BRAC 2005
Technical Joint Cross-Service Group (TJCSG)
Draft Meeting Minutes of 5 October 2004

Dr. Sega chaired the meeting but needed to depart briefly for another meeting and Mr. Shaffer chaired in his absence during this time. The agenda is enclosed in attachment 1. The list of attendees is enclosed in attachment 2. Pre-meeting documentation for the meeting is enclosed in attachment 3. The primary objective for the meeting was to provide feedback from the 1 October 2004 ISG Meeting, review the TJCSG Capacity Analysis Report, the TJCSG Timeline and upcoming schedule through 1 November 2004. The agenda topics are listed below in the order in which they were covered. The key points, decisions and action items from the meeting are as follows:

Feedback from ISG Meeting – Dr. Sega

Key Points:

- The C4ISR scenario map is not aligned with the locations of the Combatant Commanders.
- The TJCSG was not certain whether the cost of co-location would be warranted.

Dr. Sega departed at this time and Mr. Shaffer chaired the meeting from this point.

Anticipated TJCSG schedule from now to Nov 1st – Mr. Shaffer

Key Points:

- The TJCSG may not have adequate time to run all desired scenarios so the analysis priority needs to be established.
- The TJCSG submitted five families of scenarios to the ISG on 1 October 2004. However, these need to be further refined to define each individual scenario within each family.
- The TJCSG has already registered two of these families of scenarios, Combined Air Platforms Centers and Combined Conventional Weapons and Armaments Centers. Both of these will be further defined
- The TJCSG agreed to register only those scenarios that had detail sufficient for deconfliction and subsequent analysis.
- The Decision Factors will be applied to the prioritized list of 22 TJCSG Ideas generated by the Subgroup Leads and the CIT Service Principals on 8 September 2004. The resulting ideas will be considered for scenario development.

TJCSG Timeline – Mr. Shaffer

Key Points:

- Recent data received needs to be corrected. The main issue is getting organizational codes corrected to determine whether the TCSG has complete data from all of those facilities that need to be considered.

Decisions:

- Each CIT Service Representative will work to get their service data corrected and will provide a daily status report to Mr. Shaffer to indicate the likelihood of receiving corrected data by Friday, 8 October 2004.

Dr. Sega returned to the meeting and resumed chairing the meeting at this point.

Capacity Analysis Report – Mr. Shaffer

Key Points:

- The current report is still missing many calculations as a result of bad or missing data.
- There will be at least two more iterations of the report.

Decisions:

- The TJCSG will indicate "Bad Data Exists" for any parameters that can not be calculated until accurate data is received. The appendices will indicate which data are outliers or missing.
- Dr. Short and Col Walling will add a 4th column in Section 4 of the report to address surge capacity.
- Dr. Short and Col Walling will proceed with writing the Capacity Analysis Report in accordance with the previously approved methodology and will present this to the TJCSG next week.
- The Analysis Team will continue reporting weekly status of the data.
- The TJCSG Principals need to provide comments on the Capacity Analysis Report by COB tomorrow, 6 October 2004, to Dr. Short. Dr. Sega will be asked to sign and submit the report on Friday, 8 October 2004.

Action Items:

1. Each CIT Service Representative will work to get their service data corrected and will provide a daily status report to Mr. Shaffer to indicate the likelihood of receiving corrected data by 8 October 2004.

2. Dr. Short and Col Walling will add a 4th column in Section 4 of the report to address surge capacity.

3. Dr. Short and Col Walling will proceed with writing the Capacity Analysis Report in accordance with the previously approved methodology and will present this to the TJCSG next week.

3. The Analysis Team will continue reporting weekly status of the data to the TJCSG.

4. The TJCSG Principals need to provide comments on the Capacity Analysis Report by COB tomorrow, 6 October 2004, to Dr. Short. Dr. Sega will be asked to sign and submit the report on Friday, 8 October 2004.

5. Dr. Higgins will present the detailed scenarios from the registered family of Combined Conventional Weapons and Armaments Centers at the Thursday, 7 October 2004 TJCSG VTC.

Next TJCSG Meeting (VTC) is scheduled for Thursday, 7 October 2004, 0800-0900 hrs EDT, Pentagon VTC Rm 4B1060.

