Policy Regarding Performance of Depot-Level Maintenance and Repair

March 1996

OFFICE OF THE SECRETARY OF DEFENSE

REPORT TO CONGRESS

POLICY REGARDING PERFORMANCE OF DEPOT-LEVEL MAINTENANCE AND REPAIR FOR THE DEPARTMENT OF DEFENSE

INTRODUCTION

Depot-level maintenance and repair entails repair, rebuilding, and major overhaul of weapon systems (e.g., ships, tanks, and aircraft), parts, assemblies, and subassemblies. It also includes limited manufacture of parts, technical support, modifications, testing, and reclamation as well as software maintenance. Depot maintenance is currently accomplished by some 89,000 Federal Government employees ranging from highly trained technicians and skilled artisans to engineers and top-level managers. The Military Services currently operate 30 major depot maintenance facilities (some of which are in the process of being closed as DoD maintenance depots). Additionally, the Department uses in excess of 1,300 U.S. and foreign commercial firms to support its depot maintenance requirements. In FY 1996 depot maintenance of DoD weapon systems and equipment amounted to about $13 - $14 billion. DoD policy governing depot maintenance operations is predicated on providing flexible, timely and cost-effective depot maintenance support, as well as retaining military control over certain essential capabilities. This policy is necessarily shaped by departmental requirements for readiness, sustainability and support; by evolving national military strategy requirements; and by external considerations such as legislative mandates.

Prior to 1988, DoD maintenance capabilities were comprised of a large organic depot maintenance complex that was a legacy of the Cold War. It was designed to sustain protracted engagement of sizable forces engaged globally against a substantial enemy. This structure was based on the premise that the essential skills, facilities, and equipment were not readily available in the private sector. With the end of the Cold War and the beginning of the base realignment and closure (BRAC) process, DoD has undertaken a significant downsizing of the organic depot maintenance structure. Contributing to the ability to downsize is industry's increasing capability to provide repair and maintenance services for high-technology military hardware. High quality, efficient maintenance service providers have emerged for many DoD overhaul requirements, creating a competitive private sector base from which the DoD can often achieve best value. It has become apparent that private sector wartime support of some mission essential systems and components can be assured with acceptable risk. The Department, however, recognizes that some capabilities must be maintained under direct Department control and carried out in DoD facilities by Federal employees and that some workloads may remain most cost effective within an organic structure. CORE capability requirements are derived from applicable Joint Chiefs of Staff contingency scenarios and requirements -- currently the two major regional contingency scenario. In this time of diminishing Defense budgets, the Department believes that the costs of providing essential wartime capabilities and performing all depot maintenance work can be reduced. Sizing organic depots to provide CORE capabilities is more effective than ensuring facilities perform workload corresponding to at least 60 percent of the funds made available in a fiscal year to a military department or Defense Agency for depot-level maintenance and repair, as is currently required by statute. The current statutory "60/40" requirement is arbitrary and undermines

effective depot maintenance management. Such a restriction prevents DoD from taking full advantage of private sector opportunities and is counter to efficient government and managerial principles. The Department has in place, and practices the necessary management of its depot maintenance program to justify repeal of the current legislative encumbrances on depot maintenance management.

To compile this report some 61 documents were reviewed and considered (see Section VII for a complete listing). In articulating current DoD policies on depot maintenance management, we considered the national security interests of the United States (including scenario support requirements, the need for ready and controlled sources, and best value for limited DoD budget resources) and capabilities inherent within the industrial base comprising both public and private sectors. These policies factor in decisions and directions of the Base Closure and Realignment Commission as well as the Department's own decisions regarding infrastructure downsizing, workload transfers, and capital investments. Paramount in all Departmental policy considerations are: (1) the readiness and sustainability requirements of DoD forces, (2) the optimum use of scarce Department resources, and (3) exploitation of the strengths of United States commercial industries.

This report is provided in compliance with the National Defense Authorization Act for Fiscal Year 1996. The policies discussed herein outline the framework within which DoD depot maintenance is being managed. This policy is articulated in a number of publications, memoranda and decision documents. Upon review by the Congress of the United States, as required by the National Defense Authorization Act for Fiscal Year 1996, DoD plans to develop an updated single publication with applicable depot maintenance policy guidance. The requirement for this report to Congress is outlined below. Subsequent sections of the report discuss the principal policies of the Department for management of its depot maintenance operations.

REPORT REQUIREMENT

Section 311, paragraph (c), of the National Defense Authorization Act for Fiscal Year 1996 states:

> It is the sense of Congress that there is a compelling need for the Department of Defense to articulate known and anticipated CORE maintenance and repair requirements, to organize the resources of the Department of Defense to meet those requirements economically and efficiently, and to determine what work should be performed by the private sector and how such work should be managed.

Section 311 directs the Secretary of Defense to develop and report to the Committee on Armed Services of the Senate and the Committee on National Security of the House of Representatives, a comprehensive policy on the performance of depot-level maintenance and repair for the Department of Defense that maintains the capability described in Section 2464 of Title 10, United States Code. The Section further directs that in developing the policy, the Secretary shall:

1. Identify for each Military Department, with the concurrence of the Secretary of that Military Department, those depot-level maintenance and repair activities that are necessary to

ensure the depot-level maintenance and repair capability as required by Section 2464 of Title 10, United States Code.

2. Provide for performance of CORE depot-level maintenance and repair capabilities in facilities owned and operated by the United States.

3. Provide for the CORE capabilities to include sufficient skilled personnel, equipment, and facilities that:

a. are of the proper size to: (1) ensure a ready and controlled source of technical competence, repair, and maintenance capability necessary to meet requirements of the National Military Strategy and other requirements for responding to mobilizations and military contingencies, and (2) provide for rapid augmentation in time of emergency; and

b. are assigned sufficient workload to ensure cost efficiency and technical proficiency in time of peace.

4. Address environmental liability.

5. In the case of depot-level maintenance and repair workloads in excess of the workload required to be performed by Department of Defense depots, provide for competition for those workloads between public and private entities when there is sufficient potential for realizing cost savings based on adequate private sector competition and technical capabilities.

6. Address issues concerning exchange of technical data between the Federal Government and the private sector.

7. Provide for, in the Secretary's discretion and after consultation with the Secretaries of the Military Departments, the transfer from one Military Department to another in accordance with merit-based selection processes, workload that supports the CORE depot-level maintenance and repair capabilities in facilities owned and operated by the United States.

8. Require that, in any competition for a workload (whether among private sector sources or between depot-level activities of the Department of Defense and private sector sources), bids are evaluated under a methodology that ensures that appropriate costs to the Government and the private sector are identified.

9. Provide for the performance of maintenance and repair for any new weapon systems defined as CORE, under Section 2464 of Title 10, United States Code, in facilities owned and operated by the United States.

REPORT CONTENT

This report consists of the following sections:

Section	Title
I	Depot Maintenance Overview
II	CORE Capabilities
III	General Management
IV	Public Sector Business Management
V	Workload Management
VI	Private Sector Support
VII	Listing of Documents Used to Compile Report

SECTION I
DEPOT MAINTENANCE OVERVIEW

Depot-level maintenance and repair entails repair, rebuilding, and major overhaul of weapon systems (e.g., ships, tanks, and aircraft), parts, assemblies, and subassemblies. It also includes limited manufacture of parts, technical support, modifications, testing, and reclamation as well as software maintenance. While depot-level facilities have historically had more extensive technical capability than lower levels of maintenance, the differences between levels are becoming less pronounced, workload is shifting among them, and in some cases intermediate and depot capabilities are being combined. Ongoing reductions in military force structure and weapon systems/equipment stocks are decreasing overall requirements for DoD maintenance support. The increased reliability of newer/modified systems and lower operational tempos of some users also contribute to decreasing depot maintenance support requirements.

Because of their role in supporting contingency requirements, depot maintenance capabilities will continue to be vital in the national security environment. Consistent with the *Defense Logistics Strategic Plan* (DLSP), depot maintenance operations are focused on providing responsive capabilities to ensure readiness and sustainability for the Total Force in both peace and war. DoD depot maintenance programs are structured and managed to provide reliable, flexible, cost-effective and timely depot maintenance support to the warfighters. Organic depot maintenance facilities are maintained to provide required capabilities essential to each Service's wartime mission. At the same time, depot maintenance managers are also attempting to create the leanest possible infrastructure consistent with providing essential support capabilities.

Each DoD Component owns and operates its own organic depot maintenance infrastructure. The bulk of the workload is associated with ships and aircraft, with each accounting for about 40 percent (by dollar value) of the total effort. The remaining 20 percent is for missile, combat vehicle, and other ground equipment system workloads. Organic depot maintenance facilities typically employ several thousand people and provide robust maintenance capabilities. The DoD Components are currently downsizing the organic depot infrastructure, primarily by implementing base realignment and closure decisions (BRAC). When the BRAC process is completed in 2001, only 19 of the 38 major organic depots that existed in 1988[1] will remain in operation as Government activities. Some of the closing organic depots may be transitioned into private sector entities and continue to operate as industrial facilities staffed by non-Federal Government employees. The Department estimates that in FY 1996, about 89,000 Federal employees will be assigned as depot maintenance personnel, down from a high of 156,000 in FY 1987.

To provide needed private sector services and materials to support DoD depot maintenance requirements, the Military Services also contract with more than 1,300 U.S. and foreign commercial firms.[2] These commercial firms range from original equipment manufacturers (OEMs) with thousands of employees and extensive capabilities, to small "job shops" with only a few employees and limited or highly specialized capabilities. Between these two extremes, there are increasing numbers of commercial depot maintenance facilities with capabilities which are generally commensurate with, or superior to, those located at the organic depots.

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[1] DoD has also closed overseas maintenance depots through internal management actions outside the BRAC process.

[2] *Depot Maintenance Cost System*

The total magnitude of depot maintenance expenditures, as well as the actual proportions of these expenditures that are consumed by the public depots versus the private sector, are not precisely measured. DoD currently accounts for about $13 - $14 billion[3] annually for depot-level maintenance and repair work performed in both the public and private sectors. This number, however, is not all inclusive. Items such as contractor logistics support (CLS) and interim contractor support (ICS) funds, some major modifications, and parts of software maintenance are not fully captured in depot-level maintenance by the accounting process of some of the Services. Nor does the $13 - $14 billion include workload from certain other sources such as other Federal agencies or Foreign Military Sales. It is projected that the size of the depot maintenance effort, as currently depicted, will decline in the future. From FY 1996 to FY 2001, the decline in total DoD funding is currently estimated to total about 6 percent (in constant dollars[4]). This decline is principally due to continuing reductions in military force structure and implementation of BRAC recommendations, but also due in part to more efficient operations.

DoD estimates that, historically, 65-70 percent of the funds specifically appropriated for depot maintenance have been spent in / by public depots. This does not represent the full public sector consumption of funds since a portion of these funds is spent on private sector material and services. Material cost typically represents 30 percent of the total public depot costs of which private sector purchases (i.e., raw materials and replacement parts used in organic depots) are a part. Additionally, maintenance depots contract for services and goods directly, with these costs still being reflected as part of the public sector effort; these costs are estimated to amount to as much as 5 percent of total depot maintenance costs. Also, a substantial amount of the work performed by depot maintenance activities, in both the public and private sectors, involves the manufacture and / or installation of modification kits. However, this work is not accounted for by some Services in their depot maintenance accounting since it is normally funded by procurement appropriations (vice operations and maintenance appropriations), and is sometimes performed in the field or at other non-depot locations. Thus, it is clear that the actual portion of organic expenditures is less than 65-70 percent. The Department is well aware of the current extent of private sector capabilities for depot maintenance operations, and believes that private sector support should be used to the maximum extent feasible. The organic depot infrastructure should be sized based on the depot maintenance CORE concept and sound business decisions.

The remainder of this report addresses the principal policies which guide the management of DoD depot maintenance. Each section addresses a major policy or operational area. Within the sections, the principal policy tenets are outlined and discussed either separately or as a block of policy guidance.

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[3] *Defense Depot Maintenance Council Business Plan, FY 1995-1999*, page 2-8

[4] Using USD(Comptroller) deflators

SECTION II
CORE

POLICIES: Establish CORE depot maintenance capabilities to meet essential wartime demands, promote competition, and sustain institutional expertise. These capability requirements shape the minimum amount of organic depot facilities, equipment, and personnel that DoD maintains as a ready and controlled source of technical competence. CORE capabilities mitigate the operational risks associated with maintaining readiness for successfully completing, and expeditiously recovering from contingency operations.

Consider and manage CORE requirements from a DoD perspective (i.e., the integrated totality of the individual Service CORE requirements equals DoD CORE requirements).

Size the organic sector to perform CORE (include last source of repair and best value requirements); pursue downsizing commensurate with changes in requirements and overall force structure.

Identify those depot maintenance facilities established to provide CORE depot maintenance capabilities.

Quantify CORE requirements on a biennial basis or when scenario or other structural changes make it necessary.

Provide for a robust, technologically proficient organic infrastructure to support CORE requirements, including those CORE capabilities required to support new and future weapon systems.

Manage organic infrastructure investments, process modernization, and workforce development necessary to sustain required CORE-related organic capabilities (as well as last source of repair and best value requirements).

The current DoD CORE policy describes CORE in these terms:

> Depot maintenance CORE is the capability maintained within organic Defense depots to meet readiness and sustainability requirements of the weapon systems that support the JCS contingency scenario(s). CORE exists to minimize operational risks and to guarantee required readiness for these weapon systems. CORE depot maintenance capabilities will comprise only the minimum facilities, equipment, and skilled personnel necessary to ensure a ready and controlled source of required technical competence. Depot maintenance for the designated weapon systems will be the primary workloads assigned to DoD depots to support CORE depot maintenance capabilities.

It is important to note that not all critical or mission-essential weapon systems and equipment will necessarily be maintained in organic depot maintenance facilities, but the capability to perform depot maintenance on designated weapon systems must be maintained organically.

Simply put, CORE represents the minimum amount of maintenance capability that the DoD Components must maintain in organic depot facilities to ensure that contingency operations are not compromised because of a lack of essential depot maintenance support.

Risk avoidance drives CORE capability requirements. In the context of depot maintenance support to the operating forces, there are three basic risks which must be overcome to justify outsourcing of a critical organic capability. These risks are: Readiness Risk, Sustainability Risk, and Technology Risk.

