaining the readiness of equipment throughout its life cycle. When an equipment item reaches its useful service life, the Army will replace it through new procurement or recapitalize it to extend the service life of the equipment. Depot maintenance operations also include the recapitalization of aging equipment.

The DME must pursue initiatives to provide more efficient life cycle readiness. Opportunities for improvement exist throughout the entire Depot Maintenance Enterprise. While using Lean Six Sigma (LSS) and value stream analysis to identify process improvement opportunities, the Army will continue to optimize two initiatives that are generating efficiencies today:

- The Condition Based Maintenance (CBM) Strategy
- Public Private Partnerships (PPP)

CBM and PPP offer the Army the opportunity to achieve the highest possible return on its capital assets/investments. For CBM, the return is increased availability and reliability of weapon systems and equipment; for PPP, the return is reduced ownership costs of government facilities and other support infrastructure and sustainment of core capabilities.

CBM is a proactive equipment maintenance capability that uses system health indicators to predict functional failures ahead of the event. The benefits of CBM include: (1) an increase in materiel availability as both Non-Mission Capable-Supply time and overall inspection hours are reduced; and (2) an increase in materiel reliability as product improvement efforts are better measured by usage and failure data.

The DME has a CBM Roadmap that provides a strategy for accomplishing equipment maintenance only when necessary. By allowing the environment and the usage profile to determine when maintenance is needed, CBM will reduce the cost of sustainment. The depot level maintenance program may experience significant changes as CBM is
implemented. As CBM generates actual equipment usage, failure, and condition data, sustainment strategies will evolve, which will result in changes in annual depot maintenance workload quantities. In addition, individual depot tasks and scopes of work will change as CBM data pinpoints specific causes of equipment reliability issues.

Public-private partnerships, which capitalize on the technical excellence of organic and contractor capabilities, can increase the efficiency of Army depot maintenance operations. Both public and private depot-level entities possess complementary capabilities that, when effectively integrated, offer the best value life cycle support to Warfighters. By integrating the strengths of the public and private sectors, the improvements to depot operations realized through the various types of public-private partnerships will reduce a weapon system’s total mean down time and ownership costs.

Goal 3: Plan and implement weapons system support efficiency initiatives

It is the intent of Goal 3 to reduce the burden on the customer. Consequently, as the customer experiences a better, faster DME, the Army will incur cost savings from improved business processes. Embracing condition based maintenance strategies will improve the readiness and availability of Army equipment. Critical failures can be prevented and reliability will improve. The implementation of CBM will be reflected in the materiel available to Army units. Ownership cost will decrease as critical failures are anticipated and repair cycle time reduced.

The Army’s initial experience with CBM has revealed the great potential for improving total life cycle systems management. To pursue this opportunity, the Army will establish the requisite policy and governance structures to accelerate the implementation of CBM across its many fleets of equipment, where appropriate. Likewise, the Army’s more extensive experience with Public-Private Partnerships has also proven the value of pursuing future opportunities for efficiencies by combining the competitive advantages of the organic depots and the commercial sector. Additional initiatives that can generate depot maintenance management process efficiencies will be identified through the use of value stream analysis and implemented through the use of LSS techniques.

Objective 7. Employ Condition Based Maintenance (CBM) to optimize the use of depot maintenance to extend the economic life of materiel based upon CBM derived strategies

7.1. Publish and implement the CBM roadmap that documents roles and responsibilities of Army organizations and stakeholders involved in planning, programming, budgeting, and executing CBM strategies
7.2. Update Army Regulations 700-127, Integrated Logistics Support, and 750-1, Army Materiel Maintenance Policy

Objective 8. To optimize the Army’s use of Public Private Partnerships (PPP), the US Army Materiel Command (AMC) will continue or initiate strategies outlined in the US Army Industrial Base Strategic Plan and AMC Partnership Program Business Development Plan
Objective 9. Use Value Stream Analysis to continuously improve depot maintenance processes and reduce repair cycle time