Approved: ______________________

Mr. Al Shaffer
Chairman, Capabilities Integration Team

Attachments:

1. Outline -Agenda
2. List of Attendees
3. Pre-meeting documentation

TJCSG VTC Agenda
5 Oct 04, 0900-1000 hrs EDT
Pentagon Rm 4E987

- TJCSG Timeline – COL DeSalva
- Capacity Analysis Report – COL Evans
- Feedback from ISG Mtg – Mr. Shaffer
- Anticipated TJCSG schedule from now to Nov 1st.

  a) Saturday's meetings

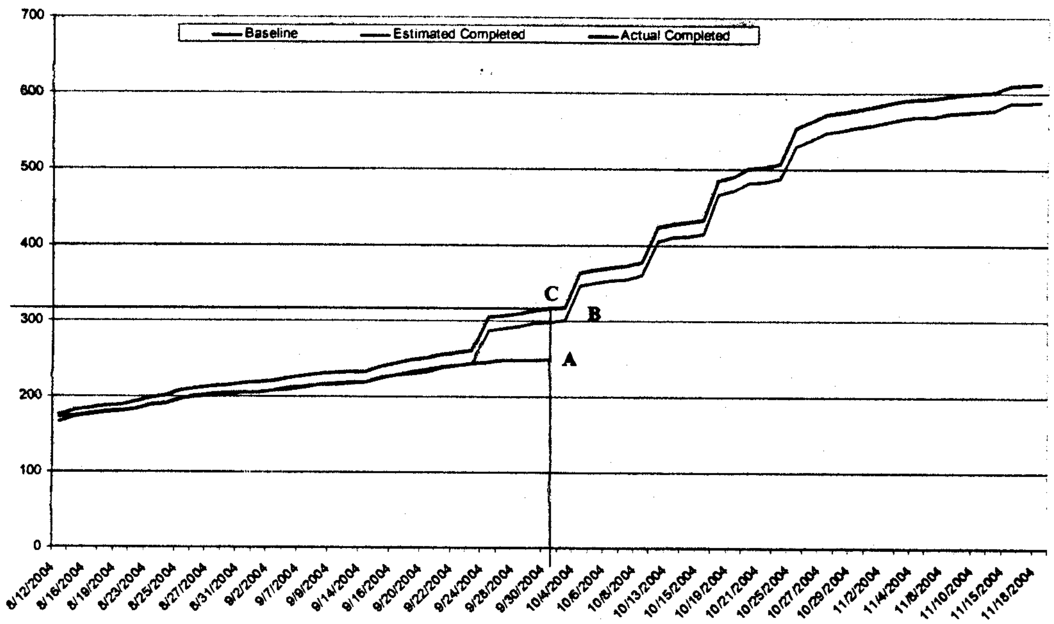
  b) Schedule subgroups to brief TJCSG Principals

<u>Attachment 2</u>
Technical JCSG Meeting
October 5, 2004
Attendees

Members:
Dr. Ron Sega, TJCSG Chairman
Mr. Blaise Durante, Air Force
Dr. J. Foulkes, Army
RADM Jay Cohen, Navy
Dr. Barry Dillon, Marines (Via VTC)
Mr. Jay Erb, JCS

Other:
Mr. Al Shaffer, CIT Chairman
Mr. George Ryan, Navy
COL Walt Hamm, Marines CIT Rep
Mr. Al Goldstyan, AF CIT Rep (Via VTC)
Dr. Bob Rohde, Army CIT Rep
COL Pete DeSalva, Marines
Mr. Gary Strack, OSD
Mr. Thom Mathes, Army (Via Telephone)
Mr. Steve Kratzmeier, Army
Mr. Pete Cahill, Army
Dr. Bill Berry, OSD
Mr. Jerry Schieffer, OSD BRAC
BG Fred Castle, OSD
COL Bob Buckstad, OSD
Ms. Marie Felix, OSD
Dr. Jim Short, OSD
Mr. Andy Porth, OSD
Col Eileen Walling, Air Force
Mr. Brian Simmons, Army (Via VTC)
Mr. Don DeYoung, Navy
Mr. Matt Mleziva, Air Force

Timeline as of 10/1/04



Timeline Analysis

- Point A reflects where we actually are regarding tasks completed as of 10/1.
- Point B reflects where we expected to be regarding tasks completed as of 10/1.
- Point C reflects where we need to be regarding tasks completed as of 10/1.

