



DEPUTY UNDER SECRETARY OF DEFENSE FOR  
LOGISTICS AND MATERIEL READINESS  
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MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (ACQUISITION,  
LOGISTICS AND TECHNOLOGY  
ASSISTANT SECRETARY OF THE NAVY (RESEARCH,  
DEVELOPMENT AND ACQUISITION)  
ASSISTANT SECRETARY OF THE AIR FORCE (INSTALLATIONS,  
LOGISTICS AND ENVIRONMENT)  
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DEPUTY CHIEF OF NAVAL OPERATION FOR FLEET READINESS  
AND LOGISTICS  
DEPUTY CHIEF OF STAFF INSTALLATIONS AND LOGISTICS,  
US AIR FORCE  
DEPUTY COMMANDANT, INSTALLATIONS AND LOGISTICS,  
US MARINE CORPS

SUBJECT: Implementation of Depot Maintenance Core Policies and Methodology

A major revision of the Department's depot maintenance core policies and methodology was issued on January 9, 2003. Efforts to implement that policy identified the need for further clarification and revision. Attached is the updated core methodology. This memorandum supercedes the issuance of January 9, 2003.

In accordance with 10 U.S.C. 2464, it is DoD policy to maintain depot maintenance core capabilities in Government owned and operated facilities using Government equipment and personnel to assure adequate depot maintenance support for DoD operations. These capabilities provide effective and timely response to surge demands and sustain institutional expertise.

This policy memorandum and its attachment are effective immediately; it will be incorporated into the DoD directives system within 180 days. My point of contact in this regard is Mr. Hollis Hunter, OADUSD(L&MR)MPP&R, at (703) 695-0037, email Hollis.Hunter@osd.mil.

Diane K. Morales

Attachment:  
As stated



## **Depot Maintenance Core Capability Requirements Determination Methodology**

**Description:** DoD depot maintenance core policy provides a sound basis for identification of the depot maintenance capabilities required to ensure a ready and controlled source of technical competence to support the force structure identified in the Defense Planning Guidance (DPG) and Joint Chiefs of Staff (JCS) contingency scenarios. To efficiently maintain depot maintenance core capabilities, DoD facilities, equipment, and personnel accomplish a broad range of workloads in support of peacetime operations. Most of these workloads involve the overhaul or repair of combat weapon systems and components.

**Policy:** Required core capabilities, and the depot maintenance workloads needed to sustain those capabilities, will be calculated by individual DoD Components and then aggregated to determine overall DoD core requirements. In sizing DoD maintenance depots to satisfy core requirements, the use of a single-shift, forty-hour workweek standard preserves the capability to effectively respond to surge requirements via expanded work hours or additional shifts during emergency operations. In addition, core manpower requirements should be structured to ensure that depots could accommodate required workloads within the time constraints imposed by DPG and JCS contingency scenarios. Core capabilities and the workloads required to support these capabilities must be periodically adjusted as a result of factors such as force structure changes, introduction of new weapon systems, aging or modification of existing weapon systems, technology changes, or changes in battle doctrine to counter emerging threats. For these reasons, core requirements will be reviewed biennially or whenever necessary/appropriate.

**Methodology:** The depot maintenance core capability requirements determination methodology is used to determine essential DoD depot maintenance core capabilities, for each DoD Component, and the workloads needed to sustain those capabilities. The methodology can be employed to assess requirements for individual items or processes, weapon systems or types of capabilities as applicable. The computations involved in this methodology are performed from the perspective of the DoD Component that owns the depot maintenance assets, and are divided into two parts (see enclosed flow diagrams): Part 1 identifies depot maintenance core capability requirements in terms of direct labor hours (DLHs), and allows for an adjustment for interservice considerations. Part 2 identifies the depot maintenance workloads required to cost-effectively support core capability requirements (expressed in terms of DLHs). Additionally, flow diagrams and worksheets have been developed that correspond to the parts of the methodology (Enclosures (1) through (4)).