9.1. Conduct value stream analysis of depot maintenance corporate information management processes
9.2. Identify opportunities for continuous process improvement events
9.3. Use 360 Degree Readiness to identify data elements needed to manage the Sustainment Base
In accordance with the goals and objectives of this plan and with the desired outcomes we seek to achieve for our customers and stakeholders, DME has established four overarching performance metrics to gauge our impact and assess our performance. Two DME metrics, Materiel Availability and Materiel Reliability, measure the DME’s contribution to life cycle weapon system readiness. The other two metrics, Ownership Cost and Mean Down Time, measure the efficiency of the Army’s depot maintenance processes. Together, these metrics provide a common picture of DME’s ability to support desired materiel readiness outcomes at least cost.

**Materiel Availability**

The success of the Army’s Force Generation process depends on the timely filling of unit equipment shortfalls. Shortages or late receipt of equipment can adversely impact a unit’s ability to train and execute its assigned mission. Depot maintenance output and new procurement provide highly reliable and safe equipment to the Army’s and other Service’s operational units. Therefore, the depot maintenance performers’ ability to achieve planned production schedules is essential to sustaining materiel readiness levels.

Performance measurement in support of this metric currently is in place for the Army’s five organic depots. Data on scheduled and actual production is tracked on a monthly
basis. Reports highlight which systems are on/ahead of schedule, which systems are behind, and production scheduled to be completed in the next fiscal year. AMC has initiated action to capture similar data on equipment repaired by commercial contractors.

**Materiel Reliability**

The primary outcome of a depot maintenance program is sustained or improved reliability of weapon systems or equipment. Reliability is the return on the depot maintenance investment. Reliable equipment results in consistent performance, a reduction in field maintenance requirements, and an increase in war fighter confidence. Together, materiel availability and reliability, contribute to unit readiness.

A performance measure is currently being established for this metric. Data on Quality Deficiency Reports for depot products is now being tracked at the Army corporate level. This measure will provide an initial indication of the performance trend of an equipment item after it has been processed through depot maintenance. More definitive information on equipment performance and reliability will become available as the Army expands its efforts in the area of Condition Based Maintenance (CBM) which is one of the key components under Objective 7 of this plan.

**Ownership Cost**

While materiel availability and reliability are two outcomes of the depot maintenance process, ownership cost provides insight into the efficiency of the process.

A performance measure is currently being established for this metric. Data on the direct costs and the overhead costs of the Army’s five organic depots are now being tracked at the Army corporate level.

**Repair Cycle Time**

A second efficiency metric is repair cycle time. While ownership cost is a measure of the amount of dollars input into the process to achieve the outcomes of availability and reliability, repair cycle time (RCT) is an input measure of time required to achieve the dual outcomes.

The RCT starts with the induction of an item into the depot repair line and ends when the item is completed and handed over to the supply system for distribution. Over the last few years, the depots have reduced the RCT for several of the items they produce. They have accomplished this through the successful application of LSS to depot operations. Continued emphasis on LSS will generate additional reductions in cycle times.

The processes prior to depot induction offer additional opportunities to improve operational efficiency. Improvements in planning the annual depot maintenance program can result in the more timely identification and turn-in of assets to the depots. Improvements in planning can also better align depot inductions with ARFORGEN unit equipment needs. The Army’s emphasis on process improvement efforts are documented in Objectives 2 and 9 of this plan.


**360 Degree Readiness**

360 Degree Readiness is how we intend to measure ourselves in the future and will enable a more holistic view of DME performance and operations. 360 Degree Readiness is the capability to see, assess, and synchronize the Army’s Corporate Enterprise Assets in support of Warfighting Operating Forces. Thus, when fully implemented, 360 Degree Readiness will provide increased visibility of how the Army resources are being spent for readiness in supply, training, procurement, and maintenance.