- The delay in completing the QA scrub of the data has delayed technical analysis by the subgroups.
- Lines do not reflect work that is partially complete, only completed tasks.
- Must complete data review ASAP and begin analysis of scenarios being considered.
- Need to start developing questions for the COBRA/Scenario data calls

TECHNICAL

JOINT CROSS SERVICE GROUP

(TJCSG)

DRAFT
CAPACITY ANALYSIS REPORT

(SUBJECT TO DATA UPDATES)

Executive Summary

Responses to the Technical Joint Cross Service Group Supplemental Capacity Data Call are arriving from the Services and the Defense Agencies. As of 29 Sept 04, capacity data has been received from 1540 separate technical facilities and their detachments (16 from Defense Agencies, 348 from Navy, 427 from Army and 749 from Air Force) who received the Supplemental Capacity Data Call. The TJCSG is reconciling these responses to ensure that there are no duplications. The supplemental capacity data will enable the TJCSG to determine the technical capacity of each Technical Facility located at each installation that responded to the TJCSG Capacity Data Call #1 (the Navy responded by organization rather than installation). Technical Facilities are fundamental to the TJCSG analytic framework. The TJCSG defines a Technical Facility as a collection of people and physical infrastructure that performs a technical function (or functions) in a specific technical capability area (there are 13 technical capability areas) at a specific installation. The TJCSG defines a technical function as Research; Development and Acquisition; or Test and Evaluation.

This report quantifies DoD technical maximum capacity and current usage in each of the 13 technical capability areas and 3 functions. Current excess capacity is calculated using the TJCSG fundamental equation for determining excess capacity relative to the average of FY 2001 - 2003 usage. The December 11, 2003 *Capacity Analysis Report* stated that the TJCSG is using six independent measures of technical capacity (work years, equipment use, facility use, test resource workload, funding and building use). Subsequently the TJCSG added two additional independent measures of capacity (number of acquisition category (ACAT) programs and associated funding). Appendix 1 lists the initial set of technical facilities that received the Supplemental Capacity Data Call questions. Appendix 2 identifies the Technical Facilities that reported in the Technical Capability Areas. Appendix 3 is the Capacity Data for each Technical Facility by the Technical Capability Area and Function

Based on analysis of the TJCSG subgroups, there are inconsistencies in the capacity data received from some of the respondents in seven of the capacity measures. In some responses, the peak demonstrated data is shown to be less than current usage data in some of the technical capability areas. Since excess capacity is determined by subtracting current usage from peak demonstrated capacity, the resulting excess capacity will result in a negative measure. To resolve this problem, the TJCSG subgroups are sending out Requests for Clarification to those respondents where this inconsistency is noted. Resulting capacity measures and tables will be updated as these inconsistencies in the data are resolved.

Because the TJCSG did not request data on peak demonstrated building use in the Supplemental Capacity Data Call, the TJCSG can not yet determine excess infrastructure (physical) capacity as directed in the Memorandum, Chairman Infrastructure Steering Group, 15 Jul 04, subject: Infrastructure Steering Group (ISG) Comments on the Technical Joint Cross-Service Group Interim Capacity Analysis Report. However, the TJCSG will provide a method to determine excess infrastructure (physical) capacity in the next interim report. In addition, based on responses to the capacity data call the TJCSG has determined that when calculating technical capacity, the capacity of buildings is a dependent parameter rather than an independent parameter. Building capacity will not be used as a measure of capacity in the Linear Optimization Model (LOM).