- Readiness Risk: The risk that the absence of timely depot capability will compromise operational readiness. DoD must ensure that mission essential weapon systems can be kept in a high state of operational readiness during peacetime operations and exercises. These readiness-driven CORE capability requirements involve the capacity to perform scheduled industrial maintenance actions such as overhaul, calibration, and component rework, as well as unscheduled depot-level repair actions. Readiness risk has increased significance in meeting requirements of the latest JCS wartime scenarios.

- Sustainability Risk: The risk that the industrial base will not have sufficient depot-level competencies and capabilities to ensure that mission essential weapon systems can be repaired and maintained to support contingency operations and meet the time constraints imposed by the JCS scenario. The depot capabilities needed to sustain combat are built upon peacetime readiness CORE capability requirements. Sustainability CORE capability requirements typically include those required to perform unscheduled maintenance actions that are beyond the capability or capacity of intermediate maintenance activities (e.g., crash / battle damage repair; emergency, high volume repair of mission essential components (surge); and emergency manufacture of critically needed repair parts). Sustainability CORE capability also includes the ability to provide emergency on-site depot engineering and maintenance field teams.

- Technology Risk: This risk is associated with the absence of technological knowledge and awareness. Modern weapon systems are extraordinarily complex and the Services must maintain an organic capability to understand, master, and support current technology. Technology CORE capabilities include a proficiency in the overhaul and repair processes inherent in new and emerging weapon systems. For mature systems, technology CORE capabilities include the ability to reverse engineer problem hardware and software so that fault isolation and repair procedures can be accomplished even if the original manufacturer is no longer in business. These capabilities also include the ability to conduct evaluations of weapon system failure modes and effects to predict safety hazards, the ability to mitigate readiness degraders and unanticipated support problems, and the skills and experience needed to fully understand the engineering and technical competencies of the market place in order to be a “smart buyer” of commercial depot industrial products and services.

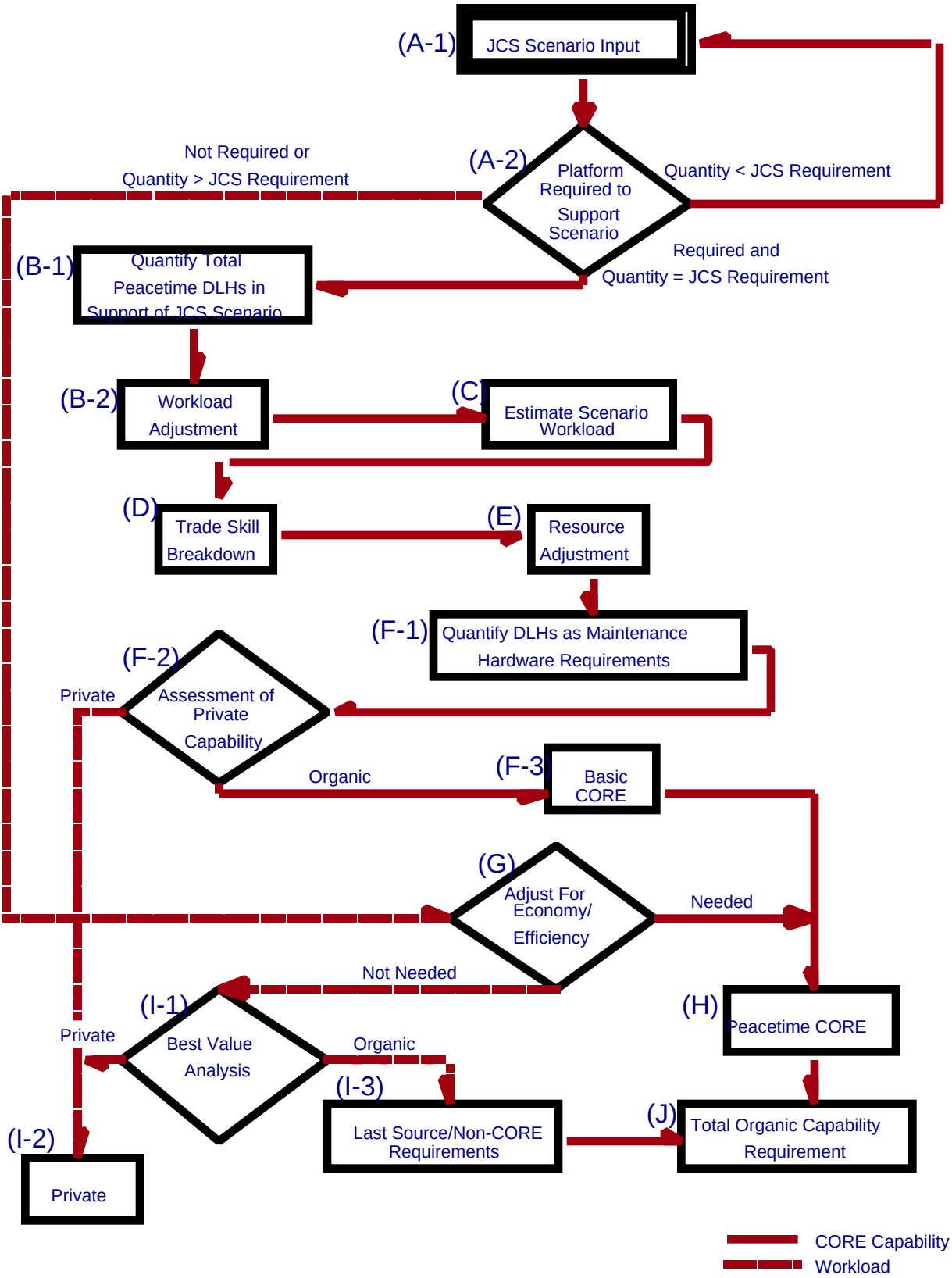
The DoD CORE policy provides a sound basis for the identification of the depot maintenance capabilities which ensure a ready and controlled organic source of technical competence. In order to efficiently maintain these CORE capabilities, organic depot facilities, equipment, and personnel resources are used to accomplish a broad range of depot maintenance workload in support of peacetime operations. Most of this workload involves the overhaul or repair of weapon systems and their components identified in the JCS scenarios. Such work often

includes fabrication of parts when not readily available from normal sources. Modifications on selected systems are also accomplished as necessary and appropriate, in conjunction with CORE workload requirements. Organic workload also includes "best value" (no economical private sector source) and "only source of repair" (no qualified or interested private sector source) work. In sizing the organic base to match the CORE requirements, a single shift forty-hour work week standard is used, thus preserving the depot's capability to instantaneously respond to surge requirements via expanded work hours or adding shifts during emergency operations.

Organic capability requirements will change as a result of factors such as force structure changes, changing threats, introduction of new weapon systems, the aging or modification of existing weapon systems, added capabilities of the private sector, or even changes in battle doctrine. For these reasons it is necessary to review the CORE capability requirements on a regular basis, or when the situation dictates. These reviews are conducted at a minimum of every two years and must be based on the JCS Defense Planning Guidance. Just as the capability requirements change, the workloads required to support these capabilities will also change.

The determination of CORE capability requirements and the depot maintenance workloads necessary to sustain these capabilities, are developed by each Service using a jointly agreed upon methodology. The totality of each of these calculations then becomes the DoD requirement.

The methodology used by the Services in determining their CORE capability requirements and the workloads necessary to sustain these capabilities, is depicted in the diagram below. This process was recently refined by the Services and approved by the Defense Depot Maintenance Council (DDMC). The chief difference from past practice is a best value assessment of the private sector's ability to assume those workloads not required to support a capability necessary to the Military Department Secretary's organic industrial base. For those mission essential workloads which historically would dictate retention of a CORE capability, the Service will conduct an assessment of private sector capabilities. Where it is determined that the private sector can provide the required capability with acceptable risk, reliability and efficiency, then the workload should be made available for competition in the private sector. Workloads not required to sustain CORE do not require a risk assessment. Additionally, the Services recognize that not all of the depot maintenance on a particular weapon system is necessary to sustain CORE capabilities. CORE is the minimum workload needed to preserve critical depot-level capabilities. There may be a mix of private and public sector support for the same system. Each step outlined is further explained in text following the diagram.



CORE Methodology

- **BLOCK A-1 -- JCS SCENARIO INPUT**. The determination of the total DoD organic depot-level capability is based on the JCS combat contingency scenario(s) and JCS Defense Planning Guidance. Each Service's required organic capability, expressed in direct labor hours (DLHs), will vary according to their different roles in support of the JCS scenario(s).

- **BLOCK A-2 -- PLATFORM REQUIRED TO SUPPORT SCENARIO**. Each Service determines the specific platform (e.g., Abrams A-1 tank, F-14, F-15) required to support the selected JCS scenario. If the platform is required, quantify and compare the scenario requirements with the respective total active inventories to identify any inadequacies. If the platform quantity is not available, notify JCS. If the platform quantity is available and equal to the JCS requirement, go to Block B-1 (Quantify Total Peacetime DLHs in Support of JCS Scenario). If the platform quantity is greater than the JCS requirement, the amount equal to the JCS requirement goes to Block B-1 (Quantify Total Peacetime DLHs in Support of JCS Scenario), and the amount greater than the JCS requirement goes to Block G (Adjust for Economy / Efficiency). If the platform is not required, go to Block G (Adjust for Economy / Efficiency).

- **BLOCK B-1 -- QUANTIFY TOTAL PEACETIME DIRECT LABOR HOURS (DLHs) IN SUPPORT OF JCS SCENARIO**. Determine the peacetime DLHs for those platforms necessary to support the JCS scenario. This is accomplished by dividing the JCS scenario platform requirements by the occurrence factor (e.g., number of years between return to depot) multiplied by the platform work package / norm. The platform work package / norm is determined by each Service and based on their different roles in support of the JCS scenario.

- **BLOCK B-2 -- WORKLOAD ADJUSTMENT**. Adjust workload for experience and scenario driven factors. Develop scenario workload experience for those quantities passed from B-1 (Quantify Total Peacetime DLHs in Support of JCS Scenario). The Services use either a composite, weighted average or platform specific factor to consider readiness, sustainability, and / or return to peacetime readiness in their calculations. The specific workload factors will be determined by available information from scenario models (which include factors for platform OPTEMPO, attrition, etc.), occurrence factors, historical peacetime / wartime reliability and maintenance factors (e.g., DESERT SHIELD / DESERT STORM), and other scenario driven factors.

- **BLOCK C -- ESTIMATE SCENARIO WORKLOAD**. Estimate workload-based readiness / sustainability requirements. Using the information from Block B-2 (Workload Adjustment), determine the scenario-related workload in DLHs.

- **BLOCK D -- TRADE SKILL BREAKDOWN**. Determine depot skills required. Using Block C (Estimate Scenario Breakdown) as a basis, identify the depot-level capabilities by skill required to support the scenario-driven platforms and associated workload. This breakdown is not part of the numerical calculation.

- **BLOCK E -- RESOURCE ADJUSTMENT**. Adjust for depot surge capacity. The resource adjustment is accomplished by applying a Service value to Block C

(Estimate Scenario Workload) to reduce the scenario workload to peacetime staffing required DLHs. This adjustment reflects the workforce's ability, through the use of overtime and additional workdays, to meet emergent requirements.

- **BLOCK F-1 -- QUANTIFY DLHs AS MAINTENANCE HARDWARE REQUIREMENTS**. The quantity of DLHs from Block E (Resource Adjustment) is divided by the platform work packages/norms to convert to the maintenance hardware requirement.

- **BLOCK F-2 -- ASSESSMENT OF PRIVATE CAPABILITIES**. If the capability associated with the maintenance hardware requirement is needed to support the Service Secretary's organic industrial base required for readiness and control, then go to Block F-3 (Basic CORE). If not, conduct a risk assessment to determine if maintenance sources exist in the private sector to support the platform/hardware requirement. This assessment will consider criteria such as: (1) Do private sources exist in the private sector that are economical and possess the maintenance capability and capacity to do the work? (2) Have private sources demonstrated proven past performance? If the assessment determines that the private sector can provide the required capability with acceptable risk, reliability and efficiency, then go to Block I-2 (Private). If not, then go to Block F-3 (Basic CORE).

- **BLOCK F-3 -- BASIC CORE**. Compute CORE with above adjustments. Basic CORE consists of the requirements identified in Block E (Resource Adjustment) minus the requirements transferred to the private sector in Block F-2 (Assessment of Private Capabilities).

- **BLOCK G -- ADJUSTMENT FOR ECONOMY/EFFICIENCY**. Apply economy/efficiency factor to keep the required minimum CORE support from being exorbitantly and prohibitively expensive. Capability utilization is examined and efficiency factors are applied to optimize throughput and ensure valuable personnel are fully utilized rather than left idle for long periods of time. The economy and efficiency adjustments are constrained by the number of personnel required to accomplish requirements identified in Block F-3 (Basic CORE). Examine the maintenance requirements for the platform types passed from Block A-2 (Platform Required to Support Scenario) or Block F-2 (Assessment Of Private Capabilities) for potential augmentation of like platforms/commodities or to improve economies of scale. If needed, go to Block H (Peacetime CORE). If not needed, go to Block I-1 (Best Value Analysis). Additional adjustments required by policy or law (e.g., adjustment necessary to meet "60/40") are also made at this point in the methodology.

- **BLOCK H -- PEACETIME CORE**. Basic CORE plus economy/efficiency adjustments. The result of adding Block F-3 (Basic CORE) to Block G (Adjust for Economy/Efficiency).

- **BLOCK I-1 -- BEST VALUE ANALYSIS**. Usually private / private competition will determine best value. Work will be assigned to an organic depot only when private industry cannot meet Service requirements or if the capabilities are nonexistent in the private sector. If private, go to Block I-2 (Private) or if organic, go to Block I-3 (Last Source / Non-CORE Requirements).

- **BLOCK I-2 -- PRIVATE**. Those platforms passed from Block F-2 (Assessment of Private Capabilities) and Block I-1 (Best Value Analysis) will be made available for support by the private sector (contracted out).

- **BLOCK I-3 -- LAST SOURCE/NON-CORE REQUIREMENTS**. Those requirements passed from Block I-1 (Best Value Analysis) will be accomplished by an organic source because there are compelling reasons that preclude privatization (e.g., no other sources, private industry is cost prohibitive, etc.).

