DEPUTY UNDER SECRETARY OF DEFENSE FOR
LOGISTICS AND MATERIEL READINESS
3500 DEFENSE PENTAGON
WASHINGTON, DC 20301-3500

OCT 4 2001

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY
(ACQUISITION, LOGISTICS AND TECHNOLOGY)
ASSISTANT SECRETARY OF THE NAVY
(RESEARCH, DEVELOPMENT AND ACQUISITION)
DEPUTY CHIEF OF STAFF INSTALLATION AND
LOGISTICS, US AIR FORCE

SUBJECT: Depot Maintenance Capacity and Utilization Measurement

Supplementary instructions to DoD 4151.18-H, *Depot Maintenance Capacity and Utilization Measurement Handbook,* January 24, 1997, were issued September 30, 1999. These supplementary instructions remain necessary. However, additional guidance is now required regarding measurement of capacity for personnel deploying from a depot to an off-site installation where no enduring capacity exits.

Attached are reissued interim supplementary instructions to DoD 4151.18-H. These instructions will be incorporated into the next update of the Handbook.

You are directed to implement the provisions of the Handbook, as supplemented, in order that the Department may have an accurate and timely assessment of the size of current depot maintenance and repair capabilities.

Diane K. Morales

Attachment
As stated

cc:
DCSLOG, US Army
DCNO(Fleet Readiness and Logistics)
DC/S I&L, USMC

INTERIM SUPPLEMENTARY INSTRUCTIONS

DoD 4151.18-H

DEPOT MAINTENANCE CAPACITY AND UTILIZATION MEASUREMENT HANDBOOK

1. Applicability. The following supplementary instructions for DoD 4151.18-H are effective immediately. These instructions will be incorporated into the next update of DoD 4151.18-H.

2. On-site and Remote Capability. In Chapter 1, replace paragraph A2a with a new paragraph A2a as follows:

a. The techniques in this Handbook are applicable to:

(1) Covered and uncovered spaces, as defined in Appendix D (with the exception of shops referred to as general shop support), in which depot maintenance is performed. The commander who exercises operational control over such spaces will report the capacity for them.

(2) Depot field teams (such as used in the Integrated Maintenance Concept). Capacity for depot field teams will be reported by the applicable commander of the field team personnel rather than the commander of the host location.

(3) Organic depot maintenance activities and physical capacities established or retained within the DoD Components are to be kept to the minimum necessary to ensure a ready, controlled source of technical competence and resources to meet military requirements (DoD Directive 4151.18, reference (a)). These activities, then, are to remain in place to provide logistical support for war, emergency, and contingency actions, and are to operate in peacetime in a cost-effective manner.

3. Documentation of Qualifications and Responsibility. In Chapter 1, add the following paragraph A2c:

DoD Components responsible for measuring depot maintenance capacity and utilization in accordance with this Handbook will document the specific qualifications of the personnel who will be assigned responsibility for measuring depot capacity and utilization. Documentation of these qualifications will be made available to OSD upon request. Responsibility for measuring depot capacity and utilization will be documented in the work plans of the personnel to whom this responsibility is assigned.

4. Applicability and Scope. In Chapter 3, insert the following new paragraph A and renumber subsequent paragraphs:

Applicability and Scope. The techniques in this chapter are applicable to:

(1) Covered and uncovered spaces, as defined in Appendix D (with the exception of shops referred to as general shop support), in which depot maintenance is performed. The commander who exercises operational control over such spaces will report the capacity for them.

(2) Depot field teams (such as used in the Integrated Maintenance Concept). Capacity for depot field teams will be reported by the applicable commander of the field team personnel rather than the commander of the host location.

5. Production Shop Categories. In renumbered Chapter 3 paragraph B2e, in the first sentence after "production shop category" insert "(PSC)". After first sentence, add the following:

Multiple PSCs may be applicable to a single shop. In such cases the shop capacity will be prorated to applicable PSCs, based upon the projected product mix.