The 360 Degree Readiness goal of monitoring Sustainment Base Production is to ensure the sustainment base is performing as planned to support the National Military Strategy, ARFORGEN, and Grow the Army requirements. The overarching metrics of **materiel availability** and **materiel reliability** directly relate to this by measuring how the Army provides reliable equipment in time to meet ARFORGEN schedules.

**CONCLUSION AND WAY AHEAD**

DME leadership has committed to an iterative strategic planning process. The goals and objectives discussed in this plan are detailed in action plans that describe specific actions to implement the goals and objectives, assign accountability, and provide a timeline for accomplishment. While the planning horizon for this plan is through 2025, action plans will be reviewed on an annual basis and the DMCB will monitor drivers of change that indicate the need to review and update this DME strategic plan. Drivers include significant changes in direction as detailed in a new Quadrennial Defense Review, or changes in the environment such as budget increases or decreases, changes in leadership, and accomplishment of the goals and objectives.

Additionally, the DMCB will use the metrics described in this plan to measure and evaluate performance in the organic depots. As these measures are deployed and implemented, and as trend data is collected, information gleaned from this data may suggest new or changed goals, objectives, and action plans. The DMCB will remain flexible and open to these changes as these opportunities arise.
Appendix A – On-going Initiatives and Accomplishments

360 Degree Readiness – Army Campaign Plan major objective 7-1 is to “maintain 360 enterprise views of equipment readiness.” Army G-4 is developing a construct that provides visibility and understanding of Army level readiness indicators for Senior Army leaders to make informed decisions. These indicators are intended to effectively shape Army Force Generation and influence budget processes in support of the ACP and National Military Strategy (NMS). As part of this initiative, a Sustainment Base Production Team has been assembled to generate an indicator to keep the sustainment base on track with producing what the Army needs given the current operational environment.

Lean Six Sigma – The Army has seen significant improvements in efficiency and effectiveness using continuous process improvement tools in the manufacturing arena as well as in the organizational Army. In 2007, 12 Shingo prizes (the “Nobel Prize” in manufacturing) were awarded to Army depots. Continuous process improvement is an ongoing initiative that allows Army depots to better contribute to the readiness of the Warfighter by improving materiel costs, performance, and schedule.

It is an initiative of the Army Industrial Base Strategic Plan to build Lean Six Sigma practices into the culture of the organic industrial base. The Army Depot Maintenance Strategic Plan intends to be consistent with this initiative.

Public-Private Partnerships (PPP) – The Industrial Base Strategic Plan proposes to establish partnering offices at each organic site that will facilitate public and private partners to engage in partnership discussions. Providing clear guidance for partnering, streamlining the partnership approval process, creating incentives that encourage partnering, and deploying partnership training will increase the understanding of partnerships and make their employment uncomplicated so that the maximum benefit can be garnered.

Condition Based Maintenance (CBM) - In order to incorporate CBM strategies into its culture, the Army has developed a roadmap to identify capability gaps and gap solutions. It describes the need for change, universal impact, and CBM requirements. Moving forward, an implementation plan which includes metrics will be developed to incorporate CBM into the Army’s inventory.

Resource Formulation Guidance - Resource Formulation Guidance is published for preceding each POM to give operating agencies guidance to assist in the development of their overall requirements. This document is an appropriate vehicle to use to communicate current Army initiatives to all levels of the depot maintenance community so that they can be planned and programmed into depot maintenance requirements through future years.