- **BLOCK J -- TOTAL ORGANIC CAPABILITY REQUIREMENT**. Block H (Peacetime CORE) plus Block I-3 (Last Source / Non-CORE Requirements) results in an annual organic workload consistent with the JCS scenario requirements, expressed in DLHs.

As shown in the preceding diagram, the capability requirement determined as the result of the above methodology includes not only the CORE requirement, but also the capacity needed to handle last source adjustments for economy / efficiency and best value. It is also recognized that the detailed computation of CORE in peacetime will not perfectly anticipate contingency requirements if and when wartime operations commence. The inability to be precise in predicting exact wartime needs underscores the importance of our organic depot maintenance structure, which employs artisans in many classes of repair requirements who can be re-directed towards the actual end items needed to support any arising contingency. In the aggregate it is anticipated that the pluses and minuses will balance. Hence, the overall computation of CORE will be a reasonable statement of requirements needed to establish and maintain contingency-driven weapon system support capabilities. It is important to note that the CORE calculation yields direct labor hour requirements which can then be translated into needed direct production manpower requirements. The process does not account for associated indirect and general and administrative overhead manpower requirements.

Standard workload driven manpower requirements determination methodologies will be used to size the core depot workforce. Methodologies will recognize variances in peacetime and wartime availability and will be determined using a total force approach that ensures that the numbers of systems / platforms and work packages, factors, and other criterion are consistent with those used to size military units in the force structure. In addition, methodologies used to determine CORE wartime manpower requirements will be structured to ensure that depots are sized to accomplish required workloads within the time constraints imposed by the JCS scenario. CORE manpower requirements will be established at levels that provide an adequate inventory of each occupation and experience level to satisfy projected essential mobilization or wartime surge demands that cannot be met with personnel acquired after mobilization.

DoD plans that the DoD activities specified below will maintain facilities, equipment, and trained personnel to provide organic depot maintenance capabilities. These activities will be sized appropriately and provided adequate peacetime workloading to effectively and efficiently

use their CORE capabilities and work other non-CORE sustaining workloads assigned as "best value" or "only source of repair." Appropriate CORE capabilities will be phased out or transferred from those activities listed below (and indicated by asterisk) that are subject to closure or realignment based on BRAC decisions or other DoD internal management actions. The following list of activities is based upon current CORE capability requirements. Future revisions to CORE capablity requirements could result in changes to the activities listed below.

Department of Navy depot maintenance activities:

Naval Aviation Depot, Cherry Point
Naval Aviation Depot, Jacksonville
Naval Aviation Depot, North Island
Naval Aviation Depot, Alameda*
Naval Aviation Depot, Norfolk*
Long Beach Naval Shipyard*
Norfolk Naval Shipyard
Pearl Harbor Naval Shipyard
Portsmouth Naval Shipyard
Puget Sound Naval Shipyard
Naval Surface Warfare Center, Louisville*
Naval Surface Warfare Center, Crane
Naval Undersea Warfare Center, Keyport*
Space and Naval Warfare Systems Command
Marine Corps Maintenance Center, Albany
Marine Corps Maintenance Center, Barstow

Department of Army depot maintenance activities:

Anniston Army Depot
Tobyhanna Army Depot
Corpus Christi Army Depot
Red River Army Depot*
Letterkenny Army Depot*

Department of the Air Force depot maintenance activities:

Ogden Air Logistics Center
Oklahoma Air Logistics Center
Warner Robins Air Logistics Center
Sacramento Air Logistics Center*
San Antonio Air Logistics Center*
Cryptological Repair Facility, Lackland Air Force Base

SECTION III
GENERAL MANAGEMENT

POLICIES: Structure depot maintenance support capabilities to provide essential levels of readiness and sustainability.

Support depot maintenance workloads using a mix of both public sector (organic) and private sector capabilities.

DoD depot maintenance is an essential element of the Department's overall program to provide for maintenance of assigned weapon systems and equipment. The goals of this program include:

- meeting peacetime readiness and combat sustainability objectives, and
- providing for applicable surge and contingency support requirements.

To achieve reliable, flexible, cost-effective and timely depot maintenance support, the Department has sized and structured a program that includes both public and private sector sources of depot maintenance repair. The program further addresses the fundamental need to, in specific cases, control the risks associated with failure to provide the requisite depot maintenance capabilities. The Services carry out a thorough analysis of depot maintenance support needs, review the risks associated with those needs, and structure their programs accordingly. The analysis done to determine CORE capability requirements addresses risk and industrial base capabilities, including those of the private sector. In those cases where the Services determine that risk-management requirements demand it, organic capabilities are retained. But, it is the overall combination of public and private sector sources, rationally determined and efficiently sized and workloaded, that provides the desired depot maintenance support program.

There is widespread acknowledgment that to provide the right mix of support, the public and private sectors must complement one another. Many recent studies on depot maintenance management have highlighted the need for an increase in the participation of the private sector. The private sector continues to be an integral partner in both accomplishing depot maintenance and in providing goods and services to support organic depot maintenance. It is incumbent upon the DoD to unambiguously define the roles of each sector, drawing on the strengths of each to accomplish the mission as economically as possible. There are significant differences between public depots and private firms which may assist in determining suitable performance in either sector. For a truly integrated depot maintenance industrial base to work effectively, the DoD must understand and draw upon the strengths of both sectors.

The Department has determined that organic depot maintenance capability must exist to ensure that the readiness and sustainability requirements in support of U.S. combat forces are maintained. To provide CORE capabilities, the Military Departments establish and maintain organic maintenance depots. There will, however, be a certain amount of depot maintenance which must be accomplished in these organic depots that is not required to support CORE capabilities. For example, it is expected that there will be workloads which industry cannot or will not compete for at reasonable cost; in these cases it falls to the organic depots to act as last sources of repair. Likewise, there will be occasional situations when a Service finds that there

are insufficient qualified commercial bidders for a particular non-CORE workload, and a DoD depot may be asked to participate in a public/private competition for that workload. The Department must also plan to be able to respond efficiently to emergency (fast turn-around) or low quantity workload requirements. Additionally, the Department may elect to accomplish certain non-CORE workload concurrent with ongoing CORE work when appropriate, to save weapon system downtime or to avoid unnecessary costs. Not all equipment identified as mission essential in the JCS scenario must be overhauled in organic depot facilities in order to support wartime needs. Private sector sources can and do support mission essential workload at acceptable risks to the warfighter, and numerous examples exist concerning the willingness and ability of the commercial sector to surge when required. Contractor support is currently relied upon for weapon systems such as KC-10 and F-117 aircraft as well as Army Mobile Subscriber Equipment. DESERT STORM experience validated the ability of private industry, in many instances, to provide depot maintenance support directly to combat forces.

Essentially, there are four broad types of organizations supporting depot maintenance, each with unique contributions. The first, original equipment manufacturers (OEMs), usually have large "indirect" staffs for engineering, research and development, marketing, and other functions. OEMs typically have relatively high overhead costs and extensive facilities. Comprising the second type is a significant "second tier" of suppliers that support the OEMs, specialized production and service firms, and maintenance depots. Private sector service companies represent a third type of organization, specifically organized to have small indirect staffs and small sunk investment costs. These firms are typically involved with installation of modifications or routine maintenance to an established specification. Overall private sector strengths include weapon system design, manufacture of component parts, specialized commodity production, and the capability to repair. These competencies must be preserved in order to assure full support, future weapon system development, and technological superiority. Finally, there are the organic depots. Often heavily facilitized, the depots are large-scale, integrated industrial activities that work on multiple commodities, usually associated with specific technologies under approaches such as the technology repair center concept and the center of technical excellence concept. As such, the organic depots represent an “insurance policy” that keeps in place the capability to address virtually any unpredicted wartime maintenance need. Under direct military control, the organic facilities can quickly change work mix, significantly increase production, develop and field hardware or software modifications, and dispatch field teams to analyze and solve logistics problems. This flexible response also has the virtue of being unhampered by contract provisions or lead time requirements.

Notwithstanding DoD’s analysis of the appropriate mix of public and private sector depot maintenance, the Department must comply with the constraints imposed by Congress. The role of congressional guidance in determining workload balance is significant. Each year DoD is the focus of legislative direction contained in various appropriation and authorization acts, some of which have been codified as permanent law. Examples of existing legislation influencing the workload balance include:

- requirements that no more than 40 percent of funds made available in a fiscal year to a military department or Defense Agency for depot-level maintenance and repair may be to contract for the performed by non-government personnel, and

- the requirement that the Department ensure that the performance of a depot maintenance workload currently being performed at an organic depot, not be changed

to a contractor unless public/private competitive procedures are used, or not be changed to another organic depot unless merit-based selection procedures are used.

Currently, the Department manages depot maintenance operations based on this statutory guidance. For example, each Military Department and Defense Agency is required to identify the relative workload levels of their public and private sector depot maintenance operations and to manage in such a manner as to be in compliance with the statutory workload balance requirement.

POLICIES: Provide for an integrated depot maintenance management framework that:

recognizes each Service's responsibility for logistics support to their forces;

considers overall DoD needs to be efficient and cost-effective;

uses the Defense Depot Maintenance Council (DDMC) to provide for necessary integration of depot maintenance management, planning, and operations; and

performs strategic planning for depot maintenance.

The Department recognizes the requirement for each Military Department Secretary to provide adequate logistics support for operating forces. With regard to depot maintenance, DoD believes that such requirements can best be met when addressed from within an integrated management framework that considers the totality of the Department's requirements, capabilities, and available resources. To that end, DoD has established appropriate approaches that take advantage of both the current Departmental structure (e.g., the Office of the Secretary of Defense, the Military Department Secretariats, Service Headquarters, and subordinate logistics commands/agencies) and a number of joint-Service management forums that monitor and oversee depot maintenance operations. These joint forums include the DDMC as well as the Joint Logistics Commanders (JLC) and the Joint Policy Coordinating Group for Depot Maintenance (JPCG-DM). This framework provides for effective integrated management of DoD depot maintenance. While the JLC and the JPCG-DM are ad hoc organizations for identifying and resolving joint and interservice depot maintenance issues by mutual agreement, the DDMC, as the formal policy body for DoD depot maintenance issues, exercises the necessary authority to resolve issues when joint agreement can not easily be reached.

The DDMC provides the capstone of the integrated framework for depot maintenance management. Members of the DDMC are senior logistics managers from each Military Service, the Joint Staff, and the Defense Logistics Agency (DLA). These Service representatives ensure that DDMC initiatives are consistent with Service responsibilities.

The Department established the DDMC to integrate the management, planning, and operation of the depot maintenance function and to:

- reduce costs and improve efficiency and effectiveness of worldwide depot maintenance management and operations,
- review depot maintenance policies, systems, programs, and activities; and accomplish joint planning, monitoring, and evaluating management improvement initiatives,
- exchange information among DoD officials responsible for conduct of depot maintenance operations, and
- perform advisory duties.

In conjunction with the responsibilities outlined above, the DDMC goals include:

- accomplish strategic planning for all depot maintenance functions,
- improve capacity utilization, and eliminate redundant and duplicative facilities and capabilities in both the public and private sectors,
- standardize policies, procedures and methods,
- modernize and standardize data processing systems,
- coordinate capital investment strategy, and
- initiate management actions to reduce cost of ownership of weapon systems.

While the above objectives and goals speak to the general responsibilities of the DDMC, the Council has been specifically charged with management of significant workload transfers. Consistent with direction from the 1995 Base Closure and Realignment Commission, the DDMC has decision authority regarding the transfer of workloads generated as a result of closure and realignment decisions and is exercising that authority for depot maintenance workloads at San Antonio Air Logistics Center (ALC) and Sacramento ALC. The Department is committed to effectively utilizing the DDMC and the other joint-Service forums to provide the integrated management effort that will ensure that depot maintenance operations are effective and efficient.

The *Defense Logistics Strategic Plan* (DLSP) was initially published in 1994 and updated in a 1995 version. The DLSP was developed with inputs from the Services, Defense Agencies, and the Joint Staff. It provides high level vision, guiding principles, and assumptions about the future as well as specific goals, objectives, and strategies for implementation. With this Department-level guidance, the Services perform their respective strategic planning and reflect this in their Program Objective Memorandum (POM) inputs. The POM is then reviewed by the Department for consistency with the DLSP. The DLSP vision is a logistics system of the future that provides reliable, flexible, cost-effective and prompt logistics support, information, and services to the warfighters while achieving a lean infrastructure. This is to be accomplished by making selective investments in technology, training, process reengineering, and by employing the most successful commercial and government sources and practices with a precise, agile response, instead of mass.

The DDMC supports the goals, objectives, and strategies of DLSP through plans to improve depot maintenance performance and flexibility. The DDMC also reports the current progress on depot maintenance strategies and plans in the *DDMC Business Plan*. The *DDMC Business Plan* provides an overview of depot maintenance management that focuses on the Services' implementation of OSD depot maintenance policies, base realignment and closure actions, and rightsizing the depot maintenance infrastructure. The Plan reflects the integrated management approach the Department is bringing to the management of its depot maintenance operations. The current *DDMC Business Plan* covers the period 1995-1999 and describes the continuing joint-Service initiatives for managing the organic depot maintenance industrial base during the remainder of the 1990s and beyond. It also describes strategies and plans for future depot maintenance management actions to implement recent BRAC decisions and OSD policies. The strategies and initiatives outlined in the Plan are to be considered as transitory in nature, as they are still evolving and will inevitably be impacted as other changes occur in OSD. As is the case in the current version of the Plan, future editions will reflect the progress made by the Services in implementing the various decisions and changes in the strategies which are disseminated to the DoD depot maintenance community.

POLICY*: *Use a single joint-Service organization to assist in depot maintenance planning, analyze workload decisions, and facilitate interservicing.

DoD has established and supported a joint-Service organization, the Joint Depot Maintenance Analysis Group (JDMAG), that principally supports the depot maintenance planning functions of the Military Departments and the Defense Agencies. The principal focus of this organization includes:

- performing studies to assign depot workloads,
- conducting integrated business planning, and
- facilitating technology and environmental information exchange to improve depot maintenance efficiency, economy, and productivity.

The Defense Depot Maintenance Council (DDMC) uses the JDMAG to support many of its interests and initiatives. Using this approach, the DDMC and DoD have been able to develop improved coordination and reviews of depot maintenance policies, procedures, methods, and philosophies. This organization will continue to coordinate and support initiatives sponsored by the DDMC, including publication of business plans and joint progress reporting of strategies and plans for future management as well as budget, workload, capacity, and personnel information.