6. Core Capacity Index.

a. In renumbered Chapter 3, paragraph D, change the definition of the Core Capacity Index to read as follows:

The Core Capacity Index is an indicator of the capacity, expressed in DLH, available within a shop or depot to support Peacetime Core capability requirements identified in the approved DoD Core Methodology (as depicted in block H of the Core Methodology). This includes both Core capability that is used and Core capability that is held in reserve (described in section E., below).

b. On page vi, change the definition of core capacity index to read as follows:

Core Capacity Index. An indicator of the capacity, expressed in direct labor hours (DLH), available within a shop or depot to support Peacetime Core capability requirements identified in the approved DoD Core Methodology.

7. Reserve Capacity Index.

a. In renumbered Chapter 3, paragraph E, change the definition of the Reserve Capacity Index to read as follows:

> The Reserve Capacity Index, which is a subset of the Core Capacity Index, is an indicator of the Core Capacity, expressed in DLH, available within a shop or depot that is not actually being utilized but is required to support Peacetime Core capability requirements identified in accordance with the approved DoD Core Methodology. Reserve capacity is not considered excess capacity. Reserve capacity should be specifically identified at the shop level. Specific rationale for retention of reserve capacity shall be developed by the activity concerned and approved by the respective DoD component.

b. On page viii, change the definition of reserve capacity index to read as follows:

> Reserve Capacity Index. An indicator of the Core Capacity, expressed in DLH, available within a shop or depot that is not actually being utilized but is required to support Peacetime Core capability requirements identified in accordance with the approved DoD Core Methodology.

8. Naval Shipyard Capacity Indexes. Substitute the following as renumbered Chapter 3, paragraph I:

> 1. The preponderance of ship depot maintenance is accomplished on major ship overhauls that require dry docking, as these overhauls have the largest work packages. The best measurement of a shipyard's overall capacity is a combination of Dry Dock Throughput (to capture all ship work), and Output Shop capacity (to capture the Repairable and Non-ship work).
>
> 2. The Dry Dock Throughput Index is to be determined by first determining the maximum ship maintenance throughput for each dry dock in each shipyard. For each operational dry dock in the shipyard, the type of ship overhaul with the largest workload that can normally be performed in each dry dock is identified (e.g., CVN's loaded into carrier docks). It will be assumed that the dry dock will be continually utilized for that type of overhaul. As soon as the dry dock phase of one overhaul is complete, that ship is undocked and the next ship is docked.
>
> 3. Dry Dock work commences on the second ship while the first ship's overhaul is completed at the pier. The total workload represents all the work executed during that overhaul, including the dry dock, pierside and shop work.

4. For example, a 688 class submarine Depot Modernization Period typically requires 7 months in dry dock, so the shipyard could complete 12/7 = 1.7 overhauls per year using one dry dock. The notional total direct labor mandays (MD) for the overhaul (e.g., 141,000 MD) is multiplied by the overhauls per year to yield Dry Dock Throughput (239,000 MD) for that dock. This total is then multiplied be 8 to get 1,912,000 manhours.

5. This total is defined as the Dry Dock Throughput Index and represents the capacity of the shipyard for ship work when every operational dry dock is utilized fully with the largest ship type possible. This will be identified in DLH.

6. The Output Shop Capacity Index is defined as repairable work not related to the ships being overhauled in the shipyard. This work is assigned by customers other than the Fleet and NAVSEA (e.g. Naval Inventory Control Point, Space and Naval Warfare Systems Command, etc.) and primarily is in support of the Navy Supply System. The Output Shops are identified in Appendix A. Output Shop capacity is to be calculated in accordance with the methodology outlined in subsection A.2 of this chapter.