**Part 1: Depot Maintenance Core Capability Requirements Determination** includes all weapon systems and equipment operated by each DoD Component, regardless of where depot maintenance is actually performed. As illustrated in flow diagram in Enclosure (1), the starting point is the DPG, to define the overall DoD force structure required to execute the JCS contingency scenarios. Next, applicable weapon systems are identified, and any systems that are being excluded are documented citing the authority for that exclusion from the core process. For the remaining systems, annual peacetime depot maintenance capability requirements are computed in DLHs. Next, as illustrated in Enclosure (2), contingency requirement and resource adjustments are made to account for applicable “surge” factors during the different phases of a contingency (i.e., preparation/readiness, sustainment and reconstitution). The objective is to

determine the most appropriate composite “surge” adjustment for a particular set of circumstances. Overall depot maintenance capability requirements are then assessed to determine whether they include redundancy. For example, a DoD Component may determine that repair capabilities for specific systems are so similar that the capabilities for one system can effectively satisfy the capability requirements for another. After redundancies have been eliminated, all the remaining requirements are identified as core depot maintenance capability requirements, expressed in DLHs. Applicable information regarding the results of each step should be recorded on the DoD Depot Maintenance Core Worksheet (Part 1), Enclosure (4). The block designations in the methodology relate to the column designations in the worksheet.

DoD Components may modify the worksheets to support internal computations (for example, by adding additional columns) so long as the version submitted to the Office of the Secretary of Defense contains the original columns.

**Block A – Determine Systems in DPG/JCS Scenarios.** Consider all scenario-taskable platforms/weapon systems that require depot maintenance, regardless of whether maintenance is currently performed at a public or private depot maintenance facility. Platforms/weapon systems may include multiple end items, principal items, components, subsystems, parts, and materiel, and many of these items may also be separately identified as depot-level repairables (DLRs). Record in Column A1 of the Enclosure (4) worksheet (Part 1).

Quantify the total active inventory (number of units) for each platform/weapon system within the context of the DoD depot maintenance work breakdown structure (WBS) at the type/model level (e.g., F-15 series aircraft, LHA-class ships, or M109 family of vehicles) and record within the appropriate WBS category in Column A2 on the worksheet (Part 1).

Throughout Part 1, as a minimum, WBS categories are to be completed to the third level of indenture for Aircraft and Aircraft Components, the second level of indenture for Aircraft engines and the first level of indenture for all other categories.

Determine how many of these platforms/weapon systems are included in the DPG force structure for employment in support of JCS contingency scenarios. Exclude quantities not required for the scenarios. Record the scenario requirements data in Column A3 of the worksheet (Part 1).

**Block B – Identify Net After Exclusions.** Identify any platforms/weapon systems and related DLRs that are excluded from the requirement to maintain core logistics capabilities, exclude from further analysis and document the authority for that exclusion from the core process. Record the net result in Column B of the worksheet.

**Block C – Convert Scenario Requirements to Peacetime DLHs.** Use appropriate factors (e.g., historical workload averages, work standards, occurrence factors, historical peacetime capabilities, or technology-based requirements) to convert platform/weapon system requirements passed from Block B into annual depot maintenance DLHs. Add DLH data to applicable WBS categories to account for DLRs that are installed in platforms/weapon systems or otherwise employed in DPG/JCS scenarios, but not already included in Block A platform/weapon system depot maintenance data. Record results in Columns C1 and C2 of the worksheet as applicable.

**Block D – Adjust for Contingency Requirements and Resources.** The adjustment occurs in two steps.

Step D1: Adjust for Contingency Requirements. Adjust annual peacetime depot maintenance DLH data by applying a surge factor for requirements during the Readiness, Sustainment, and Reconstitution phases of contingency operations. Base surge factors on contingency simulations, logistics support analyses, and/or historical data for both peacetime and wartime operations. Select the most appropriate requirement for readiness, sustainment or reconstitution capabilities and record results in DLHs in Column D1 of the worksheet. See Enclosure (2) for a notional requirements and resource adjustment process.

Step D2: Adjust for Resources. Apply an appropriate resource adjustment factor (e.g., 1.6) to the DLHs from Column D1 of the worksheet. This factor accounts for the ability of on-hand peacetime depot maintenance resources to increase production by operating additional hours without being augmented by additional facilities, equipment or personnel. Record the results in DLHs in Column D2 of the worksheet.

**Block E – Adjust for Redundant Requirements.** The DoD Components may adjust the size of core capability requirements to an amount deemed sufficient to assure adequate depot maintenance support for their strategic or contingency operations. Such adjustments shall, however, consider the needs to prevent adverse impacts in the event of a failure to perform by any element in the sustainment process and to assure the DoD depots' adequate responsiveness to operational requirements. The DLHs determined as a result of the calculations outlined in blocks A through D may be adjusted further to address redundant capability requirements (e.g., multiple platforms that are so similar they share a common or complementary base of repair processes, technologies, and capabilities; or when a large quantity of single platform requirements necessitate duplicate capabilities within DoD). Each DoD Component makes its own redundant core capability requirements adjustments.