POLICY*: *Make "best value" a primary consideration in satisfying workload requirements other than those necessary to sustain CORE capabilities.

Once the minimum workload needed to preserve DoD CORE depot capability is determined (an ongoing process revisited at least biennially), the remaining workload must be accomplished such that the DoD attains best value. This involves consideration of not only commercial sources of repair, but economic use of organic capacity (i.e., efficient peacetime use of those capabilities established to support CORE capability requirements). It can also involve having organic depots compete with private sector firms when it is determined there is not adequate competition from private sector firms alone.

DoD will pursue best value logistics support by using commercial practices to the maximum extent practicable. Organic facilities may also serve as exporters of improved maintenance business practices to other organic or contract providers. The objective is to take advantage of best commercial practice approaches, processes, and technology. This provides the opportunity to look beyond the lowest apparent cost for logistics support and to seek new ways of meeting the warfighters' needs while reducing resource expenditures. For example, a company's development of improved repair processes may produce repairs that significantly extend the service life of weapon systems. Best value will consider a contractor's past excellent performance, this being a good indicator of risk associated with new bids. Best value may also include factors such as reduced schedules for repair turn around times, reduced pipeline costs, alternative replacement of parts, or other changes focused on providing a more effective end result. Best value considerations are not limited to private sector support. Organic depot facilities may constitute best value providers in certain circumstances. Examples include accomplishing related workload to efficiently utilize CORE capabilities, taking advantage of improved repair technologies, providing capability when there are no viable sources in the private sector, and participating in competitions because of limited private sector sources. The Department also strives to achieve best value through activities such as interservicing workloads and joint-Service contracting.

Thus, the method of providing logistics support shall not be constrained to the historical support approaches. For example, support concepts may include evaluation of contractor provided, long-term, total logistics support. This approach is not limited to depot-level maintenance, but also includes flexibility to make cost reducing configuration changes and to provide best value approaches to wholesale and selected retail materiel management functions.

POLICY*: *Pursue initiatives to reduce depot maintenance costs as a contributor to the life cycle cost of weapon systems.

The Department is taking aggressive action to control the depot maintenance contribution to the life cycle cost of weapon systems. Depot maintenance and the related elements of materiel management, transportation, and sustaining engineering are all part of life cycle logistics support. The costs associated with these efforts cannot be addressed in isolation due to their interactive nature. The Department has established policies, procedures, and programs to minimize the overall cost of weapon system ownership. A reduction in unnecessary organic infrastructure, obtainable only through removal of restrictive legislation, is key to realizing this policy.

Total costs of depot maintenance are being closely monitored. Steps have been taken to more accurately identify costs at the workload level to support decision making and process reengineering. Infrastructure and overhead costs are being reduced. Maintenance depots have been closed and additional depots are being closed; some are being transitioned into private sector entities. Information systems are being developed to support contemporary business processes focused on producing required outputs in more efficient ways. Privatization of workloads and facilities, where it makes sense and is consistent with military considerations, is being pursued. In addition to eliminating organic infrastructure not required to support CORE, the Department thus gains the economic benefits of private sector competition.

Other approaches being used include:

- Reliability-centered maintenance (RCM) is being applied to development and management of preventive maintenance programs for weapon systems and equipment end items.

- Maintenance engineering discipline is being applied to all phases of the life cycle of weapon systems to ensure balanced, minimum cost logistics support programs.

- Efficiency and effectiveness of maintenance at all levels is being enhanced through the use of such new technologies as artificial intelligence and expert systems. Productivity-enhancing measures are being used at all levels of maintenance as a way of maximizing support of weapon systems while minimizing cost.

- Contractor maintenance support to equipment and weapons systems for deployed forces is being coordinated with other DoD Components operating the same equipment and weapon systems in the same operational area, whenever practical.

- Unneeded maintenance capacity is being eliminated or put into a lay-away status, whichever is more cost effective, consistent with national security considerations.

- Business process reengineering is being used to introduce contemporary business practices and realize the efficiencies that process change can bring.

- Converting workshops to a cellular arrangement which brings the resources needed to repair an item or range of items into one location.

- Pollution prevention and hazardous material reductions are being implemented which produce savings in materials handling, personal protective equipment, and hazardous waste disposal

In a recent study commissioned by the Department, reliability improvement was identified as the area of highest potential for obtaining reductions in cost of ownership of weapon systems. The reliability of systems and components is a major factor in the cost of the DoD maintenance system. It affects mission capability, repair frequency, facilitization, technician training, spares procurements, and a host of other factors. It is essential, therefore, for the logistics support process to improve the reliability and maintainability of components. The Department recognized the need for a basic redesign of the reliability improvement process to provide an effective implementation structure to include needed identification, evaluation, funding, and execution.

Realizing that implementation of cost reducing reliability improvements often falls outside the arena of traditional depot maintenance funding, DoD is focusing specific funds on such improvements through a dedicated program. The study noted that numerous programs currently exist within DoD. Nonetheless, the Department believes that there are a substantial number of potential investments with high payback in savings that are outside the scope of these existing programs. In response to this situation, the Department is establishing a new dedicated Depot Maintenance Reliability Program in the current budget submission with an initial annual funding level of $90 million in 1997. Such a program will not only reduce depot maintenance costs, but will also help control total life cycle costs for current weapon systems and equipment.

POLICY*: *Establish a process which assures integrated decisions when assigning workload or committing resources to establish depot maintenance capabilities.

Logistics support concepts are defined early in the weapon system design process and are refined throughout the development process. The objective is to attain the lowest life cycle cost while ensuring required availability of the weapon system to the warfighter. Selecting the source of depot-level support is one part of this planning process. In order to manage risk associated with maintenance of a mission critical system or subsystem(s), the associated depot workload may be designated as necessary to support CORE capabilities.

The decision on specific workloads necessary to support specific CORE capabilities will consider existing DoD sources and capabilities to determine the most cost effective approach over the weapon system or subsystem life cycle. Guidance beginning with the Secretary of Defense's February 1994 acquisition reform mandate is being provided to this end. DoD Instruction (DoDI) 5000.2, *Defense Acquisition Management Policies and Procedures*, was cancelled March 15, 1996 and replaced by DoD Regulation (DoDR) 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS) Acquisition Programs*. The new regulation provides additional emphasis on such best value solutions and requires review at appropriate management levels during the acquisition process.

Specifically, the Department uses an acquisition Decision Logic Process encompassing readiness, sustainability, and economic factors as the basis for dividing the workload allocation between private sector sources and organic facilities. Inherent in the Department's revised approach to establishing depot maintenance support capabilities, is a new philosophy that precludes automatically acquiring organic depot capability for new weapon systems. The revised approach includes the following tenets:

- Consistent with the CORE concept, only when there is a proven and compelling need for readiness, sustainability, or technology risk reduction, will an organic capability be established.
- Weapon system acquisition strategy includes, as an essential component, the consideration of private sector versus organic maintenance in the maintenance concept.
- Depot maintenance strategy review is required as part of each new weapon system's milestone decisions. The depot strategy review includes not only the weapon system platforms, but the individual commodities (e.g., propulsion, electronics, etc.) that will be subjected to depot support during the system's life cycle.
- Reexamination of the depot maintenance strategies of weapon systems as they progress in the acquisition process takes place. As underlying circumstances change during the course of a program, the validity of the initial depot maintenance strategy must be reevaluated.

POLICY*: *Use evaluation procedures for depot maintenance workload competitions that provide, in the case of private sector competitions, comparable costs for all competitors, and in the case of public sector - private sector competitions, comparable as well as comprehensive costs for the public sector.

Although wholesale public/private cost competitions have been discontinued (based on the inherent differences between the sectors that make comparison very difficult), DoD believes there is a role for selective competitions to ensure the Department achieves its goals of best value for competed workloads. For workloads not required to sustain CORE capabilities, competition within the private sector should provide DoD with best value depot maintenance support in instances where a viable and robust competitive base of companies exists. In those cases where there is inadequate competition within the private sector, public sector organic depots may compete to ensure that DoD achieves the economies and efficiencies of competition for maintenance of military materiel. Under these circumstances public/private competition is warrented even though DoD internal cost accounting systems are not always entirely adequate to ensure a truly equivalent comparison.[5]

The Department's goal is to ensure that competitions for depot maintenance workloads result in best value outcomes. The policy statement outlined above, reflects DoD's commitment to achieving best value. The Department endeavors to ensure that private sector bids fully disclose the costs to perform the work required. In those cases where the public sector competes for workload, DoD also will endeavor to identify all costs relevant to the organic depot bid and will make the necessary adjustments to ensure comparability with any private sector bid. In recent years, DoD has stressed the importance of infusing the depots with the benefits of private sector business management practices, including financial management processes. The Department continues to work on its depot maintenance financial processes to make them more business-like and to reflect full and accurate costs.

Section 2470 of Title 10, U.S.C., states that a DoD depot-level activity shall be eligible to compete for the performance of any depot-level maintenance and repair workload of a Federal Agency for which competitive procedures are used to select the entity to perform the workload. This guidance results in organic depots being in direct competition with private sector firms. While DoD is undergoing downsizing, it is not appropriate for Department organic depot maintenance facilities to compete on a wholesale basis for other Federal Agency depot-level workloads. Any workloads competed for must, however, be supportive of maintaining DoD CORE capabilities. If such competitions are won by the DoD depot, the impact of the new workload on sustaining the winning depot's CORE capability must be analyzed. Where appropriate, workloads displaced from CORE sustainment by the new workload will then be reviewed for redistribution to other depots to support their CORE capabilities and/or for possible outsourcing to the extent they exceed CORE requirements. Again, for DoD depot-level activities to compete for workloads governed by these procedures, the Defense Finance and Accounting Service (DFAS) must certify that a cost accounting system, or other manual means, is available within the activity to identify and track official accounting costs associated with the workload.

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[5] *Depot Maintenance Public Versus Private Competition Report,* Coopers & Lybrand, prepared for the Deputy Under Secretary of Defense (Logistics), March 1995

POLICY*: *Provide for access to adequate technical data for depot maintenance and to support full and open competition for depot maintenance workloads; seek to use contemporary information technology for access to technical data with the objectives of providing adequate, up-to-date, usable, and affordable data.

Access to technical data is extremely important to depot maintenance business management. DoDR 5000.2-R, March 15, 1996, provides technical data guidance for weapon systems development and major modifications. The new regulation states that all new contracts shall require on-line access to technical data in digital form, unless it clearly evident that doing so would not be cost effective. This application of computer-aided information technologies will improve life cycle support of defense systems and equipment by improving the quality, accessibility, and currency of data available to the provider of depot maintenance.

Technical data for the organic or potential commercial maintenance providers must be of adequate scope for the purpose, describe the up-to-date configuration of the system or equipment as deployed in the inventory, be usable, and be accessible. Efficiency in maintaining quality technical data is important because of its cost and problems with currentness due to rapid changes in system configuration. Information technology integrated with the weapon system design and configuration control processes, creates an opportunity to efficiently maintain the quality data needed to repair or reprocure fielded weapon systems, subsystems, and components. Use of international and commercial standards is an important step in improving technical data accessibility for the depot maintenance community. In addition to accessibility and currency of data, there is a vital need for the data to be efficient for the maintenance community to use. The overall objective is to affordably achieve access to quality technical data that is usable by the maintenance provider and that will support full and open competition of appropriate depot maintenance workload. This is a critical strategy not only for the depot maintenance program, but throughout the life cycle from acquisition through operations and support.

Within the limits of FAR 6.3[6], DoDR 5000.2-R requires the acquisition strategies for all new programs to provide for competition in all weapon system life-cycle phases. The availability of technical data suitable for follow-on competitive contracting constitutes a cornerstone in the DoD's program to achieve best value in depot maintenance services, and must be considered in any outsourcing analysis. In some cases, organic depots rely upon proprietary data that may not be releasable under existing agreements. In these cases, the in-depth data analysis required to determine the exact status of proprietary data ownership and Government Purpose Licensing Rights (GPLR) for each item being repaired must be accomplished during the workload selection process. In the case of closing depots, if the workload is transitioned into private sector entities, a determination is needed on whether or not the GPLR can be transferred to the contractor for use in accomplishing the Government workload. In other cases, organic depots are using data that is incomplete and, therefore, not suitable for inclusion in a statement of work. In these cases, the cost impact of obtaining contractible data must be considered.

[6] Federal Acquisition Regulation, Part 6.3, Other Than Full and Open Competition

POLICY*: *Ensure that effective quality management is practiced in both public and private sector operations that support DoD depot maintenance.

As outlined in the Department's input on quality to the 1994 Defense Science Board Task Force on Depot Maintenance Management, DoD considers quality to be an essential element in all its depot maintenance operations. The Department defines quality as the degree of excellence which is a prerequisite condition of work as articulated by the acquisition authority through technical requirements, specifications, and standards.

The Department's current initiatives for reducing the cost of quality assurance in acquisition also have application to depot maintenance. The use of the ISO 9000 series documents to replace the principal quality military specifications, MIL-Q-9858 and MIL-I-45208, in DoD requirements, allows private sector operations that support depot maintenance, to have one quality standard within their company for DoD and commercial customers. This approach transitions to performance requirements that reduce the "how to" to focus on the "what" of the DoD requirement. This change will have a positive effect on both overhead and direct costs.

Both organic and private sector commercial firms performing depot maintenance are required to maintain internal quality control programs. These programs range in size and complexity, and vary by commodity types as much as they do between public and private sectors. However, most include internal inspectors; programs for ensuring the knowledge, skills, and abilities of the workforce (employee certification programs, training programs, apprentice programs, and others); and formal product testing, inspecting, and random sampling programs. Additionally, private industry providers have formal programs for monitoring the work of subcontractors to ensure the work also conforms to the prime contractor's requirements.

In addition to the internal quality control programs, both sectors have external quality control programs. Private sector depot maintenance operations receive quality assurance surveillance by the Government - usually Defense Contract Management Command inspectors. The equivalent within public depots are GAO and/or Service or DoD Inspector General organization audits/studies, as well as higher command inspections of the depot quality program.

Public sector depot operations have directly applied identical or similar requirements and/or specifications that the Government requires of industry. For organic depot maintenance, the Department will transition to the ISO 9000 series on a timetable consistent with current acquisition reform milestones.