Value stream mapping – AMC conducted a major value stream mapping effort in support of the Army Campaign Plan to include the depot maintenance process. HQDA G4 intends to expand upon the AMC effort by conducting a value stream analysis of the
planning process for depot maintenance production scheduling. AMC generated maps include:

- Base OMA Funded Depot Maintenance Execution Map
- Base OMA Funded Depot Maintenance Planning Process
- CCIR Depot Initiated Depot Maintenance Drilldown Process
- CCIR LCMC Initiated Depot Maintenance Drilldown Process
- CCSS Parts Materiel Requirements Planning Drilldown Process
- Direct Customer Depot Maintenance Planning Process

Workforce Planning – In 2006, HQAMC solicited individual workforce plans from each organic Army facility. It was evident in their responses that there was no clear plan to prepare the future workforce. As a result, each organic Army facility is now required to prepare a Strategic Staffing Plan to include trend data and an action plan to get to the projected future state.
Appendix B – Glossary of Operational Terms and Definitions

**Capital Investment Program Plan:** A comprehensive, 16-year plan for the modernization or replacement of depot facilities and infrastructure, and consists of each depot’s capital improvement requirements and the projected funding or expenditures. *(Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)*

**Condition Based Maintenance:** A maintenance strategy that is derived from an RCM analysis. CBM encompasses a set of maintenance processes and capabilities derived from real-time assessment of weapon system condition obtained from embedded sensors and/or external test and measurements using portable equipment. The goal of CBM is to perform maintenance only upon evidence of need. *(Army Regulation 700 – 127)*

**Core competencies:** Those core logistics-related depot-level maintenance capabilities that serve as the Department’s necessary ready and controlled source of technical ability, expertise, and resources. Core competencies are the set of depot-level maintenance capabilities necessary to enable the armed forces to fulfill the strategic and contingency plans prepared by the Joint Chiefs of Staff and for which the Military Departments believe the DoD should be a recognized leader in the national technology and industrial base. Core competencies ensure that DoD depot-level maintenance activities are prepared to and actually do execute depot-level maintenance in an effective, efficient, and timely manner. *(DUSD L&MR memo 30 Jan 2002)*

**Depot-level maintenance activity:** A specific DoD-owned and –operated facility established, equipped, and staffed to carry out depot-level maintenance. DoD depot-level maintenance activities accomplish a wide range of depot-level maintenance processes including overhaul, conversion, activation, inactivation, renovation, analytical rework, repair, modifications and upgrades, inspection, manufacturing, reclamation, storage, software support, calibration, and technical assistance. Field-level maintenance sites authorized to accomplish a specific depot-level repair or a narrow range of such repairs or maintenance are not depot-level maintenance activities. *(DUSD L&MR memo 30 Jan 2002)*

**Depot-level maintenance and repair:** Maintenance or repair requiring overhaul, upgrading, or rebuilding of parts, assemblies or subassemblies and the testing and reclamation of equipment as necessary regardless of the source of funds for the maintenance or repair or the location at which the maintenance or repair is performed. *(Title 10 U.S.C. Section 2460)*

Depot-level maintenance entails materiel maintenance requiring the major repair, overhaul, or complete rebuilding of weapon systems, end items, parts, assemblies, and subassemblies; manufacture of parts; technical assistance; and testing. *(DoD Maintenance Long-Term Strategy Report to Congress)*

**Depot Maintenance:** That maintenance performed on materiel requiring major overhaul or a complete rebuild of parts, assemblies, subassemblies, and end-items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot
maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive facilities for repair than are available in lower level maintenance activities. (U.S. Department of Defense, Department of Defense Dictionary of Military and Associated Terms, Joint Pub. 1-02 (Washington: Government Printing Office, March 23, 1994.))

Life Cycle Management: The coordination of activities related to a given piece of equipment from conception to disposal

Manufacturing: Total system and component manufacturing from prototyping to full installation, including engineering, machining, sheet metal, welding, finishing, plating, painting, cable manufacturing, as well as mechanical, electrical, and electronic assembly (Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)

National Maintenance Program Site: Providers across the Army and Guard (Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)

Overhaul, rebuild, upgrade and repair: A full range of maintenance support services, including overhaul, rebuild, modification, conversion, repair and testing (Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)