Table of Contents

Introduction

1.0 References.

This report refers to the following documents:

a. Report, Technical Joint Cross Service Group, 11 Dec 03, subject: Capacity Analysis Report.
b. Memorandum, Chairman Infrastructure Steering Group, 15 Jul 04, subject: Infrastructure Steering Group (ISG) Comments on the Technical Joint Cross-Service Group Interim Capacity Analysis Report.
c. Memorandum, Chairman Infrastructure Steering Group, 14 May 04, subject: Results of Joint Cross-Service Group (JCSG) Capacity Analyses.
d. Memorandum, Chairman Infrastructure Steering Group, 16 July 03, subject: BRAC Guidance for the Technical Joint Cross-Service Group (JCSG).
e. Memorandum, Chairman Infrastructure Steering Group, 1 Apr 03, subject: Technical Joint Cross Service Group Report
f. Defense Science and Technology Plans, Feb 2003
g. BRAC 2005: Analysis Handbook (Rev 0.44), 17 May 2004

This iteration of the Final Capacity Analysis Report presents calculations of measures of the technical capacity parameters that were originally defined in reference 1.0.a above. This report incorporates changes, corrections, and recommendations to the rolling TJCSG Interim Capacity Analysis Reports that were submitted from May through September 2004, as well as the guidance/directives from ISG Memoranda (references 1.0.b. through 1.0.d.). These interim reports have been previously presented to the ISG in a series of TJSCG Capacity Report Updates.

Reference 1.0.b. requests a first update to the Interim Capacity Analysis Report by 30 Jul 04, with subsequent reports due every two weeks until completion of capacity analyses. The responses from the Capacity Data Call #1 (CDC #1) were reported at the installation (the Navy responded at the organization) level. However, the TJCSG analytic framework calls for data at the technical facility level. The TJCSG defined a *Technical Facility as: a collection of people and physical infrastructure that performs a technical function (or functions) in a specific technical capability area (there are 13 technical capability areas) at a specific installation.* CDC #1 provided information at a level (installation & organization) that was incompatible with the TJCSG analytic framework. Therefore, the TJCSG will rely upon the Supplemental Capacity Data Call (SCDC) and Military Value Data Call information to analyze capacity and military value.

As of 29 Sept 04, capacity data has been received from 1540 separate technical facilities and their detachments (16 from Defense Agencies, 348 from Navy, 427 from Army and 749 from Air Force) who received Supplemental Capacity Data Call. Detachments with more than 30 people reported their information separately. Data from detachments with less than 30 people was reported by the technical facility with which each detachment is associated. Information about detachments was not originally requested in CDC #1. The calculations presented in this report are based on certified data derived from that SCDC database.

Capacity calculations in Section 4 provide aggregate technical capacity data for the Department of Defense. The organization of the report is:

a. Section 1 – Introduction
b. Section 2 – Functional Organization
c. Section 3 – Target List of Functions
d. Section 4 – Capacity Analyses for Assigned Functions

1.1 Review and Update of Approved Functions

The TCSG defined its DoD technical capacity analysis in terms of three functional areas:

a. Research, i.e., Science & Technology (S&T)
b. Development & Acquisition (D&A)
c. Test & Evaluation (T&E)

These functions are most typically done at laboratories; warfare centers; research, development, and engineering centers; test ranges; acquisition product centers, etc. These functions and their sub-functions will be analyzed within the TJCSG (ref. 1.0.e).

1.1.1. Research Function

1.1.1.1 Basic Research Sub-Function.

The Basic Research Sub-Function consists of the following:

a. Supports research that produces new knowledge in a scientific or technology area of interest to the military.
b. Basic research may lead to applied research & advanced technology developments, which will improve military functional capabilities.
c. A majority of basic research awards go to universities.

1.1.1.2 Exploratory Development Sub-Function.

The Exploratory Development Sub-Function consists of the following:

a. Applied research into new technologies for specific military applications or further development of existing technology for new military applications.
b. Systematic study to understand the means to meet a recognized and specific national security requirement.
c. It may include design, development, and improvement of prototypes and new processes to meet general mission area requirements.

1.1.1.3 Advanced Development Sub-Function.

The Advanced Development Sub-Function consists of the following:

a. Advanced development is technology development that supports larger scale hardware development, integration, and experiments that can demonstrate capability in more operationally realistic settings.
b. Development of subsystems or components and efforts to integrate them into system prototypes for field experiments and/or tests in a simulated environment.
c. Projects in this category have a direct relevance to identified military needs.
d. Projects in this category do not necessarily lead to subsequent development or procurement phases.

1.1.2 Development and Acquisition (D&A) Function.

1.1.2.1 System Development and Demonstration Sub-Function.

The System Development and Demonstration Sub-Function consists of the following:

a. System specific efforts that help expedite technology transition from the laboratory to operational use.
b. Emphasis is on proving component and subsystem maturity prior to integration in major and complex systems and may involve risk reduction initiatives.