Current quality assurance practices have evolved to embrace contemporary quality management theory (e.g., Total Quality Management), and will continue to be shaped by leading edge business practices. It is the Department's goal to provide effective quality management of its depot maintenance operations in the most cost effective manner possible.

POLICY*: *Establish and monitor performance metrics for both organic and contract depot maintenance operations.

Performance metrics are tools used by managers to measure progress towards established goals. They provide management a way of gathering information which enhances the ability to focus on actions which affect cost, quality and schedule and workforce morale. Performance measures must be timely, accurate, standard, and visible to the entire organization. For depot maintenance, the Department ensures that metrics are established and used at all levels of operations management.

Effective indicators are easy to understand and measure key processes and results. They are carefully constructed so as not to encourage unintended behavior. Indicators showing trends over time provide better information than single data points and are normally evaluated in relationship to other information. Contemporary managers rarely depend entirely on financial ratios; they also measure, track and evaluate productive output, schedule, performance, customer satisfaction, and quality indicators as well.

Based on direction from the Defense Depot Maintenance Council (DDMC), the DoD Components have established and maintained an approved performance measurement system - the Depot Maintenance Operations Indicators (DMOI) - for all organic maintenance depots. Total Quality Management (TQM) and the Theory of Constraints (TOC) are two of the management theories that underlie the current set of DoD depot performance indicators. TQM stresses the need to build quality into every step of each process and to strive for continuous improvement. TOC focuses upon system wide improvements through improved management of process constraints. The information contained in the reporting system includes data for indicators such as: throughput and operating expense, capital investment effectiveness, schedule, process days, net operating result, and labor hour cost. Additionally, for its organic depot maintenance operations, the standard approved method for measuring capacity and utilization in DoD depots is based on work stations being used on a single shift, forty hour work week basis. The purpose of capacity and utilization measurement is to promote more cost effective use of DoD organic maintenance facilities. This methodology was reviewed during the Department's deliberations for the FY 1995 Base Closure and Realignment Commission. It was accepted by all the authorities that were officially designated to review base realignment and closure recommendations. These and other performance indicators continue to be evaluated for usefulness and validity. The schedule calls for reporting of most quarterly performance metrics on a semi-annual basis, and it is planned that these indicators will be included in an automated Enterprise Information System (EIS) which may be updated more frequently.

The Military Components and DLA have established internal performance metrics and tracking systems to provide performance monitoring of their depot maintenance operations. These metrics and systems are tailored to the operations and support concepts of specific requirements. Nonetheless, all of the Components and DLA report basic metrics to the highest levels of DoD management. DoD recognizes that sound management principles require that indicators be constructed of the same data from the bottom up. Valid measures at the bottom of the organization may not be of consequence at the top; conversely, what may be applicable at the top may be too broad and general to be of use at the bottom. The key is to aggregate performance data at increasing levels and present it in a manner that the transition from data points to trends is smooth. This aggregation approach provides a "drill down" capability for top management such as DDMC members to use in assessing trends as a predictor of future

performance, and yet when needed, provides details about single facets of the organization. The Department is committed to establishing additional reasonable and meaningful metrics for logistics managers to use in assessing private sector depot maintenance providers - in terms of cost, levels of effort, and performance.

The Department requires performance metrics and measurement in accordance with sound management principles. DoD is aware, as well, of requirements such as the Chief Financial Officers (CFO) Act and the Government Performance and Results Act (GPRA). The CFO Act mandates that chief financial officers in each agency develop an integrated agency accounting and financial measurement system which provides for the systematic measurement of performance. The depot maintenance community is working with the DoD Comptroller to support the requirements of the CFO Act and is including effectiveness as well as cost per output goals in its resource management processes. The GPRA holds Federal agencies accountable for satisfying customers, for establishing goals, developing performance budgets, improving service delivery, enhancing quality, and lowering costs. It calls for varying levels of planning and performance measurement in relation to plans. As indicated in this report, strategic and performance planning are inherent in the management of DoD depot maintenance operations; measurement against plans is continuing to evolve. Existing depot maintenance performance indicators will be changed and new indicators developed consistent with the direction provided by the GPRA. In summary, depot maintenance operations are managed consistent with the CFO Act, the GPRA, and with other statutory requirements focused on improving the management of Federal Government operations.

SECTION IV
PUBLIC SECTOR BUSINESS MANAGEMENT

POLICIES: ***Provide the necessary resources for depot maintenance, ensuring a consistent approach to satisfying depot maintenance requirements from all sources.***

Review current year and unexecuted prior year capital investment plans annually to ensure consistency with evolving CORE (and other valid organic) requirements.

The process for providing resources for accomplishment of depot maintenance is the same process used for all programs managed within DoD. This process includes issuance of Program Objective Memorandum (POM) Preparation Instructions, Defense Resource Board (DRB) review of the Departments' POM submissions, POM decisions, budget preparation instructions, and budget reviews by the Comptroller and other staff offices. During each of the stages, the objectives include providing guidance, providing necessary resources and ensuring a consistent approach to satisfying requirements. The Deputy Under Secretary of Defense for Logistics (DUSD(L)) sets resourcing direction and reviews Service plans. The DUSD(L) advocates valid resource requirements for depot maintenance throughout the planning, programming, and budgeting processes.

The requirements for capital investments are initially determined by source of repair decisions and the need to provide/sustain CORE capabilities. The Department reviews capital investment plans using a number of different approaches. Each Military Service, of course, has an internal process for capital investment planning as directed by the DoD Comptroller. Such planning includes both facilities and equipment. These plans are reviewed at various levels within each Service prior to being included in their budget. Depot maintenance facility requirements are further reviewed by a joint-Service group under the auspices of the Defense Depot Maintenance Council (DDMC) to ensure that unnecessary duplication is avoided. Finally, during the budget review process, the DUSD(L) provides the necessary functional level review of all depot maintenance capital investment planning.

The Department endeavors to keep depot maintenance capital investments to the minimum necessary for establishing and maintaining robust, technologically proficient CORE capabilities. As the Department goes through force structure reductions, contingency scenarios changes, base and facility closings, and maintenance concept evolution, logistics managers must review current and unexecuted past capital investment plans to ensure continuing need in view of changed requirements.

POLICIES: ***Establish financial management processes that provide accurate and comprehensive reporting of depot maintenance efforts at both the macro and workload levels.***

Establish appropriate internal management controls to ensure the protection of resources and the integrity of management information and workload data.

Develop effective means to compare costs for organic depot maintenance with costs in the private sector.

The Department is working to establish proper and effective financial management processes. There is full recognition of the need to accurately account for all costs and effectively apply costs at the workload level - to validate the integrity of the financial accounting system. The depot maintenance community is actively engaged in identifying the changes needed to make financial management practices more business-like.

Currently, each DoD Component has its own depot maintenance financial management system. Under the direction of the Defense Finance and Accounting Service (DFAS), the Department is in the process of selecting the best system for each Component and taking the actions necessary to ensure that these systems fulfill the necessary functionality, as well as provide for compliance with the Chief Financial Officer's Act. It is intended that, in addition to DFAS requirements, the updated depot maintenance cost accounting systems will meet the following requirements:

- Provide both unit cost data and annual cost of work completed data.
- Identify and capture organic, interservicing, and contract (to include contractor logistics support (CLS), interim contractor support (ICS), and program manager funded requirements) depot maintenance cost data from all appropriation funding sources (e.g., operations and maintenance, procurement, and DBOF).
- Use standard data elements and provide standard reports.
- Provide data roll-ups for Service Headquarters and OSD usage, as well as drill down query capability for higher management levels.

All of these systems are subject to audit/review by the Department Inspector General and the General Accounting Office.

The establishment of proper internal management controls and integrity of data must initially be incorporated into systems design. Internal and external audits of depot maintenance operations, as reflected by financial management information, ensure the existence of internal controls, the validity of data input into systems, and the integrity of subsequent system information.

The Department continues to strive to develop a means to compare organic costs for depot maintenance with costs in the private sector for those limited situations where there is not adequate competition in the private sector. To this end the Defense Depot Maintenance Council (DDMC) sponsored a committee that developed and published the *Cost Comparability Handbook*. However, even when the Department is able to establish proper and effective financial processes, the number of competitions will remain limited because the inherent differences between the public and private sectors make comparison very difficult. The Department will continue working on developing comparable costing methods and enhancing the *Cost*

Comparability Handbook so that DoD depot maintenance operations can at least be compared or benchmarked with the private sector when appropriate. Additionally, the Department is interested in exploring management accounting approaches, such as activity-based costing (ABC), which may provide improved capabilities for product costing. ABC can support DoD efforts such as process value analysis and strategic planning for overhead functions; it can provide managers with more meaningful information with which to judge the efficacy of management decisions. Other concepts such as earned value performance measurement are being looked at to help determine the true value of specific project cost performance. Used in conjunction with other available management tools (such as those capabilities being provided in the depot maintenance management information systems be developed by the Joint Logistics Systems Center), the earned value concept, which compares planned values with earned values and actual costs, may make substantial contributions to the ability of the depot maintenance community to operate more cost effectively.

POLICY*: *Ensure that organic depots can compete with private sector sources of repair when there does not appear to be adequate competition for specific DoD workloads within the private sector; restrict from any such competitions those organic depots that are being closed.

In some situations there is inadequate interest or capability in the private sector to fully realize the benefits of competition. For example, the technology in a DoD system may be too old or unique for there to be more than one commercial source of repair. Or, there may be advanced technology requirements or technical data limitations that preclude broad-based private sector interest. In these situations, the Department's limited options can include paying the sole source price or generating the competition from within the DoD depot structure.

The Department will pursue such competition when it is reasonable to expect it to produce savings and not jeopardize performance of CORE capability requirements. Title 10, U.S.C., Section 2469 requires such competitions to change from an organic source of depot-level maintenance and repair workloads to a commercial source for workloads in excess of $3 million. Other statutory requirements require that an effective cost accounting method be available to identify and track costs associated with the workload. Department policy is consistent with these requirements. However, the Department will attempt to ensure the benefits of competition for all workloads not required to sustain CORE capabilities, regardless of value.

The Department is taking action to provide improved financial management processes to more effectively operate organic depots. The resulting processes and systems should be capable of supporting public versus private competition in those cases where there is inadequate private sector competition, and where they meet the associated Title 10 requirements. DoD will continue, however, to size its organic infrastructure in relation to CORE capability requirements. When workloads are won competitively by organic depots, that workload will be carefully evaluated as to its abilities to sustain required CORE capabilities so that other workloads no longer required to sustain CORE, may be relocated to other DoD depots or outsourced.

Similarly, depots that are in the process of closing are restricted from competing for any new workloads. The Secretary of Defense has encouraged the Chairman of the Joint Chiefs of Staff, the Secretaries of the Military Departments, and the Directors of the Defense Agencies to maintain only essential operational demands on closing bases. The Secretary of Defense indicated that closing bases should not be assigned or allowed to compete for new functions or workloads except as approved by the Service Chiefs (without redelegation authority). Once selected for closure, drawing down the mission and closing the base must become the major function of commanders and managers.

POLICY*: *Permit organic depots to sell services and goods, when appropriate, to other Federal Agencies and the private sector in support of DoD requirements.

The Department has enabled organic depots to sell goods and services to other Federal agencies and the private sector as permitted by Title 10, USC. The following articles provide this authority:

- 10 USC 2208h - Permits goods to be sold or services rendered to persons outside DoD.
- 10 USC 2470 - Permits depots to compete for workload of Federal agencies.
- 10 USC 2471 - Permits the leasing of excess organic equipment and facilities to a person outside of DoD.
- 10 USC 2553 - Allows sale, to persons outside of DoD, of articles and services that are not available from any U.S. commercial source.
- 10 USC 4532 - Mandates that the Secretary of the Army will have supplies, needed for the Department of the Army, made in factories and arsenals owned by the U.S.
- 10 USC 4543 - Based on Article 2208, provides provisions for Army industrial facilities that manufacture large caliber cannons, gun mounts, recoil mechanisms, ammunition, munitions, or components thereof, to sell manufactured articles or services to a person outside of DoD.

Specifically, DoD policy for use of 10 USC 2553 (considered the key article) by the depots is that: the Defense Finance and Accounting Service (DFAS) must certify that the depot accounting system can track costs; prices must be established under existing DoD guidance; the Secretary of the Military Department must certify that statutory conditions have been met; and the article or service is not available from a U.S. source. Additionally, the workload must be compatible with CORE capabilities and not disturb overriding requirements to reduce depot infrastructure cost commensurate with downsizing activities.

Examples of services and goods that organic depots have executed using the above articles are:

- Testing new manufactured AH-64 transmissions for Purdy Corporation.
- Manufacture of Flexible Engine Diagnostic Systems (FEDS) for ATCOM.
- Application of vacuum deposited aluminum electro-magnetic interference (EMI) coating to battery boxes for UNICOR.
- Repair and test recalled T700-GE-401 turbine engines for General Electric.

The Department is currently reviewing internal policy and guidance documents to ensure the benefits permitted by the above Title 10 articles are optimized.

POLICY*: *Use merit-based procedures to determine the best organic source for CORE-related and other approved workloads.

Current Department policy is that depot maintenance source of repair assignments shall be made by the acquiring DoD Component logistics head using the depot source of repair assignment decision logic process. This decision shall be made by Milestone III, Production Approval, or a time phased action plan for reaching that decision will be developed.

The goal is to only assign workloads to public sector facilities that support CORE capability requirements, and that those workloads assigned to the public sector, be performed at the depot with the most cost effective capability.

Determining the best source of repair is a two step process. The first step is the organic versus contract decision. The Services historically have used a decision tree analysis that considered mission essentiality, cost, and risk as principal factors in making this decision. The Services are now implementing a recently approved policy which focuses on an enhanced CORE methodology for determining workloads appropriate for sustaining required organic sources of repair. This CORE methodology focuses on identifying maintenance and repair capabilities necessary to meet CORE capability requirements. CORE requirements include the capabilities for meeting essential wartime surge, promoting competition, and sustaining institutional expertise. Capability and capacity within the private sector are also carefully considered through risk and industrial base analyses.

The second step of the source of repair decision is the determination of the most appropriate organic source, once it is determined that the workload must be performed in the public sector. This selection process depends on use of merit-based selection procedures. Depending on the type of workload being assigned, several procedures are available. Current policy requires that a source of repair analysis be conducted for any new item of equipment coming into the inventory that requires depot maintenance, a change to an existing assignment, or when an additional investment is required that is more than $250,000.