**Block F – Quantify Depot Maintenance Core Capability Requirements.** Quantify the depot maintenance core capabilities that must be provided by Government personnel, equipment, and facilities in compliance with 10 U.S.C. 2464. Apply adjustments required by Block E to the results of Block D and record the result in Column F of the worksheet.

**Block G - Adjust for Interservice Capability Requirements.** Determine whether any of the DLH requirements passed from Block F will be satisfied by other DoD depot maintenance capabilities. Include core capability requirements necessary to support other Services, and exclude capability requirements that will be supported by other Services. Record interservice requirements “in” and interservice requirements “out” in Columns G1 and G2 respectively of the worksheet.

**Block H – Total Adjusted Requirements.** Record the net adjusted requirements and carry forward to Part 2, DoD Depot Maintenance Core Capability Worksheet (Enclosure (4)).

**Part 2: Depot Maintenance Workload Allocation.** Part 2 identifies the workloads necessary to sustain the depot maintenance core capability requirements identified in Part 1. In this part, the depot maintenance workloads that are needed to maintain core capabilities are subtracted from total organic depot maintenance funded workload, leaving those workloads that are not necessary to sustain core capability requirements available for Service source of repair decisions. This part establishes a *minimum level of organic depot maintenance workloads* within each DoD Component. The data may also be used to assist in the identification of depot maintenance capital investments that must be made to comply with 10 U.S.C. 2464 requirements for establishment of core depot maintenance capabilities within four years of initial operational capability (IOC). Enclosure (3) is a flow diagram for Part 2. Applicable information regarding the results of each step in this process should be recorded on the DoD Depot Maintenance Core Capability Worksheet (Part 2), (Enclosure (4)).

Throughout Part 2, as a minimum, WBS categories in the worksheet are to be completed to the third level of indenture for Aircraft and Aircraft Components, the second level of indenture for Aircraft engines and the first level of indenture for all other categories.

**Block I – Quantify Total Depot Maintenance Workload.** Quantify all organic depot maintenance workload for your own DoD Component in terms of DLHs. Record this workload data in Column I of the worksheet (Part 2).

**Block J – Add/Subtract Interservice Workload Adjustments.** Adjust Block I workload data to account for any workloads that one DoD Component is providing to another DoD Component. These adjustments may either increase or decrease the total DLH quantities passed from Block I, depending on whether the affected DoD Component is the “principal” or “agent” for a particular depot maintenance workload.

Record interservice workload “in” in Column J1 and interservice workload “out” in Column J2 of the worksheet (Part 2).

**Block K – Identify and Compute Workload Needed to Maintain Depot Maintenance Core Capability Requirements.** Considering the information from Blocks G and H, identify workloads to be used to sustain core capability requirements. Express these workloads in terms of DLHs. Substitutions of similar workloads may be made as necessary to fulfill core capability requirements for systems with limited inventories or fluctuating workload requirements. Record core-sustaining workload data in terms of DLHs in Column K on the worksheet. If there is a shortfall in the workloads available to sustain required core capabilities, then this shortfall must be considered in Block P, or workloads currently being performed under contract should be considered for organic support to satisfy that requirement.

**Block L – Determine Depot Maintenance Workload Not Needed to Support Depot Maintenance Core Capability Requirements.** Identify the depot maintenance workloads (DLHs) that do not directly support core capability requirements. Record non-core sustaining workload data in Column L on the worksheet.

**Block M – Sector Selection.** The Services will identify the most appropriate sources of repair (public or private) for all depot maintenance workloads passed *from* Block L, as follows:

Identify all other relevant data necessary to make value-driven depot maintenance SOR evaluations (e.g., previous SOR decisions, mission-driven requirements, and legislative mandates).

1. Identify and allocate directed workload requirements.
2. Identify any depot maintenance workloads for which there are no known commercial sources and allocate those workloads to public facilities.
3. Identify any workloads needed to ensure efficient operation of core depot maintenance capabilities in accordance with the provisions of 10 U.S.C. 2464 and allocate those workloads to public facilities.
4. Identify any workloads needed to ensure that at least 50 percent of depot maintenance funding is expended at government owned/operated facilities in accordance with the provisions of 10 U.S.C. 2466 and allocate those workloads to public facilities.
5. Allocate all remaining workloads as appropriate based on best value criteria.