Performance-Based Logistics (PBL): An integrated acquisition and logistics process for buying weapon system capability that delineates outcome performance goals of weapon systems, ensures that responsibilities are assigned, provides incentives for attaining these goals, and facilitates the overall life cycle management of system reliability, supportability, and total ownership costs. Depot-level maintenance may be a part of life cycle management requirements. (DUSD L&MR memo 30 Jan 2002)

Public-private partnership: An agreement between an organic depot maintenance activity and one or more private industry or other entity to perform work or utilize facilities and equipment. Depot capabilities that can be covered by such agreements include manufacturing, repair and technical services. (Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)

An agreement between a government entity and one or more private industry, or other, entities to perform work or utilize facilities and equipment (US Army Materiel Command’s Army Public-Private Partnership of the Organic Base, Working Copy as of 21 Sept 04 citing DUSD(L&MR) memo dtd 30 Jan 2002)

An agreement between an organic depot maintenance activity and one or more private industry or other entities to perform work or utilize facilities and equipment (DUSD L&MR memo 30 Jan 2002)
Readiness:  The ability of forces, units, weapon systems, or equipments to deliver the outputs for which they were designed (includes the ability to deploy and employ without unacceptable delays).  (U.S. Department of Defense, Department of Defense Dictionary of Military and Associated Terms, Joint Pub. 1-02 (Washington: Government Printing Office, March 23, 1994), p. 237.)

Recap: The rebuild and selected upgrade of systems to ensure operational readiness bring the equipment a near zero time/zero mile condition, and enhance system capability. Rebuild restores equipment and inserts new technology where practical to improve reliability and maintainability. Rebuild results in the system retaining its model designation. Selected upgrade adds warfighting capability to address current system shortcomings. The result of selected upgrade is a new model, a new life and improved warfighting capability.

Repair Cycle time: The period of time from when the equipment is received by the Depot to when it is returned to the supply system

Reset: Restores key combat systems to the 10/20 standard condition our equipment was in when it deployed with our soldiers and is specifically being driven by planned unit rotations into the Iraqi theater of operations. Depot level reset includes overhaul and depot level repairs as well as restoring the equipment to a 10/20 status.

Systems integration: Capabilities that typically include development of new prototype systems or downsizing of existing systems (Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)

Technical Assistance: Worldwide technical assistance, system fielding, and depot maintenance support, including the deployment of activities (such as USAMC’s Logistics Support Element) to support contingency operations such as OEF and OIF and natural disaster relief missions (Report to Congress, Department of Defense, Depot Maintenance Long-Term Strategy, November 2004)
Appendix C – List of Acronyms

ABO – Army Budget Office
ACOM – Army Command
ACP – Army Campaign Plan
AMC – Army Materiel Command
ARFORGEN – Army Force Generations
ARPL – Army Resourcing Priorities List
CBM – Capabilities Based Maintenance
CCIR – Commander’s Critical Information Requirements
CCSS – Commodity Command Standard Systems
CG – Commanding General
CITE – Centers of Industrial and Technical Excellence
DARPL – Dynamic Army Resourcing Priorities List
DLA – Defense Logistics Agency
DMCB – Depot Maintenance Corporate Board
DME – Depot Maintenance Enterprise
DMEC – Depot Maintenance Executive Council
DOD – Department of Defense
DSOR – Depot Source of Repair
FYDP – Future Years Defense Plan/Program
GAO – General Accounting Office
GO – General Officer
GWOT – Global War on Terror
HQ – Headquarters
IBSP – Industrial Base Strategic Plan
JCS – Joint Chiefs of Staff
LCMC – Life Cycle Management Command
LSS – Lean Six Sigma
MACOM – Major Command
NMS – National Military Strategy
NGB – National Guard Bureau
OASA(ALT) – Office of the Assistant Secretary of the Army (Acquisition, Logistics, & Technology)
OMA – Operations & Maintenance, Army
OEM – Original Equipment Manufacturer
OPTEMPO – Operational Tempo
OSD – Office of the Secretary of Defense
PPP – Public Private Partnerships
PEO – Program Executive Officer
PM – Program Manager
POM – Program Operating Memorandum
QDR – Quadrennial Defense Review
RCT – Repair Cycle Time
SES – Senior Executive Service
SSO – Synchronization Support Officer
TMDE – Test, Measurement, and Diagnostic Equipment
USAR – United States Army Reserve
USC – United States Code
VSA – Value Stream Analysis
Appendix D - References