1.1.2.2 System Modifications Sub-Function.

The System Modifications Sub-Function consists of those efforts required to improve product affordability, system reliability, maintainability, and supportability via technology refreshment.

1.1.2.3 Experimentation and Concept Demonstration Sub-Function.

The Experimentation and Concept Demonstration Sub-Function consists of those efforts required to exploit mature and maturing technologies to solve military problems.

1.1.2.4 Product/In-Service Life Cycle Support Sub-Function.

The Product/In-Service Life Cycle Support Sub-Function consists of engineering support efforts required for peculiar system capabilities in order to conduct system and/or subsystem checkout after a modification, upgrade or improvement.

1.1.3 Test and Evaluation (T&E) Function.

1.1.3.1 Developmental Test and Evaluation (DT&E) Sub-Function.

The DT&E Sub-Function evaluates technical performance and safety.

1.1.3.2 Operational Test and Evaluation (OT&E) Sub-Function.

The OT&E Sub-Function consists of the following:

a. Evaluates operational effectiveness and suitability under realistic operational conditions including combat
b. Determine thresholds in the approved Capability Performance Document
c. Determine if critical operational issues have been satisfied and improve combat operations.

1.2 Approach to Capacity Analysis

1.2.1 Background.

DoD has reduced military forces over the past 15 years (beginning with BRAC 1988). This reduction was made possible, in part, because modern technology enables our forces to perform their missions more effectively and efficiently. The TJCSG believes the technical capacity needed by the DoD is critical to securing an effective force structure; however, there is no well-defined relation between technical capacity and force structure. The purpose and product of the technical functions are to ensure a continuing stream of technologically superior capabilities and systems that are applied so as to enable US forces to have superior operational capabilities.

1.2.1.1 Assumptions Used for Developing the Attributes and Metrics.

The TJCSG framed the task of performing capacity analysis with the assumption that the three technical functions/sub-functions should be viewed from five technical perspectives. Those technical perspectives include:

a. Air, Land, Sea & Space Systems
b. Weapons & Armaments
c. Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR)
d. Enabling Technology
e. Innovative Systems

1.2.1.2 Technical Capability Areas.

The TJCSG subdivided the five technical perspectives into finer pieces, which were labeled as Technical Capability Areas. The Technical Capability Areas consist of the Project Reliance areas defined in the Defense Technology Area Plan (DTAP) of 2003 (ref 1.0.f). The DTAP contains the full definition of each of the following 13 Technical Capability Areas[1]:

a. Air Platforms
b. Battlespace Environments
c. Biomedical
d. Chemical & Biological Defense
e. Ground Vehicles[1]
f. Human Systems
g. Information Systems
h. Materials & Processes
i. Nuclear
j. Sea Vehicles[1]
k. Sensors, Electronics & Electronic Warfare
l. Space Platforms
m. Weapons

---

[1] In the 2003 DTAP, there are only 12 Technical Areas, with Ground Vehicles and Sea Vehicles listed in one technical area. However, the TJCSG decided to separate Ground Vehicles and Sea Vehicles into two individual Technical Capability Areas for subgroup review and analysis. Thus, the TJCSG has 13 Technical Capability Areas.

1.2.1.3 TJCSG Subgroups.

The TJCSG established five Subgroups, each corresponding to one of the five technical perspectives. The Technical Subgroups consist of Subject Matter Experts (SMEs) in each of the technical perspective areas, and advise the TJCSG concerning the logical attributes for each function/sub-function from their vantage points.

The five TJCSG Subgroups identified four attributes common to all three functions. Subsequently it was determined by the Capability Integration Team (CIT, see section 2.3) that *natural resources* was not a capacity attribute, but a military value attribute. The remaining attributes identified consisted of:

a. People
b. Facilities & Equipment
c. Workload

1.2.1.4 Analysis Space.

The Subgroups recommended that the TJCSG not confine its capacity analysis to a two-dimensional space (functions x attributes) because consideration of the Technical Capability Areas provides a third dimension. The subgroups recommended a three-dimensional analysis (see Figure 1-1) consisting of three functions (with embedded sub-functions), three attributes, and thirteen Technical Capability Areas.