**Block N– Private-Sector Depot Maintenance Workload.** Quantify in terms of total funding required (\$) all depot maintenance workload performed by private-sector depot maintenance facilities. Record this data in Column N on the worksheet.

**Block O – Public-Sector Depot Maintenance Workload.** Quantify in terms of DLHs the total amount of workload that directly supports depot maintenance core capability requirements, plus any other workload that is most appropriately performed by public-sector maintenance depots. Record this data in Column O of the worksheet.

**Block P – Output to Service Planning, Programming and Budgeting System (PPBS).** Use workload data from Blocks K and O to ensure that the PPBS process adequately supports depot maintenance core capabilities in accordance with 10 U.S.C. 2464. Compare planned capital investments to weapon systems IOC milestones to ensure capital investment decisions adequately support depot program capability within IOC plus four years.

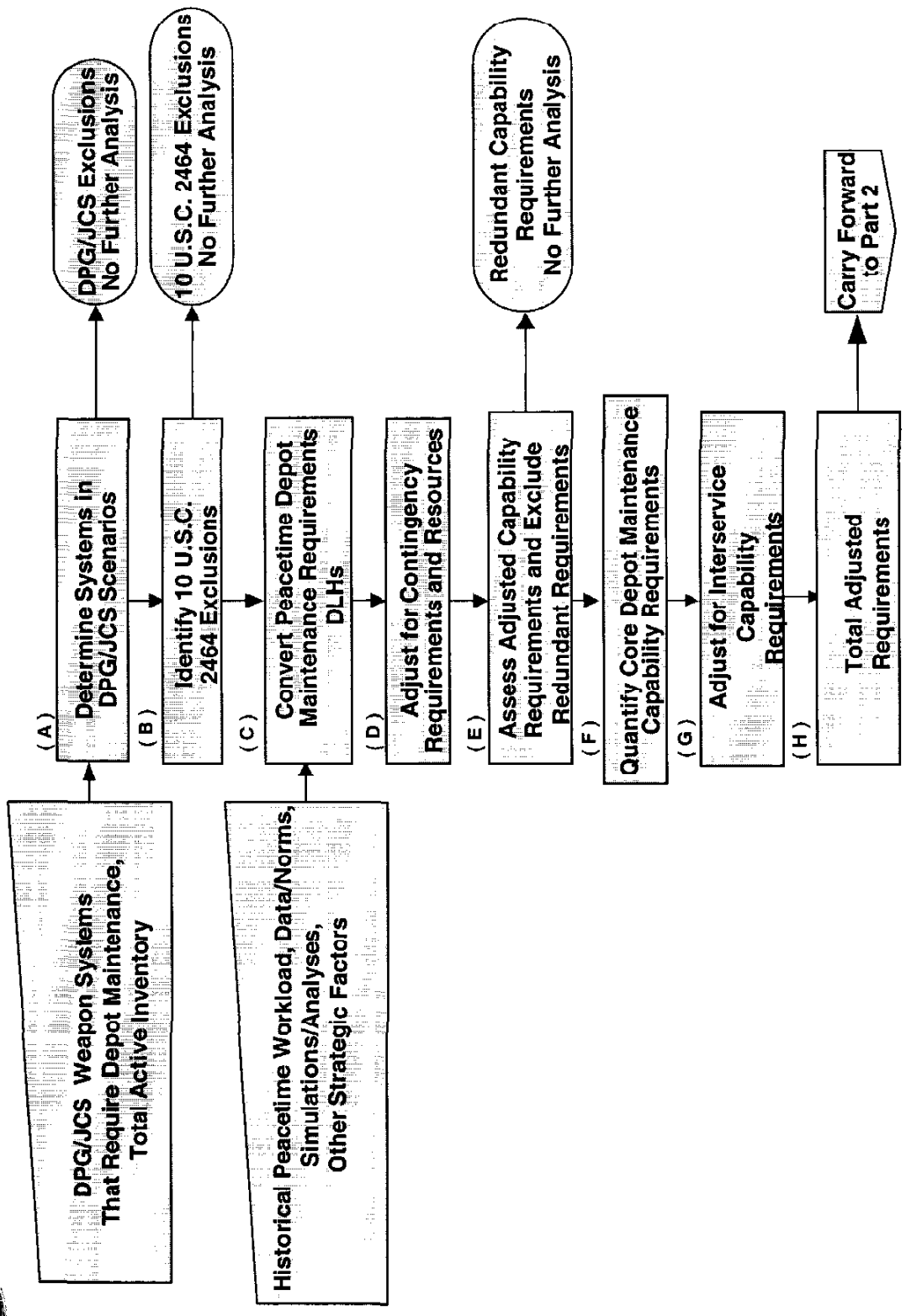
#### Enclosures

- (1) Part 1 - Capability Requirements Determination
- (2) Conflict Phases and Resource Adjustments
- (3) Part 2 - Workload Allocation
- (4) DoD Depot Maintenance Core Capability Worksheet (Parts 1 & 2)
- (5) Glossary