For specific weapon systems or equipment, the Depot Maintenance Interservicing (DMI) process has been developed. Features include screening for existing capability, identifying candidate depots, estimating non-recurring (investment) and recurring (operating) costs, considering previous experience with similar workloads, and coordinating a joint-Service decision.

For large workload groupings or commodity-level reassignments, a joint interservicing methodology has been developed. Features include selection of alternatives, cost comparison, a personnel analysis, and application of military value and readiness impacts.

POLICY*: *Use environmentally sound practices and procedures; minimize use of hazardous materials; remediate contaminated sites; plan, program and budget for environmentally sound facilities, equipment, and processes.

The industrial activities at DoD organic depot maintenance facilities constitute a major, if not the largest, source of hazardous and solid waste and other pollutants generated in the DoD. Environmental stewardship makes good business sense and is not just the responsibility of the environmental management function. Use of pollution prevention through source reduction techniques in the depot repair process can eliminate waste before it becomes a disposal problem. In recognition of this fact, the Department has adopted the following environmental strategy to guide future actions in pollution prevention:

> Depot maintenance management will sustain continuous improvement toward a goal of protecting the environment by eliminating pollutants, and promoting cultural change to instill an environmental ethic throughout the depot maintenance community.

This strategy recognizes the goal of sustained continuous improvement for environmental protection as a normal part of the maintenance management process. Managers must maintain control over existing processes, improve them, and ensure that new processes are not implemented unless they are environmentally sound. It recognizes the need to eliminate pollutants, which are defined as all categories of hazardous material (HAZMAT) built into a product or used to repair it, toxic releases resulting from the repair process, and non-toxic waste determined to be detrimental to the environment. As such, these pollutants must be eliminated or reduced at the source where feasible. It also recognizes the need to promote a cultural change to instill an environmental ethic by continuous education and training to ensure maintenance activities are carried out in an environmentally conscious manner.

The goal of protecting the environment has been separated into two discrete objectives: (1) eliminate pollutants, and (2) promote a cultural change to instill an environmental ethic. To eliminate pollutants, DoD will use existing technology where available, and fund RDT&E where no appropriate alternatives exist. Depots apply new and emerging technology to effect environmentally safe material substitutions and individual process changes for improved air emission control, hazardous and solid waste reduction, and reduction of soil and water contaminants. In addition to environmental benefits, pollution prevention investments in new technology often produce benefits in product quality, operational effectiveness and life cycle cost. To facilitate the cultural change to instill an environmental ethic, employees and management will be provided formal and informal training to promote environmental awareness of responsibility and compliance with the DoD strategy.

Should the Department close, sell, donate or operate as a government owned contractor operated (GOCO) depot maintenance facility, the environmental restoration liability for that facility must be explicitly addressed. Given the extent of contamination at some depots , current provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) essentially preclude transfer by deed unless the facility has been certified by federal, state, and local authorities as meeting their environmental requirements, or there is an ongoing environmental remediation program that the Environmental Protection Agency (EPA) has certified will result in the required level of cleanup for the property.

POLICY*: *Deploy management information systems (including financial management) that contribute to more effective and less costly depot maintenance operations.

Maintenance management information systems are being established and operated to manage maintenance workloads and provide asset visibility; to facilitate maintenance diagnostics; and to collect total costs, equipment reliability, availability, and maintainability data, maintenance work force performance data, and costs on all primary weapons or equipment end items.

The Joint Logistics Systems Center (JLSC) was established to develop standard logistics management information systems for use throughout the DoD logistics support structure. Objectives include:

- minimizing duplication and enhancing DoD's information systems,
- tying DoD together through the use of common shared data,
- reinventing and reengineering DoD logistics and support operations, and
- implementing systems which use worldwide computer and communications infrastructure.

The Department has undertaken initiatives within the depot maintenance community which include selection and implementation of standard migration management information systems to support implementation of "best business practices," and achievement of standard data - to the extent reasonable - for DoD depot maintenance.

In general, maintenance management information systems are being established to:

- Manage maintenance workloads and provide asset visibility.
- Facilitate maintenance diagnostics.
- Collect data on:
  - Total costs
  - Equipment reliability
  - Availability
  - Maintainability
  - Maintenance workforce performance
  - Costs on all primary weapon systems and/or equipment end items

The major depot management information systems being deployed are :

- The Depot Maintenance Management Information System (DMMIS) and the Commercial-Off-the-Shelf Manufacturing Resource Planning (COTS MRP II) module, which will provide enhanced production management capabilities for the repair, remanufacturing and/or overhaul of DoD's commodity workloads. DMMIS and COTS MRP II form the heart of the reparables management systems capability.

- The Baseline Advanced Industrial Management (BAIM) and the Programmed Depot Maintenance Scheduling System (PDMSS) provide the core of DoD's project (end items) management capability. Specifics include: providing a flexible, configuration-based, work breakdown structure (WBS) enabling depot project managers to plan, monitor, and control consistent with their execution strategies; providing on-line technical

information for use in depot maintenance and repair; and the ability to reuse planning and technical information.

In addition to the above, a number of essential automated information systems provide linkage between, or support for, the project management and reparables management systems. These systems include:

- The Tool Inventory Management Application (TIMA) increases the efficiency of depot tool rooms by improving, standardizing, and automating the tool management process. TIMA is a commercial software package.

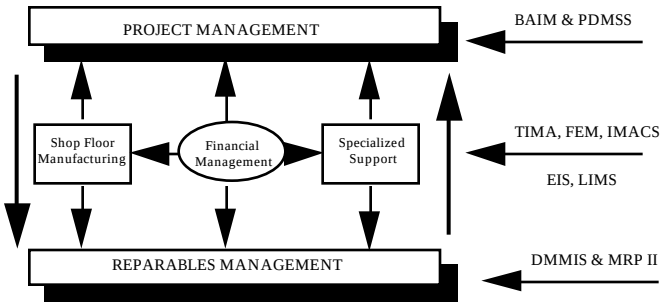
- The Facilities and Equipment Maintenance (FEM) system will support the management of depot facilities, equipment, and related resources. FEM, a commercial software package, will provide the facility and equipment functionality for the depot maintenance environment.

- The Interservice Material Accounting and Control System (IMACS) application supports the interservice support agreement process. Essential functional objectives include the automation of activities performed in negotiating and administering Depot Maintenance Interservice Support Agreements (DMISAs), and providing visibility and tracking capability for DMISA assets.

- The Enterprise Information System (EIS) enhances depot management by concisely summarizing depot information in an easy-to-understand format, and will provide the decision support functionality for the depot maintenance business operating area.

- The Laboratory Information Management System (LIMS) will enable automated tracking and archiving for depot material samples and test results.

The interrelationships of the above automated information systems are depicted in the illustration below.



The deployment of these systems will contribute to more effective and less costly depot maintenance operations. The Department continues to stress the importance of the systems coming on-line in a timely and efficient manner.

Additionally, the depot maintenance community is standardizing the financial management systems used by the Military Services to support depot maintenance operations. The Defense Finance and Accounting Service (DFAS) has identified necessary enhancements to selected systems to ensure they perform in a manner to satisfy sound contemporary business practices as well as statutory requirements such as the Chief Financial Officers Act. Through standardization and upgrades of the selected systems under DFAS guidance, the Services will be provided with the financial management controls and information needed to effectively support depot maintenance operations.

POLICY*: *Encourage innovative maintenance concepts and practices as well as improved management structures.

The *Defense Logistics Strategic Plan* (DLSP) calls for enhanced efficiency and effectiveness of maintenance at all levels through the use of such new technologies as artificial intelligence and expert systems. Productivity-enhancing measures shall be used at all levels of maintenance as a way of maximizing support of weapon systems while minimizing cost. Furthermore, the reengineering of work processes, labor standards, and material standards has been proven to reduce costs and direct labor hours, improve schedules, and enhance quality. Therefore, the Department is promoting the reengineering of business practices in conjunction with future consolidations, transfers, and competitions of workloads. Additionally, business process reengineering is being focused on existing depot maintenance business practices to ensure that required support is provided in a manner consistent with contemporary business practices.

In addition to the foregoing, new logistics and maintenance support concepts are being explored within each of the Services. These new concepts are focused on improved, more efficient support of contemporary force employment requirements. Within each concept, there is change implications for the manner in which depot maintenance operations will be carried out. Often there is a blending of the previously, more well-defined levels of maintenance, combining field-level and depot-level maintenance requirements into integrated operations.

The Navy has traditionally operated separate facilities for intermediate and depot-level maintenance support of ships and aircraft. Although many of the Navy intermediate and depot-level maintenance capabilities are similar, there are significant differences in the type of work required by aircraft, surface ships and submarines. Accordingly, the Navy has historically utilized separate maintenance facilities for aviation, surface, and sub-surface systems. In addition, separate facilities are frequently utilized to support different subgroups of ships and aircraft. In the current era of reduced force structure and increasingly austere budgets, the Navy cannot afford to retain excess or duplicative maintenance capabilities and infrastructure and, consequently, has decided to consolidate most of their shore-based intermediate and depot maintenance facilities into eight Regional Maintenance Centers (RMCs). Each RMC will encompass several Regional Repair Centers (RRCs) which focus on specific repair processes (e.g., propulsion, electrical, and structural). The number of RRCs in each RMC will vary, depending on the specific repair requirements and capabilities in that region as documented in a RRC business case analyses. An individual RRC may or may not be co-located with other RRCs or its industrial hub. For example, calibration activities for the Mid-Atlantic region are being consolidated in facilities which were formerly occupied by the Naval Aviation Depot at Norfolk, VA, while the motor rewind work is being consolidated at Norfolk Naval Shipyard.

The Air Force has initiated their Lean Logistics approach which incorporates state-of-the-art business practices across all logistics areas. The goal of Lean Logistics is to streamline the processes and infrastructure that drive costs and investments in logistic programs. The goal is not inventory reduction per se, but better control over the release of materials for repair. As depot repair control is improved, a reduction in inventory levels and other benefits should be achievable. The objective is to move to a demand-driven replenishment system and to provide customers with parts on demand rather than basing repair inductions on forecasted requirements. Lean Logistics is designed to integrate many of the newly established concepts and initiatives into one overall umbrella program. It incorporates several initiatives including flexible repair, pipeline visibility, door-to-door distribution, and repair-and-return, among

others. Building on the success of the two-level maintenance program, Lean Logistics capitalizes on the lessons of the two-level maintenance and expands the process improvements to a greater application. It also adds the concept of a consolidated serviceable inventory (CSI) at the source of repair to the two-level maintenance principles of direct induction, fast transportation, and other process improvements. Additionally, it adds more control and involvement by the customer, a smaller base-level inventory, and a higher velocity in the movement of assets.

The Army has also developed a regional concept for sustainment maintenance (all maintenance conducted on Army equipment above the direct support level). A wide variety of Active and Reserve Component general support (GS) maintenance units, non-divisional and echelon above corps (EAC) aviation intermediate maintenance units, installation Directorate of Logistics (DOL) maintenance activities, and national-level maintenance management activities and depots perform sustainment maintenance. Specialized Repair Activities (SRAs), Forward Repair Activities (FRAs), and contractors also perform sustainment maintenance for the Army. The regional maintenance (also referred to as Integrated Sustainment Maintenance or ISM) concept focuses on centralized management and decentralized workloading of Army sustainment maintenance activities through consolidation of all sustainment maintenance activities under an integrated management structure. The goal of this effort is to maximize repair capability while providing high levels of weapon system availability at reduced costs. Through balanced resource allocation, workload distribution, and decentralized execution of maintenance work, the concept seeks to maximize repair capabilities and optimize use of available resources. Execution would be managed by and accomplished at three management levels: local, regional, and national. At the national level, a National Sustainment Maintenance Manager (NSMM), envisioned to be AMC, would integrate sustainment maintenance for the Army, both in peace and in contingencies. Also at the national level, wholesale requirements would be identified through repair/buy decisions for reparable items. With visibility of regional reparable programs and local capabilities, item managers at the national inventory control points (NICPs) would be able to review repair/buy decisions to extend utilization of assets, reduce unnecessary procurement of new assets, and maximize cost avoidance. The NSMM would manage both depot and national contract maintenance support for regional programs.

SECTION V
WORKLOAD MANAGEMENT

POLICY: Encourage interservicing (both organic and joint-contracting) of workloads and joint-Service or multi-Service solutions to issues and requirements.

As stated earlier, the Department manages CORE requirements from a DoD perspective; the integrated totality of individual Service CORE requirements equals the DoD CORE requirement. The Department's depot maintenance policy emphasizes aggressive use of interservice maintenance support whenever increased economy to the Government will result, and when such support is consistent with operational requirements. Specifically, DoD guidance requires the establishment and execution of inter-Service, intra-Service, and joint-contracting maintenance support arrangements in order to achieve the most cost effective depot maintenance support possible, consistent with readiness requirements of the Services. In addition, contractor maintenance support of equipment and weapon systems for deployed forces are coordinated with other DoD Components operating the same or similar equipment and weapon systems in the same operational area, when practical.

While the Services continue to make interservicing progress, additional opportunity to interservice exists. The objective of interservicing continues to be the accomplishment of workloads at lower cost while maintaining quality and schedule requirements. Interservicing savings accrue from facilitization and equipping avoidances as well as from economies of scale through consolidations and efficiency improvements. Progress has been made on many of the interservicing decisions outlined in the *Defense Depot Maintenance Council Business Plan*. For example, depot work of the Air Force J79 engines has been transferred to the Navy, while Navy C-130 main landing gear and TF30 gas turbine engines are supported by the Air Force. The Army has consolidated support of most of DoD's tactical missiles at Letterkenny Army Depot and has also commenced depot-level support for Marine Corps M1A1 tanks at Anniston Army Depot. Most recently, the Navy co-located depot maintenance of Air Force F404 turbine engines used in F-117 aircraft with the F/A-18 F404 engine workload at Naval Aviation Depot, Jacksonsville. In addition, the Department is single-siting virtually all major aviation airframes, engines types, and tactical missile systems. Another recent example of a significant interservice initiative is the merit-based selection of the Air Force Cryptological Repair Facility at Lackland Air Force Base to provide all National Security Agency SIGINT support. This support was formerly provided by three separate military cryptological depots. In the area of joint-contracting, the Military Components are using the Air Force contract for contract field teams to support depot maintenance operations. DoD continues to monitor interservicing levels, using the DDMC and the *Defense Depot Maintenance Council Business Plan* as key elements to maximize interservicing.