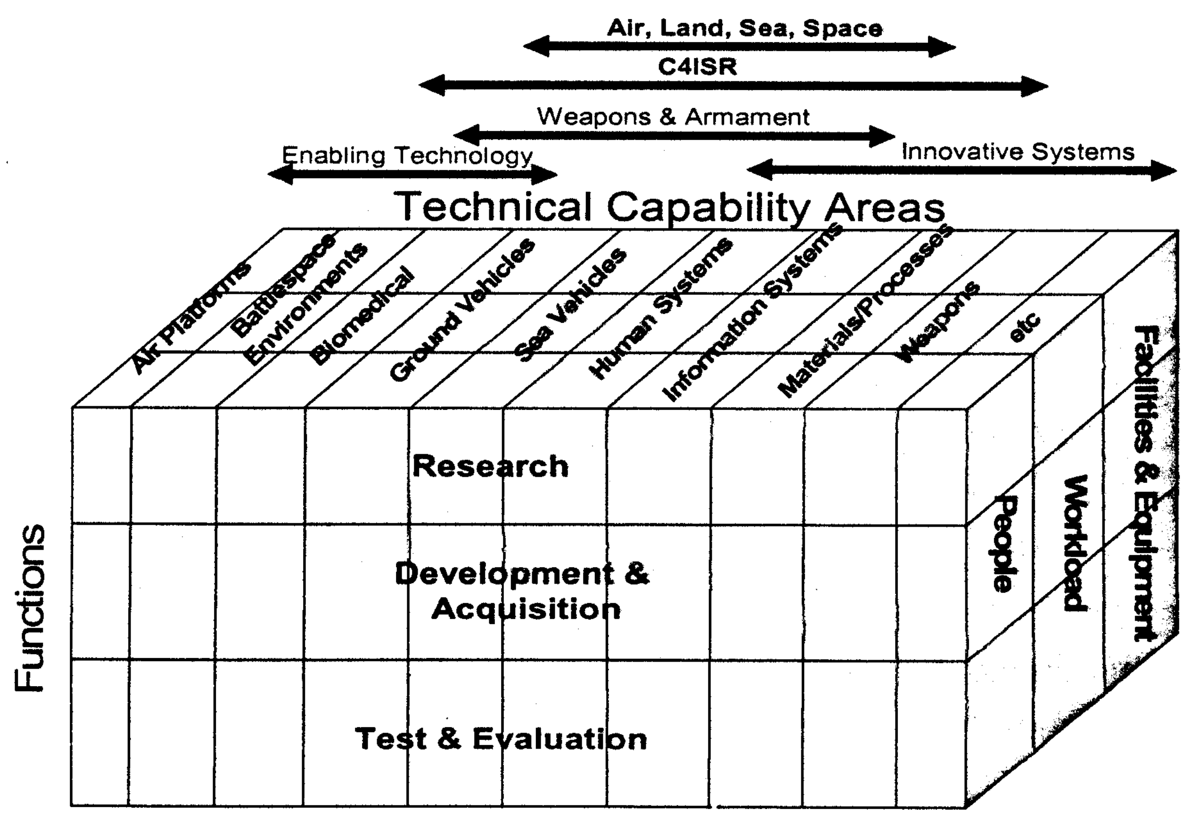


Figure 1-1: Technical Functions, Attributes, and Technical Capability Areas.

1.2.2 Attributes of the Functions.

The five TJCSG Subgroups identified three common, measurable attributes that characterize the development of technical products for DoD. The common capacity attributes are:

1.2.2.1 People (Human Intellectual Resources).

In order to continue to develop superior capabilities, the technical functions must recruit and retain quality people. Whether it is the research function, the development & acquisition function, or the test & evaluation function, the foundation is people. The people include scientists and engineers, business managers, program managers, etc. These people have specialized skills over a wide range of disciplines. For example, the skills of a medical research scientist are quite different from those of an acquisition manager or a test range engineer.

The September 30, 2001 Quadrennial Defense Review Report states that DoD needs a technical "support structure that is equally agile, flexible, and innovative." Organizing a technical infrastructure that will attract talented people because the infrastructure in which they will work is agile and flexible is a desirable outcome of BRAC. We refer to the talented people as intellectual capacity. Items such as educational credentials and acquisition credentials measure the intellectual capacity of the workforce. The total workforce assigned to a technical facility is measured in military, civilian, and non-government employees.