Enclosure (1)

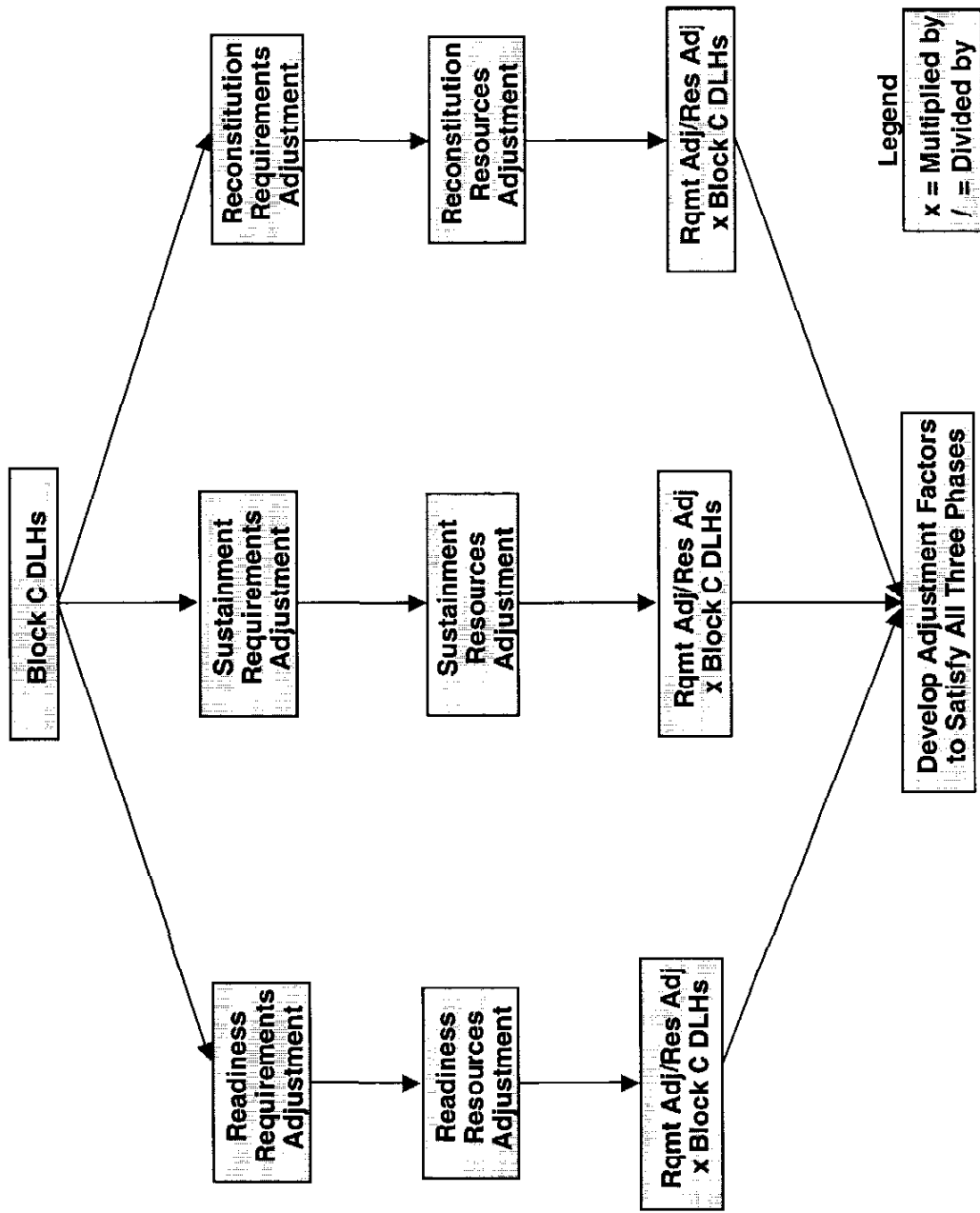
# Part 1 – Capability Requirements Determination





Enclosure (2)

