

Supply and Storage Joint Cross-Service Group



FINAL CAPACITY ANALYSIS REPORT

To the

INFRASTRUCTURE STEERING GROUP

April 21, 2005



DEFENSE LOGISTICS AGENCY

HEADQUARTERS
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April 21, 2005

MEMORANDUM FOR THE UNDERSECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY, AND LOGISTICS), CHAIRMAN, INFRASTRUCTURE STEERING GROUP

SUBJECT: Supply and Storage JCSG Final Capacity Analysis Report

Your memorandum of May 14, 2004 directed the Supply & Storage JCSG to submit an interim report to the Infrastructure Steering Group (ISG) on the status of our capacity analysis. That initial report was submitted June 1, 2004. A final updated report is attached per your guidance.

Capacity data calculations provided in this report are based on the final master database update of April 20, 2005.

A handwritten signature in black ink, appearing to read "K. Lippert".

KEITH W. LIPPERT
Vice Admiral, SC, USN
Chairman, Supply and Storage,
Joint Cross-Service Group

Attachment

Final Capacity Analysis Report dated April 21, 2005

Draft Deliberate Document - For Discussion Purposes Only

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SECTION 1: INTRODUCTION

Recap of Approved Functions

The core functions of the S&S JCSG are supply, storage, and distribution. The Group has no refinements to these functions.

Overall Capacity Analysis and Result Summary

Summary

The Group analyzed individual activity infrastructure by examining the productivity of key resource inputs, e.g. labor (man-hours) and actual space (office, warehouse, etc.). The Group assumes that a low rate of productivity for key resource inputs indicates either inefficient use of resources and/or excess resource capacities. The Group's capacity methodology uses a standard product and standard resource productivity rates to determine an activity's excess capacity in the Supply function. This is a common commercial industry analytical practice used to account for differences among activities that produce multiple products utilizing multiple resources. This standard-product approach mitigates many of the confounding factors that stem from differences in product mix among S&S activities. These factors would otherwise distort eventual activity-to-activity comparisons in support of BRAC infrastructure decisions. Additional detail on our standard-product approach and the resource mix that comprises the individual product is provided in Appendix A. In the Storage and Distribution functions the Group's methodology is simpler in approach. For storage, actual reported amounts of cubic and square footage of storage space are used to determine capacity. Storage resources are grouped into four (4) like categories representing regular and special covered storage; open storage and liquid storage for petroleum, oil and lubricant (POL) products. For distribution, available loading bays are compared to loading bays actually utilized by each strategic distribution depot to arrive at an excess determination.

In developing the capacity methodology the Group believed that the most important attribute was that it directly supported optimization modeling. It was also important that the methodology satisfy the Infrastructure Steering Group tasking that by-activity capacity figures are provided to determine an excess capacity total. These two factors were not necessarily mutually supporting which made our methodology development effort more challenging. Early on in capacity planning the Group sought guidance as to definitions of key capacity terminology (i.e.

maximum potential capacity, current capacity, current usage, excess capacity and surge). Information provided from the OSD BRAC Office was that capacity terminology was to be defined by the individual JCSG in order to best present (their) functional activity analysis. These definitions have been discussed and approved by OSD BRAC representatives. Overall *Capacity* for the S&S JCSG is defined in terms of resources. The Group's individual capacity definitions are as follows:

- Current Capacity. Total resources currently available to meet an activity's requirements. For their functions computed as:
 - Supply. Sum of available resources (labor and workspace).
 - Storage. Sum of available cubic footage available for each covered storage category, square footage for open storage, and barrels of POL for wet tank storage.
 - Distribution: Maximum available loading bays for each strategic distribution depot.
- Current Usage. Minimum number of resources required to meet an activity's requirements. For each function computed as:
 - Supply. Minimum number of resources (labor and workspace) needed to produce the required number of standard products in each supply labor category. (Utilization of standard product and resource productivity rates)
 - Storage: Sum of utilized cubic footage for each covered storage category, square footage utilized for open storage and barrels of POL for wet tank storage.
 - Distribution. Utilized loading bays for each strategic distribution depot.
- Excess Capacity. Difference between current capacity and current usage plus surge.
- Maximum Potential Capacity. For purposes of S&S Capacity considered unbounded. For each function the most significant limiting factor on capacity is the number of resources available. In the case of supply, an activity may hire additional resources or increase economic order quantities as required to accommodate increased supply demands. For storage resources can be arbitrarily increased to meet increased storage requirements through buying, leasing or building additional storage facilities. There are no limitations to distribution capacity that may not be remedied by the acquisition or use of additional resources (e.g. buying/leasing more trucks, utilizing additional airports or ports, running more trains, etc.)
- Surge. No DoD surge requirement was available or provided for the Group to factor into the capacity analysis. Despite this fact the Group felt that surge was an important factor in providing a sensitivity analysis as a means of mitigating risk that may arise

from increasing requirements on systems with no additional infusion of resources. The Group believes this requirement-based definition of surge was more useful in determining true excess capacity than arbitrarily changing current usage resource levels to unsustainable levels. Surge, as it relates to each of the three functions is discussed in Appendix A.

Attributes and Metrics. Initial attributes and metrics for all S&S functions were identified in the Group’s September 2003 capacity report. As indicated in that report these were subject to revision and refinement as BRAC models were developed and the JCSG gained a better understanding of the overall BRAC Process including optimization methodology. Our capacity methodology is consistent with and supports key attributes and metrics from that listing. Selected attributes and metrics are listed below;

Function	Attributes	Metric
Supply	Scope of Effort	<ul style="list-style-type: none"> • Number and dollar value of items managed • Number of requisitions processed • Dollar value of sales • Number and value of contracts
	Manpower	<ul style="list-style-type: none"> • Volume • Number of supply personnel • Number of acquisition personnel
Distribution	Mode	Average tons per day
Storage	Size	<ul style="list-style-type: none"> • Attainable cubic feet • Bbls/sq ft • Usable space vs. used space • Average number and dollar value of inventory
	Throughput	Max number stocked at surge Receipt/Issue Capability (GPM, line items received/issued)
	Level of Effort	Manpower

SECTION 2: FUNCTIONAL ORGANIZATION OF THE CAPACITY ANALYSIS

The S&S JCSG approaches capacity analysis in a highly centralized manner. The commodity-focused subgroup structure reported in the original Capacity Analysis Report of September 2003 was replaced by a centralized functional organization. Those core functions being supply, storage and distribution. This change was made to ensure commonality across the individual Services and Defense Logistics Agency for gathering and analyzing data and for eventual scenario development and analysis. This functional organization has been presented in each report submitted to the ISG since the September 2003 capacity report and has proven to be a more efficient use of JCSG resources. Within the current Group organization, each work-stream has a lead action officer and the appropriate number of subject matter experts assigned representing the individual Services and DLA.

SECTION 3: IDENTIFICATION OF ACTIVITY INVENTORY

Appendix B identifies the inventory of activities under review by the S&S JCSG. These activities perform at least one of the Group's three assigned functions. These activities satisfy definitions for determining "what constitutes an S&S activity" identified in both the September 27, 2003 Capacity Analysis Report, the Data Call #1 BRAC Library and Military Value reports submitted in February, March and on 11 June 2004. Other deployable activities that are often deemed "follower activities" may perform some portion of a function; however, because these activities are not primarily S&S activities, they were not targeted in either capacity or military analysis.

SECTION 4: PROVIDE THE CAPACITIES FOR ASSIGNED FUNCTIONS

The Group's capacity analysis approach is discussed in Appendix A. Calculations required in support of determination of capacity totals for current capacity, current usage, and the impact of surge on these requirements are also included in Appendix A.

SECTION 5: IDENTIFY THE EXCESS THROUGHPUT CAPACITY

Appendices C through E provide capacity information for Inventory Control Points, Defense Distribution Depots, and Defense Reutilization Offices activities respectively. Each appendix provides an example of an activity within that grouping to display computation of the standard product and standard productivity rates for the Supply function. Following the example is a table with capacity calculations for all individual activities within that grouping.