Section 2469 of Title 10, U.S.C., impacts interservicing procedures. It directs the Secretary of Defense to ensure that the performance of a depot maintenance workload that has a value of not less than $3 million and is being performed by a DoD depot-level activity, is not changed to

performance by a contractor or another DoD depot-level activity unless the change is made using:

- merit-based selection procedures for competitions among all DoD depot-level maintenance activities; or
- competitive procedures for competitions among private and public sector entities.

Accordingly, DoD currently stipulates the use of merit-based procedures for workload changes affected by this statute. For the purposes of this policy, the Department considers merit-based selection procedures to be the approved depot maintenance interservicing process. Depot-level activities (facilities) are to be considered only for workloads that are functionally within their established CORE capabilities. As part of these processes, the need to size organic depot-level activities consistent with the CORE concept must be addressed.

POLICY*: *Establish effective management systems and processes to provide visibility of assets in the repair cycle at organic or contract facilities.

Assets in the repair cycle serve as a priority source of resupply for DoD users. DoD's requirements for visibility of these assets range from detailed data, such as estimated completion dates and condition code changes by specific stock numbers and serial numbers, to broad aggregated data, such as capacity planning information. Both logistics and operational managers require greater visibility of in-process repair assets. Logistics managers and, to a lesser degree, operational managers need information on the percentage of an order or induction quantity that is complete, the time (in days) required to complete a given number of units, and the repair/flow days by line item. They also need to know the earliest date that a unit could be completed by expedited repair, the projected repair backlogs, the reason for any backlogs (e.g., shortage of parts or inadequate maintenance capacity), and the projected completion quantities by line item and day. Operational managers require in-process data to assess capability changes that may occur as a result of assets being made serviceable. In the case of unique or specialized items, or critical items with limited availability, they may require precise data to manage effectively. In other cases, they may require only aggregate data. There is a broad range of other managers, ranging from OSD through weapon systems managers to Service materiel managers, who require in-process repair asset visibility.

The DoD Components have already developed a number of systems and processes aimed at providing visibility over the status and location of assets being repaired. They also have several other initiatives under development. As DoD moves to obtain the desired visibility of assets being repaired, it is addressing a number of fundamental issues. These issues are outlined in its documentation of the Total Asset Visibility (TAV) Program. The Department is working on systems to address items undergoing repair in both organic and contract facilities.

TAV, as implemented in the Joint Logistics (JLOG) Management Information System, will provide data that will reach across the DoD TAV requirements continuum, tying together existing databases of personnel, supplies, unit moves and equipment information, and managing theater distribution data through its own repository. Present efforts focus on bringing together the resources found in some of the more robust logistics systems. Major data sources include, but are not limited to the following:

- Defense Logistics Agency's Automatic Addressing System Center
- Logistics Information Processing System (LIPS)
- Transportation Command's Global Transportation Network (GTN)
- Army's Total Asset Visibility (ATAV) and Logistics Information File (LIF)
- Depot Maintenance Standard System (DMSS)
- Materiel Management Standard System (MMSS)

POLICY*: *Focus manufacturing at organic depots on near-term or low-volume DoD requirements that cannot be effectively supported from private sector sources.

The Department limits the peacetime manufacture and fabrication of parts, components, and similar items by organic depots to that necessary to satisfy critical requirements; where appropriate to take advantage of compelling cost savings during the overhaul process; or where the commercial sector is unable to provide items in a timely or economical manner, to the extent permitted by statute.

This policy serves a two-fold objective. First, it enables private sector facilities to retain workload that is normally associated with their core competencies (e.g., the design, development, and manufacture of weapon systems, components, and equipment). Manufacturing workload will assist in ensuring that industrial capabilities needed to meet national security requirements will remain available - an essential Department objective during a time in which procurement spending has dropped substantially during the last decade.

Second, it minimizes the establishment of new organic capability at a time when the depots are restructuring in order to efficiently accomplish DoD's CORE depot maintenance requirements. It would be counter-productive to retain, or worse, establish, manufacturing capabilities (personnel, equipment, and facilities) to possess non-CORE manufacturing capability.

The Department will continue to pursue initiatives that provide technology DoD can use to procure replacement parts that, for example, require low-volume production or involve the generation of unavailable technical data. The Department's flexible, computer-integrated manufacturing (FCIM) approach includes a number of initiatives focused on the integration of equipment, software, communication, human resources, and business practices within an enterprise to rapidly manufacture, repair, and deliver items on demand, with continuous improvement in the processes. FCIM initiatives include not only production capabilities, but also look at technical product and process data to better support computer-integrated manufacturing. The Department continues to refine its FCIM program to ensure that it complements CORE capability requirements and does not unnecessarily duplicate private sector capabilities.

POLICY*: *Accomplish weapon system modifications and upgrades in the private sector except when it is more efficient and economical to accomplish such work concurrent with other required organic depot maintenance.

Depot maintenance operations include a wide spectrum of activities such as overhaul and repair of components; programmed depot maintenance for entire weapon systems including hardware and software for ships, aircraft and tanks; modification and upgrade of systems and equipment; and, when required, battle damage repair.

Major modifications and upgrades should be accomplished primarily in the private sector. This workload is unique among the depot activities in the sense that it uses many of the same capabilities required by the commercial defense industry to design, develop, and produce new weapon systems. For this reason, modification and upgrade work provides the greatest potential to contribute to preservation of these essential skills in the private sector Defense industrial base. Expansion of organic depots into sophisticated modification and upgrade programs would deprive essential private sector manufacturers of their traditional business base at precisely the time when cutbacks in systems procurement have weakened their ability to survive. In the absence of major external threats, these cutbacks are probably unavoidable. However, new threats eventually will arise, and it is essential that an adequate industrial base for designing, developing, and producing military systems be preserved. In addition, the majority of modifications and upgrades are not, by definition, part of depot maintenance CORE capability requirements. The Government has traditionally obtained development and manufacture of kits for modifications and upgrades from the private sector. However, installation of the kits has been done in both public and private facilities. The organic depots will continue to perform low-volume, time-critical remanufacturing requirements necessary to support aging weapon systems with insufficient technical data and diminished source of supply.

Accomplishment of weapon system modifications and upgrades in the private sector, except when it is more efficient and economical to accomplish such work concurrent with other required organic depot maintenance, ensures that industrial capabilities needed to meet national security requirements will remain available.

POLICIES: Strive to match workload inductions with requirements to minimize work in-process inventories and better focus on support of valid needs.

Measure and monitor maintenance cycle times as part of total repair cycle times.

Provide accurate forecasts of materiel requirements needed to support depot maintenance workloads.

The goal of depot maintenance operations management is to have the right items being worked on at the right times. DoD is focusing business process improvements in depot maintenance production planning and induction processing, to ensure that assets undergoing maintenance, fulfill valid reparable item requirements in a timely manner. DoD is considering process changes such as increasing induction frequency, limiting funding and quantities to shorter cycles, and using current asset data to determine appropriate repair quantities. By minimizing work in process inventories, depot maintenance can be more responsive and flexible in addressing changes in demand; it can also provide more cost-effective logistics support through reductions that are thus realized in repair cycle times.

Awareness of actual maintenance cycle times as a part of the total repair cycle time is a fundamental management requirement. Such times are an essential element in evaluating the performance of repair processes in producing the right item, in the right quantity, and at the right time. The Department compares actual and standard repair cycle times, as well as component parts of these times, to evaluate depot maintenance production (organic and contractor) based on cycle time and on-time deliveries.

Lack of repair parts constitutes a consistent and often primary contributor to maintenance cycle times. This problem adversely impacts the maintenance process by necessitating the rescheduling of production, increasing the work hours and costs, and causing production inefficiencies, as well as resulting in delayed customer support. To minimize this impact, DoD is focusing on improving the process of recording piece-part consumption and forecasting parts requirements, including use of bill-of-material concepts.

SECTION VI
PRIVATE SECTOR SUPPORT

POLICY*: *Ensure that in placing workloads in the private sector, DoD receives gains that are typically made possible by the operation of market forces (e.g., reduced costs and cycle times).

To ensure receipt of the benefits of competition, the Department will encourage full and open private sector competition whenever possible. If there is not adequate competition in the private sector, DoD will consider competition by organic depots for the specific workload(s) at issue.

The decline in acquisition of new weapon systems has spawned the growth of maintenance specialists within private industry. Large corporations have created business units, separate from their research and development organizations, to compete for airframe and aircraft component maintenance contracts. Viable competitive sources exist which can cost-effectively meet the Service's depot maintenance needs whereas, prior to the end of the Cold War, contracting out this workload primarily meant sole source contracts with the original equipment manufacturer (OEM). Privatized (formerly organic) facilities also constitute a potentially attractive contract source to address many depot maintenance requirements. Properly managed and organized, these facilities can support a wide range of requirements which normally would be accomplished in the DoD's organic facilities at potentially lower risk due to the transfer of existing government facilities, equipment, and personnel.

The key to entrusting depot workloads to any private sector source is assured response in terms of cost, quality, and schedule. Where true competition exists, these needs can be competently satisfied. While development of such sources is not fully mature, the private sector's creation of these business entities continues to evolve as the DoD provides opportunities. An orderly transition of more depot maintenance workload to these private sector sources encourages development of competitive cost-effective sources of depot maintenance. It also supports current Executive Branch direction to gradually reduce Federal sector employment and provides for growth of the private sector business base. Finally, it permits both private and public sector sources of depot maintenance to focus on their specialties and optimize their performance.

POLICY*: *Ensure that sound business case analyses support workloading decisions for workloads not required to sustain CORE capabilities.

Privatization of DoD depot maintenance can take many constructive forms such as outsourcing, government-owned, contractor-operated depots, and transition into private sector entities of DoD maintenance facilities. Accordingly, the Department is committed to carefully defining the alternatives available, and considering both the depot maintenance work content and requisite support structure. Within current legislative and operational constraints, privatization prototype opportunities are being identified. Measures of effectiveness and success for prototype operations are being developed. The Defense Depot Maintenance Council (DDMC) will monitor prototype operations and make recommendations for follow-on implementation. The Department will take full advantage of on-going and future depot maintenance infrastructure divestiture related to base realignment and closure activity in developing privatization prototype initiatives.

DoD will develop a standard framework for business case analyses which support privatization and outsourcing decisions. Each DoD Component will be expected to apply consistent business case analyses within the established framework. The business case analyses framework will, in addition to standard benefits and cost factors, include consideration of the readiness implications of privatization and outsourcing decisions. The readiness impact consideration is also built into the existing DoD CORE capability determination decision process. The Department is aware that the costs and benefits of depot-level maintenance and repair privatization and outsourcing must be clearly defined, and plans to have substantive initiatives validated by the DDMC. This is being done to ensure the continued availability of required support, while still driving towards affordable costs and the generation of long-term budgetary savings. Consequently, DDMC planning calls for appropriate business case analyses, performance and effectiveness metrics, and overall measures of effectiveness to be developed and consistently applied. DoD plans to use business case analyses for initial decision making, as well as to continually assess and evaluate the economic benefits and management effectiveness of privatization and outsourcing initiatives after they have been implemented.

POLICY*: *Plan on supporting new or developing weapon systems in the private sector consistent with the DoD CORE policy.

DoD establishes and maintains CORE depot maintenance capabilities to meet essential wartime surge demands, promote competition, and sustain institutional expertise. As new systems are acquired, it is important to consider both the need for CORE capabilities and the potential to obtain full spectrum contractor support, to include not only depot maintenance, but other logistics support functions as well. It may be possible to take advantage of competitively derived logistics support, perhaps even integrated with production, if the risk analysis shows that the system does not significantly drive CORE capability requirements. The Department approaches each new system with a goal of evaluation if an integrated contractor logistics support concept may yield optimum support. That option remains subordinate to any CORE depot maintenance capability requirements identified in the support analysis for new weapon systems or equipment.

There are significant opportunities to save tax dollars through reduced government investment in the logistics infrastructure by increasing DoD use of the private sector capabilities. As a result, the Department has provided guidance[7] to the Services to fully evaluate, and where appropriate, take advantage of the use of contractor long-term, total life cycle logistics support. The most significant revision to CORE policy, was creating the opportunity to evaluate and subsequently utilize, commercial sources of depot support where mission risk can be mitigated and best value obtained. Previous perceived bias or default to an organic depot has been eliminated, providing the opportunity for the acquisition community to propose the most appropriate support structure. Thus, the opportunity is available to the design team of a new or developing weapon system to achieve breakthrough innovations to reduce support costs.

The Department is also pursuing other opportunities to use sound commercial practices for weapon system support in any phase of their life cycle, in both organic and commercial depot facilities. One such opportunity is integration of depot maintenance requirements with other logistics support needs of a weapon system or subsystem. The various elements of support such as materiel management, transportation, supply support, configuration management, and sustaining engineering, as well as depot maintenance can be bundled in appropriate packages for contractor support. This approach can result in partial or total contractor logistics support (CLS). Examples where this approach is appropriate are:

- there is a relatively small inventory of end items being supported (e.g., small fleet of support aircraft),
- sophisticated, high technology capabilities are required to accomplish the support such as in space programs,
- systems being supported are undergoing continuing development and engineering changes, such as new production weapon systems that are expected to evolve over a significant portion of the life cycle,
- the system or subsystem has a commercial equivalent, or
- any situation where the commercial sector can provide best value consistent with operational requirements.

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[7] DoDR 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS) Acquisition Programs*, March 15, 1996

It is DoD policy to retain limited organic CORE depot maintenance capability to meet essential wartime surge demands, promote competition, and sustain institutional expertise. Support concepts for new and modified systems shall maximize, to the extent permitted by statutes, the use of contractor provided long-term, total life cycle logistics support that combines depot-level maintenance along with wholesale and selected retail materiel management functions. Life cycle costs and use of existing capabilities, particularly while the system is in production, shall play a key role in the overall selection process. Other than stated above, and with an appropriate waiver, DoD organizations may be used as substitutes for contractor provided logistics support, such as when contractors are unwilling to perform support, or when there is a clear, well documented cost advantage. The Program Manager shall provide for long-term access to data required for competitive sourcing of system support. The waiver to use DoD organizations must be approved by the Milestone Decision Authority.