# Contingency Requirements and Resource Adjustments

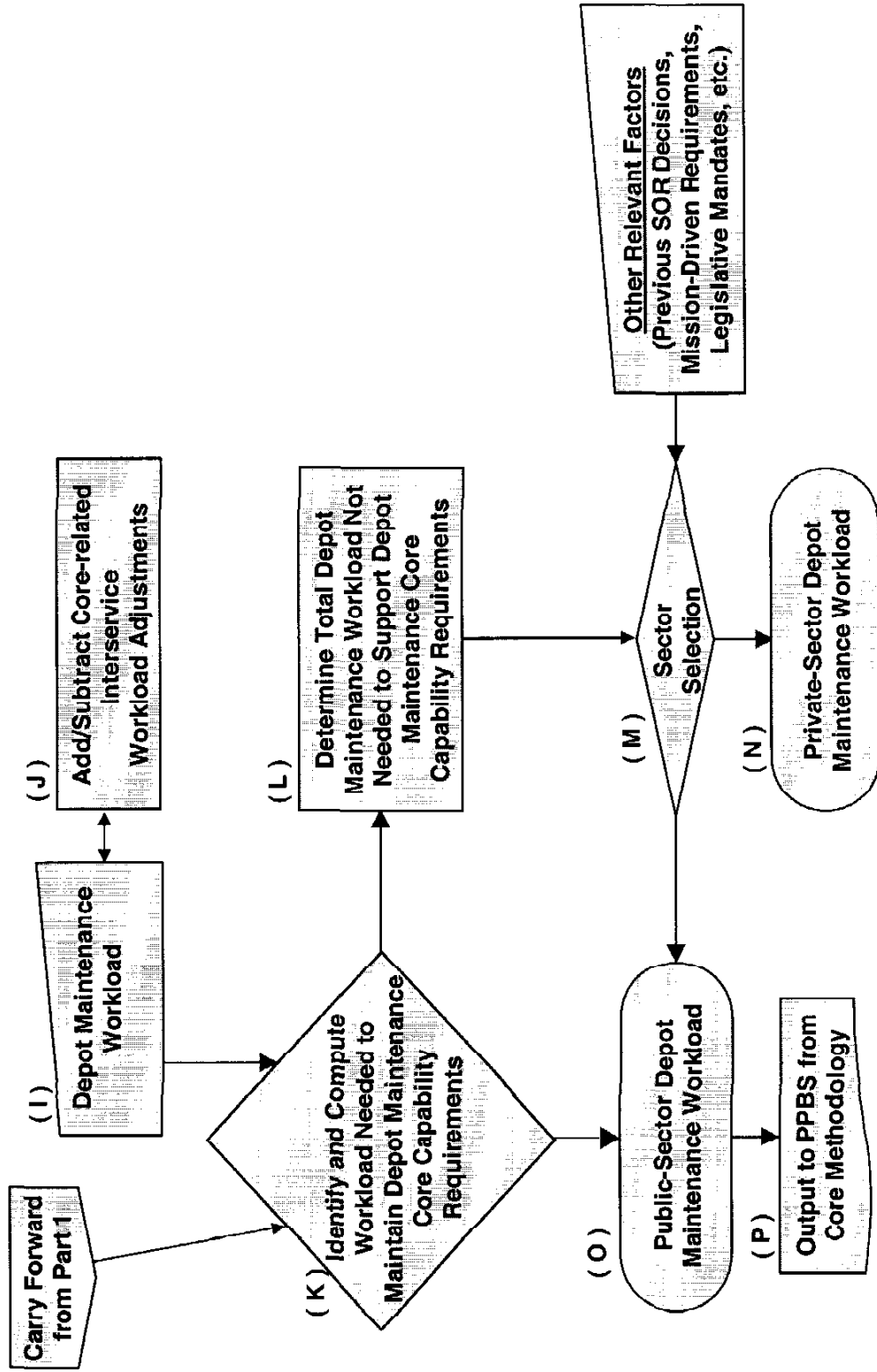






Enclosure (3)

# Part 2 – Workload Allocation





Enclosure (4) DoD Depot Maintenance Core Capability Worksheet: (Part 2)