9. Independent Verification. In Chapter 5, add the following paragraph A7:

Documentation reflecting independent verification, on an annual basis, of the shop drawings and capacity index calculations noted in paragraphs A1 and A2 above. Shop drawings are not required for depot-level maintenance accomplished by personnel deploying from a depot maintenance activity to an off-site installation where no enduring plant capacity exists (e.g., depot field teams, Integrated Maintenance Concept, etc.). Independent verification will be obtained on an annual basis for the most recently completed fiscal year, and should be accomplished prior to submission of the report described in paragraph B1 below. The following specific elements will be verified: accuracy of drawings for each shop; work position count for each shop; the calculation used to arrive at the Total Capacity Index data for each shop; identification of production shop category(ies) for each shop; and roll-up of shop Total Capacity Index data to the depot total. Independent verification will be obtained, at the DoD Component's discretion, from qualified organic agencies outside of the depot maintenance activities, such as higher headquarters, Service audit agencies, or private consultants.

10. As-of Date. In Chapter 5, paragraph B5, insert the following after the first sentence: "The as-of date for data will be September 30 for each fiscal year reported."

11. Naval Shipyard Output Shops. Add the following to Appendix A, paragraph B (Machine Shop (Inside)): "non-ship portion."

12. Flow Chart. Substitute the enclosed flow chart as Appendix B.

13. Production Shop Category for Fleet Support. Add the following paragraph 17 to Appendix D:

> 17. Fleet Support. Those covered and uncovered areas used for support services not covered within the aircraft, missile, power plant, component rework, aircraft modification or manufacturing programs. Fleet support includes services such as salvage, preservation & depreservation, work incidental to acceptance and transfer of weapon systems at the depot; customer support provided directly to operating forces, component reclamation and calibration.

14. Total Capacity Index. In renumbered Chapter 3 paragraph B2, insert a new paragraph B2e (Step 5) and renumber the existing paragraph B2e as B2f (Step 6). The new paragraph B2e reads:

e. Step 5. For depot-level maintenance accomplished by personnel deploying from a specific shop of a depot maintenance activity to an off-site installation where no enduring plant capacity exists (e.g., depot field teams, Integrated Maintenance Concept, etc.), the total capacity index equals the amount of direct labor hours expended or projected to be expended. Assign a production shop category(ies) and add the depot field team total capacity index to the respective shop(s) that deployed the personnel.

15. Total Capacity Index. In renumbered Chapter 3 paragraph B2, insert a new paragraph B2g Step 7. The new paragraph B2g reads:

g. Step 7. For depot-level maintenance accomplished by personnel deploying from a depot maintenance activity from a non-specific shop or a unique shop specifically designated for field team work to an off-site installation where no enduring plant capacity exists (e.g., depot field teams, Integrated Maintenance Concept, etc.), the total capacity index equals the amount of direct labor hours expended or projected to be expended. Assign a production shop category(ies) and add the depot field team total capacity index to the respective depot maintenance activity total.

16. In Chapter 3 paragraph B2a, add the parenthetical sentence at the end of the paragraph as follows: (It is recognized that detailed shop layouts are not available for depot-level maintenance accomplished by personnel deploying from a depot maintenance activity to an off-site installation where no enduring plant capacity exists (e.g., depot field teams, Integrated Maintenance Concept).)

17. In Chapter 5 paragraph A1, add the parenthetical sentence after the first sentence as follows: (Not required for field team capacity calculation.)

18. In Appendix D, Production Shop Categories, under major categories 1 through 11, 14 and 15 there is a second level category denoted as "Other." Change the last sentence in each instance to read: Includes work performed away from production facility by field teams, IMC, etc.

APPENDIX B

CAPACITY INDEX DETERMINATION FLOW CHART

Procedure	Step	
Obtain/update shop equipment layout	1	Shop Level
Determine/identify work stations and positions	2	Shop Level
Multiply total work positions by availability factor	3	Shop Level
Multiply result of step 3 by annual productive hours	4	Shop Level
Add depot field team capacity if deployed from shop (Capacity = Workload)	5	Shop Level
Record shop capacity	6	Shop Level
Add depot field team capacity if a separate shop (Capacity = Workload)	7	Shop Level
Add resultant shop capacity indexes to compile higher level data	8	Depot Maintenance Activity Level