The Department has recently made significant progress in establishing an environment to promote logistics support innovation and the pursuit of best value as the criterion for logistics support.

POLICY*: *Consider innovative contractor support concepts (e.g., "power by the hour" for aircraft turbine engines) and mutually beneficial long-term contractual relationships in structuring private sector depot maintenance support.

The Department seeks breakthroughs in cost and performance to achieve its objective of reducing cost of ownership of weapon systems. These breakthroughs require incentivizing the entire Defense community to be innovative in finding ways to reduce these ownership costs. Incentives must motivate both Government and industry managers to look for opportunities to make changes in the weapon systems, the processes that support them, and the traditional contractual relationships that enable the support of the weapon system. Fundamental to motivating such changes is the need to create a win-win relationship where both parties can profit.

An example of one such breakthrough opportunity involving turbine engines, is a concept known as "power by the hour." Here the customer and the contractor agree to performance requirements (e.g., availability rates, hours to be flown, etc.) at a set cost per flying hour. Thus, cost becomes directly related to operating tempos, and not linked to random factors such as failure rates or unforeseen materiel requirements. This concept can provide cost predictability while supporting needed military capabilities. It also affords the contractor the flexibility, within agreed constraints, to achieve the efficiencies required to make a profit.

Such an approach is an application of "cost as an independent variable" (CAIV)[8] where the cost objective is traded off against military needs in establishing the contracted hourly rate and performance. Opportunities for innovative application of the CAIV concept for reducing support costs of fielded weapon systems are not limited to turbine engines. The Department has recently issued guidance to the Services and Defense Agencies to apply the CAIV concept for reducing life cycle cost of new and fielded systems. This detailed guidance emphasizes the need to motivate government and industry managers to set realistic, but aggressive cost objectives, perform cost-performance trades, seek win-win solutions, manage the associated risks, establish meaningful metrics to access the results, and enable rewards for good performance.

A further challenge that the Department is addressing, is the value of long-term contractual support relationships. This requires a difficult balance between being captive to one contractor for the life of the system, and establishing a contractor-Government team that provides best value support through commercial practices. Industry uses such long-term relationships to form teams and achieve efficiencies. A long-term contractual relationship for weapon system support could provide an environment where a contractor-Government team could achieve greater efficiency. The resulting longer term planning perspective allows the contractor an opportunity for profitable capital investments, and the ability to achieve synergism with commercial and other customers. The challenge is to assure that best value can be maintained and provide an alternative if best value is lost. Government ownership or purchase rights of key overhaul equipment and technical data will retain this alternative by assuring competition if needed. The development of mutually agreed upon performance-based metrics, and other innovations, are needed to make long-term weapon system support contracts viable.

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[8] Memorandum for the Secretaries of the Military Departments et al, from the Under Secretary of Defense (Acquisition and Technology), *Reducing Life Cycle Costs for New and Fielded Systems*, December 4, 1995 and DoDR 5000.2-R, *Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS) Acquisition Programs*, March 15, 1996

POLICY*: *Encourage best value commercial firms to enter into stable partnerships with organic facilities and to co-use organic capabilities consistent with applicable statutes.

Joint use may provide breakthrough opportunities for optimizing use of existing depot capacity retained to support CORE capabilities. Peacetime plant capacity at the depots sometimes exceeds CORE requirements, and could be efficiently utilized during peace by industrial clients to the benefits of the taxpayer. It is appropriate to encourage commercial firms to enter into partnerships with depot-level activities of the Military Components for the purpose of:

- demonstrating commercial uses of such depot-level activities that are related to the principal mission of such depot-level activities;

- preserving employment and skills of employees currently employed by such depot-level activities or providing for the re-employment and retraining of employees who, as the result of the closure, realignment, or reduced in-house workload of such activities, may become unemployed; and

- supporting the goals of other defense conversion, reinvestment, and transition assistance programs, while also allowing such depot-level activities to remain in operation to continue to perform their defense readiness mission.

All such arrangements, however, are to be evaluated with regard to sizing the organic depot maintenance infrastructure consistent with the DoD CORE policy. Additionally, the Secretary of the Military Department or Head of Defense Agency, must certify that the partnership entered into meets the conditions for sale of articles or services as specified in applicable public law.

The Army currently has two partnership efforts with private industry, the M109A6 Paladin Program with United Defense (UD) and the Abrams Upgrade Program with General Dynamics Land Systems (GDLS) Division. Under the Paladin, limited production and multi-year production contracts involving UD and Letterkenny Army Depot (LEAD), 824 Paladins will be acquired by the Army through conversion of the M109A2/A3 Howitzers. The convenience of the co-location of UD and LEAD is expected to produce a $19.7 million cost avoidance over the life of the program through simplified materiel transfer procedures. LEAD removes the traverse mechanism; disassembles the M109A2/A3 Howitzer; overhauls the chassis and modifies it to the Paladin configuration. Watervliet Arsenal manufactures the cannon and LEAD assembles the gun mount. UD assembles the reconditioned components, the overhauled and modified chassis, the new cab, the cannon, and the gun mount into an M109A6.

The Abrams Upgrade Program involves a partnership with GDLS and Anniston Army Depot (ANAD). The concept of the program is to modernize the CONUS Contingency Force and training base with 1079 M1A2 tanks by the end of the decade. The production responsibilities include disassembly of the tanks by ANAD, while GDLS receives the stripped hull, builds the new turret, and updates the haul.

POLICY*: *Permit leasing out of under-utilized DoD plants and equipment to contractors consistent with applicable statutes.

Congress has authorized the Department to lease out under-utilized depot maintenance facilities. Section 2471 of Title 10, U.S.C., authorizes the Secretary of a Military Department and, with respect to a Defense Agency, the Secretary of Defense, to lease excess equipment and facilities of their depot-level activities to a person outside the DoD. Specific limitations that apply are identified. The statute goes on to state that any reimbursement (including the payment of rental costs) received under this Section shall be credited to the treasury as miscellaneous receipts.

The Department has encouraged use of Section 2471 as a means to accrue a number of benefits including:

- Reduced cost for facilities / equipment.
- Retention of surge capability at minimal cost to the taxpayer.
- Integration of commercial industrial base and public sector maintenance base.
- Potential retention of wartime job skills.

In conjunction with the above, the Department continues to believe it is appropriate to size its maintenance depots consistent with CORE-related capability requirements, and to divest unneeded infrastructure and capacity. Even within this framework, however, some plants and equipment may be under-utilized during peacetime. The Department will continue to exercise appropriate oversight to ensure these two concepts - leasing under-utilized plants / equipment and sizing to CORE - remain compatible.

POLICY*: *Ensure that Government facilities that transition into private sector entities can be reestablished in the case of national emergency or nonperformance.

The Department is currently downsizing the organic infrastructure, primarily by implementing base realignment and closure decisions. Some of the closing depots are being transitioned into private sector entities that will continue to perform depot maintenance and other workloads with non-Federal government employees. As in the past, the Department will continue to rely on private sector sources for accomplishment of a portion of its mission essential depot maintenance requirements. This includes awarding mission critical workloads to closing facilities that are transitioning to private sector entities.

Because some of these facilities possess unique capabilities, it will be necessary to ensure that the Department's requirement to assure a ready and controlled source for certain mission essential equipment is met. Many of these facilities will pass to local redevelopment authorities (LRA) for ownership. Actual workloads will usually be performed by commercial contractors that are tenants in the facilities owned by the LRA.

Protecting the Department's interests will focus on two methods. First, where appropriate, leases with LRAs will include termination clauses which allow for reconverting the facilities back to Government control in the event of national emergency, default or the LRA no longer wishes to support required defense work in the facility. This will reduce risk during the initial phases of the privatization process and provide an opportunity to validate the viability of each candidate. Once title to real estate is formally conveyed to the LRA at the end of the BRAC process, the means available for nationalization are limited to cases of national emergency, as with any other commercial entity. Second, contracts shall provide for Government ownership or purchase rights of weapon-specific overhaul equipment in the custody of either the LRA or the performing commercial contractor. The ability of the Government to retain control of overhaul equipment is the key issue in ensuring long-term contractor support and provides the ability to periodically re-compete the workload to obtain best value or assign it to an organic source if necessary. This protects against non-performance and supports re-competition.

SECTION VII
DOCUMENT LISTING

The following documents were used, referred to, or reviewed in developing this report.

Document Description	Date	Author(s)
Article: Depot Policy Proves Elusive	4/18/94	Aviation Week & SpaceTechnology
Briefing: Air Force CORE Computation Process	11/22/93	Air Force
Briefing: Depot Maintenance and Materiel Management Standard Systems - System Effectiveness Analysis (SEA)	Dec 1995	JLSC
Briefing: Logistics For A New Age	~Nov 1995	LMI
Briefing: NAVAIR CORE Computation Process	11/22/93	NAVAIR
Briefing: NAVSEA CORE Briefing	11/22/93	NAVSEA
Briefing: Service CORE Methodology	1/10/96	Joint - Given by RADM Taylor to DDMC
Briefing: The CORE Algorithm Approach	11/22/93	JDMAG (Hollis Hunter)
Briefing: USMC CORE Computation Process	11/22/93	USMC
Briefing: Army CORE Computation Process	11/22/93	AMC
Briefing: CORE Depot Maintenance	~early1995	CAPT Heilman, USN
Briefing: Depot Maintenance CORE Lexicon	~Nov 1993	LMI
Briefing: Organic CORE Workload for Army Maintenance Depots	11/22/93	US Army Mat Systems Analysis Activity
Briefing: Using Technology to Reduce Cost of Ownership	Oct 1995	LMI
Charter for Joint Depot Environmental Panel and Joint Depot Maintenance Environmental Strategy	3/14/88	Joint Service
DoD Pub: DoDD 4140.1, Materiel Management Policy	1/4/93	OSD
DoD Pub: DoDD 4151.18, Maintenance of Military Materiel	8/12/92	OSD
DoD Pub: DoDI 4140.60, DoD Materiel Management	1/5/93	OSD
DoD Pub: DoDR 5000.2-R, Mandatory Procedures for Major Defense Acquisition Programs (MDAPs) and Major Automated Information Systems (MAIS) Acquisition Programs	3/15/96	OSD
DoD Pub: DoDD 5128.32, Defense Depot Maintenance Council	11/7/90	OSD
Info Paper: Direct Sales Authority for Army Industrial Funded Activities	2/12/96	ADUSD(L) MPP&R

Letter: DepSecDef to Chairman, Committee on Armed Service (House) Forwarding DSB Report	4/7/93	DepSecDef
Letter: DepSecDef to Comm on Armed Service re: CORM Report	8/24/95	DepSecDef
Memo: Closing Bases Right	9/9/93	DepSecDef
Memo: Depot Maintenance Operations Policy	5/4/95	DepSecDef
Memo: Depot Maintenance Privatization Issues	11/1/95	Chairman, JPCG-DM
Memo: Depot Maintenance Standard System (DMSS)	9/15/95	DUSD(L)
Memo: Guidance for Implementing Sections of the FY 1995 Defense Authorization Act of Concern to Depot Maintenance Operations	11/16/94	DUSD(L)
Memo: Policy for Maintaining Core Depot Maintenance Capability	11/15/93	DUSD(L)
Memo: Privatization, Base Closure and Reuse	8/14/95	DepSecDef
Memo: Reducing Life Cycle Costs for New and Fielded Systems	12/4/95	USD(A&T)
Memo: Reporting of Program Modifications and Upgrades	10/14/93	USD(A&T)
Memo: Working Group Service Members Recommendation on CORE Methodology	12/12/95	PIPT Working Group
Plan: Defense Depot Maintenance Council Business Plan Fiscal Years 1995-1999	1/30/95	DDMC
Plan: DoD Logistics Strategic Plan: Edition 1995	~1995	DUSD(L)
Plan: Plan for Increasing Depot Maintenance Privatization and Outsourcing	1/18/96	ADUSD(L) MPP&R
Project Baseline: BAIM AIS	12/7/95	JLSC
Project Baseline: DM-HMMS AIS	12/7/95	JLSC
Project Baseline: DMMIS AIS	12/7/95	JLSC
Project Baseline: EIS AIS	12/7/95	JLSC
Project Baseline: FEM AIS	12/7/95	JLSC
Project Baseline: IMACS AIS	12/7/95	JLSC
Project Baseline: LIMS AIS	12/7/95	JLSC
Project Baseline: MRPII COTS AIS	12/7/95	JLSC
Project Baseline: PDMSS AIS	12/7/95	JLSC
Project Baseline: TIMA AIS	12/7/95	JLSC
Report: Addendum to DSB Depot Maintenance Task Force Report	~Oct 1994	Defense Science Board

Report: Defense Base Closure and Realignment Commission Report to the President	7/1/95	Defense Base Closure & Realignment Commission
Report: Depot Maintenance Public Versus Private Competition Report, prepared for the Deputy Under Secretary of Defense (Logistics)	March 1995	Coopers & Lybrand
Report: Directions for Defense, Report of the Commission on Roles and Missions of the Armed Forces	5/24/95	CORM
Report: DoD Depot Maintenance Performance Indicator Study	Dec 1993	DASO
Report: GAO/T-NSIAD-94-161: Issues in Allocating Workload Between the Public and Private Sectors	4/12/94	GAO (Heivilin)
Report: Report to Congress on Depot Maintenance: The Roles of Competition and Interservicing	~mid 1994	DUSD(L)
Report: Report to Congress on Determination of CORE Depot Maintenance Workload	6/13/94	DUSD(L)
Report: Report to Congress on The Depot Maintenance Industrial Base	~May 1994	DUSD(L)
Report: Report to Congress: "60/40" Report for FY 1994	1/13/95	DUSD(L)
Report: Report to Congress: DoD Depot Maintenance CORE Policy Considerations	~ Feb1995	DUSD(L)
Report: Integrated Management of DoD Depot Maintenance Activities	Oct 1993	DUSD(L)
Report: Private-Sector Outsourcing - Implications for Defense Privatization	10/16/95	Industry Support Group (Thompson & Earl)
Report: Task Force on Depot Maintenance Management	Apr 1994	Defense Science Board
Report: The DoD's Flexible, Computer-Integrated Manufacturing Initiatives	Jan 1996	LMI