Description	Column I	Column J	Column K	Column L	Column N	Column O
	Quantity Total Depot Maintenance Workload	Add/Subtract Interim/Use Workload Adjustments	Identify and Compute Workload Needed to Maintain DM Core Capability Requirements	Determine Total DM Workload Not Needed to Support DM Core Capability Requirements	Private-Sector DM Workload	Public-Sector DM Workload
VBB Category	DLHs	J1 DLHs In	J2 DLHs Out	DLHs	\$	DLHs
1 Aircraft						
1.1 Airframes						
1.1.1 Rotary						
1.1.2 VSTOL						
1.1.3 Cargo/Tanker						
1.1.4 Fighter/Attack						
1.1.5 Bomber						
1.1.6 Aircraft - Other						
1.2 Aircraft Components						
1.2.1 Dynamic Components						
1.2.2 Hydraulic/Pneumatics						
1.2.3 Instruments						
1.2.4 Landing Gear						
1.2.5 Avionics/Ordnance						
1.2.6 Avionics/Electronics						
1.2.7 APUs						
1.2.8 Other						
1.3 Aircraft Engines						
2 Ground Vehicles						
2.1 Combat Vehicles						
2.2 Amphibious Vehicles						
2.3 Tracked (wheeled) Vehicles						
2.4 Construction Equipment						
3 Sea Ships						
3.1 Aircraft Carriers						
3.2 Submarine						
3.3 Surface Combatants/Others						
4 Communication/Electronic Equipment						
4.1 Radar						
4.2 Radio						
4.3 Wire						
4.4 Electronic Warfare						
4.5 Navigational Aids						
4.6 Electro-Optics/Night Vision						
4.7 Cryptic						
4.8 Computers						
4.9 Other						
5 Support Equipment						
5.1 GSE						
5.2 Generators						
5.3 TMADE						
5.4 Calibration						
5.5 Other						
6 Ordnance Weapons & Missiles						
6.1 Nuclear Weapons						
6.2 Chemical Weapons						
6.3 Biological Weapons						
6.4 Conventional Weapons						
6.5 Explosives						
6.6 Small Arms/Personal Weapons						
6.7 Strategic Missiles						
6.8 Tactical Missiles						
7 Software						
7.1 Weapon System						
7.2 Support Equipment						
8 Fabrication/Manufacturing						
9 Fleet/Field Support						
10 Special Interest Items						
11 Other						

## **Enclosure (5)**

### **Glossary**

**Capability:** The combination of skills, facilities and equipment, processes, and technology needed to perform a particular category of work (e.g., composite repair), and that are necessary to maintain and repair the weapon systems and other military equipment needed to fulfill strategic and contingency plans.

**Capacity:** The amount of work that can be performed within a certain period of time, generally expressed in direct labor hours (DLHs) per year. DoD has an approved methodology for measuring public depot maintenance capacity (DoD 4151.18-H).

**Commercial Items:** Those items: 1) that have been sold or leased in substantial quantities to the general public; 2) that are purchased without modification in the same form they are sold in the commercial marketplace, or with minor modifications to meet federal government requirements, when the modifications do not result in the need for peculiar support equipment for maintenance and repair or follow-on testing of the item modified; and 3) for which sufficient commercial repair capability and capacity exist.

**Components:** Assemblies or subassemblies for which depot maintenance is provided (e.g., avionics/electronics, black boxes, hydraulic pumps, landing gear, and starters). Some items such as turbine engines may be categorized as both end items and components. (Also see DoD Components.)

**Contingency:** An emergency involving military forces caused by natural disasters, terrorists, or subversives or by required military operations. Because of the uncertainty of the situation, contingencies require plans, rapid response, and special procedures to ensure the safety and readiness of personnel, installations, and equipment.

**Core:** The public depot maintenance capability (including personnel, equipment, and facilities) maintained by the Department of Defense as the ready and controlled source of technical competence and resources necessary to ensure effective and timely response to a mobilization, national defense contingency situations, and other emergency requirements. Depot maintenance for the designated weapon systems and other military equipment is the primary workload assigned to DoD depots to support core depot maintenance capabilities.

**Depot Maintenance:** Depot-level maintenance and repair of military materiel. "Depot-level maintenance and repair" means (except as provided below) materiel maintenance or repair requiring the overhaul, upgrading, or rebuilding of parts, assemblies, or subassemblies, and the testing and reclamation of equipment as necessary, regardless of the source of funds for the maintenance or repair or the location at which the maintenance or repair is performed. The term includes (1) all aspects of software maintenance as depot-level maintenance and repair, and (2) interim contractor support (ICS) or contractor logistics support (CLS) (or any similar contractor support), to the extent that such support is for performance of depot-level maintenance and repair. Depot-level maintenance and repair does not include (1) the procurement of major

modifications or upgrades of weapon systems that are designed to improve program performance, (2) nuclear refueling of an aircraft carrier, and (3) procurement of parts for safety modifications (depot-level maintenance and repair does include the installation of parts for safety modifications).