AMC Partnership Program Business Development Plan
Army Campaign Plan
Army Industrial Base Strategic Plan
Army Materiel Command Strategic Plan and Vision: 2015
Army Materiel Command Human Capital Plan
Army Materiel Command Capital Investment Plan
DoD Depot Maintenance Strategic Plan
National Military Strategy
Quadrennial Defense Review
2007 Army Green Book
Appendix E – Regulatory Environment

Title 10 U.S.C. 2466 “50-50 Rule”

Title 10 United States Code 2466 dictates the limitations on performance of depot-level maintenance. Specifically, it establishes a 50 percent limit on contracting for depot maintenance for each military department and Defense Agency. In addition, compliance must be reported annually to Congress and audited by the General Accounting Office.

10 U.S.C 2474

Designates depots as Centers of Industrial and Technical Excellence (CITE) and sets rules for public-private partnerships.

Army Regulations 750-1 and 700-127

Army Regulation 750-1, Army Materiel Maintenance Policy, is the standing Army regulation on materiel maintenance management. This is the guide by which Army maintenance operations are conducted. It is continuously revised so that it accurately reflects the needs of the Army. Army Regulation 700-127, Integrated Logistics Support, is the standing Army regulation that ensures core requirements for Army Materiel are analyzed early in the life cycle to allow for proper maintenance planning in preparation for efficient sustainment throughout its life cycle.

A complete listing of regulations governing depot maintenance can be found in Figure 8.

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<th>Regulations</th>
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<td>▶ United States Code, Title 10</td>
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<td>– Section 2464, Core Logistics Capabilities</td>
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<td>– Section 2466, Definition of Depot-Level Maintenance</td>
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<td>– Section 2466, Limitations on Performance of Depot-Level Maintenance of Materiel</td>
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<td>– Section 2472, Prohibition on management of depot employees by end strength</td>
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<td>– Section 2474, Centers of Industrial and Technical Excellence: Designation; Public-Private Partnerships</td>
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<td>▶ DoD</td>
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<tr>
<td>– DoD Directive 4151.18, Maintenance of Military Materiel, 31 MAR 2004</td>
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<tr>
<td>– DoD Instruction 4151.20, Depot Maintenance Core Capabilities Determination Process, 5 JAN 2007</td>
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<td>– DoDI 4151.19, Serialized Item Management, 26 DEC 2006</td>
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<td>– DEPSECDEF Depot Maintenance Production Workforce Memo, 12 OCT 2001</td>
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<tr>
<td>– DoD 7000.14-R, Vol. 6, Chapter 14 (Depot Maintenance Reporting)</td>
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<td>▶ Military Services</td>
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<td>– Joint Depot Maintenance Program, 31 MAR 1999</td>
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<td>▫ AMC-R 750-10, Headquarters US Army Materiel Command</td>
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<td>▫ OPNAVIST 4790.14A, Office of the Chief of Naval Operations</td>
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<td>▫ MCO P4790.10B, Headquarters US Marine Corps</td>
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<td>▫ DLAD 4151.16, Headquarters Defense Logistics Agency</td>
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<tr>
<td>– AR 750-1, Army Materiel Maintenance Policy, 20 SEP 2007</td>
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<tr>
<td>– AR 750-6, Army Equipment Safety and Maintenance Notification System, 31 OCT 2006</td>
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<tr>
<td>– AR 750-10, Maintenance of Supplies and Equipment, 24 FEB 2006</td>
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Figure 8: Regulations Governing the Depot Maintenance Enterprise