**Direct Labor Hour (DLH):** A common metric for measuring depot maintenance capability, workload, or capacity, representing one hour of direct work (e.g., touch labor or other directly attributed effort).

**DoD Components:** Comprises the Military Services and Defense Agencies.

**Efficiency/Economy Adjustment:** An adjustment of the core workload direct labor hours to maximize the productive output achieved with available core resources. This workload adjustment ensures that core capabilities are fully and efficiently utilized, rather than being left idle for long periods of time awaiting work.

**End Item:** Nominally a weapon system such as an aircraft, ship, tank, etc., but sometimes interpreted as an item that includes many subassemblies (e.g., landing gear). A turbine engine could be either an end item or a component of an end item (e.g., an aircraft).

**Equipment:** All non-expendable items needed to outfit or equip an individual or organization.

**Exclusions:** Specific systems or types of Defense materiel which have been legislatively excluded from core capability requirements computations. Examples include, but are not limited to, materiel supported under special access programs and commercial items.

**Initial Operational Capability (IOC):** The first attainment of the capability to employ effectively a weapon, item of equipment, or system of approved specific characteristics. The weapon/item/system is manned or operated by an adequately trained, equipped, and supported military unit or force.

**Materiel:** All items (including weapon systems, end items, principal items, subassemblies, and related spares, repair parts, and support equipment, but excluding real property, installations, and utilities) necessary to equip, operate, maintain, and support military activities, without distinction as to an item's application for administrative or combat purposes.

**Organic:** Internal DoD depot maintenance capabilities and workload.

**Platform:** A weapon(s) system or system of systems or support system designated by a DoD Component as the basis for analysis of core capability requirements.

**Principal items:** End items and replacement assemblies of such importance that management techniques require centralized individual item management throughout the supply system, to include depot level, base level, and items in the hands of using units. These specifically include the items where, in the judgment of the Services, there is a need for central inventory control, including centralized computation of requirements, central procurement, central direction of distribution, and central knowledge and control of all assets owned by the Services.

**Private Sector:** Not part of Federal, State, or local government infrastructure (e.g., commercial firms).

**Public Sector (public):** Part of the Federal, State, or local government infrastructure.

**Readiness:** The ability of U.S. military forces to fight and meet the demands of the national military strategy. Readiness is the synthesis of two distinct, but interrelated, levels:

**Unit readiness:** The ability to provide capabilities required by the combatant commanders to execute their assigned missions; derived from the ability of each unit to deliver the outputs for which it was designed.

**Joint readiness:** The combatant commander's ability to integrate and synchronize ready combat and support forces to execute his or her assigned missions.

**Reconstitution:** The process, after a contingency/surge operation, of making a unit or activity available again for steady-state operational commitments. Reconstitution planning begins during the initial stages of surge operations, and actual reconstitution of the forces continues beyond the end of the contingency operation. Factors to consider in reconstitution planning include maintenance of equipment, restoring levels of consumables, lost training, examination of the impact of operations on personnel and attrition rates, and post-contingency steady-state operational requirements.

**Skills:** The various kinds of expertise required to perform depot maintenance (e.g., welding, composite repair, software programming, turbine engine repair, and electronics repair). May also include other skill areas such as support for in-service engineering.

**Special Access Programs (SAPs):** Any program imposing need-to-know or access controls beyond those normally provided for access to Confidential, Secret, or Top Secret information.

**Software:** A set of computer programs, procedures, and associated documentation concerned with the operation of a data-processing system (e.g., compilers, library routines, manuals, and circuit diagrams).

**Surge:** The act of expanding an existing depot maintenance repair capability to meet increased requirements by adjusting shifts or by adding skilled personnel, equipment, spares, and repair parts. The expanded capability will increase the flow of repaired or manufactured materiel to the using activity or for serviceable storage.

**Sustainability:** The ability to maintain the necessary level and duration of operational activity to achieve military objectives. Sustainability is a function of providing for, and maintaining, those levels of ready forces, materiel, and consumables necessary to support military effort.

**Weapon System:** A combination of one or more weapons with all related equipment, materiel, services, personnel, and means of delivery and deployment (if applicable) required for self-sufficiency.

**Workload:** An amount of depot maintenance work, usually specified in direct labor hours or workdays. It relates to specific weapon systems, equipment, components, or programs and to specific services, facilities, and commodities.