1.2.2.2 Facilities and Equipment.

Development of quality technical products requires infrastructure outfitted with appropriate facilities and equipment. The capacity analysis will measure facilities and equipment using appropriate units. Examples of units of measure are: percentage of floor space used (see Section 4.1). The inventory of major equipment (valued over $3M) includes size, weight, frequency of use, and the technical capability areas and functions for which it is used.

The capacity analysis will measure the availability or expansion potential for research, development & acquisition, and test & evaluation across the thirteen technical capability areas

1.2.2.3 Workload.

Workload represents the product of how we apply our people, facilities and equipment, subject to the constraints associated with our facilities. Examples of units of measure are funding, number of test hours, number of acquisition programs by acquisition category, and the amount of the program funding available to the facility.

Our technical capacity has evolved over a period of decades. Some of our technical infrastructure is over 50 years old. It is possible that some facilities are operating at less than their full capacity or were not designed with agility and flexibility in mind. Historical data will be sought to estimate the maximum demonstrated capacity of the facility.

Since BRAC 2005 looks 20 years into the future, the infrastructure we retain must remain relevant in the future. The DoD needs a flexible and agile technical infrastructure, which can provide for a technical future we cannot predict. During later phases of BRAC, the TJCSG will ask questions to give the respondent the opportunity identify if the facility could be used for different functions and or technical capability areas.

1.2.3 Metrics Measuring the Capacity of Each Attribute.

While the three attributes are common to all three functions, the metrics for each attribute may be different for each function as well as for capabilities within each sub function. The skills characterizing a talented research scientist (Nobel prize-like scientific insight) are different from the skills characterizing a talented test & evaluation engineer (precision in measuring and assessing tested system performance) are different from the skill characterizing an insightful acquisition program manager (smart buyer insight and business acumen).

The three attributes are listed below. The TJCSG has both metrics and units *(in italics)* that will be used to measure each attribute. In many questions, the capacity data will be measured and then averaged over three fiscal years (FY01-FY03).

1.2.3.1 People.

a. Total Personnel—technical & non-technical (military & government with occupational series, and on-site contractors)—and the technical capability area with which each person is most closely associated *(Full Time Equivalents (FTEs))*.

b. The total number of full time equivalent work years done at the technical location in each of the thirteen technical capability areas and each of the three functions during (i) the past three years (FY01-FY03); (ii) in the year which the technical location performed the most full time equivalent works years during the past ten years (FY94-FY03).

1.2.3.2 Facilities and Equipment.

a. List technical, administrative, and other space *(square feet, square miles)* and frequency of use.

b. List major (>$3M) and unique facilities and equipment *(size, weight)* and frequency of use.

c. Technical space, major and unique facilities, and equipment includes information management, information technology, and communications facilities, equipment, and space.

1.2.3.3 Workload.

a. Funding *($)*, distributed over the three technical functions for each of the thirteen technical capability areas for the past three years (FY01-FY03) and for the peak funding year during the past ten years (FY94-FY03).

b. If the configuration of the technical location is unchanged, and the maximum funding year was prior to FY94, the total funding *($)* for that year.

c. Test resource workload in FY01-FY03 (number of tests, test hours, overtime labor hours, function test resource most usually supports, Technical Capability Area test resource most usually supports)

d. Acquisition Programs (*total number of ACAT programs and the funding associated with each)*

1.2.4 Process to measure surge capacity of each attribute.

Historically, in the technical functions, technical surge is achieved through reallocation of people, facilities and equipment, and workload. That was the procedure we used to provide thermobaric weapons in 2001. The TJCSG believes there are two elements of technical surge, i.e., surge capacity and surge to do a technology never done before.

a. Surge Capacity: this surge capacity enables us to do more of what we currently do (or have done in the past) and to do it with more technical agility than we have done in the past.

b. Surge to do New Technology: This second element is more elusive, e.g., the Manhattan Project of the 2nd World War. Here, our research function makes a discovery, which creates a new technology whose war fighting benefit is revolutionary. It is difficult to specify the technical surge capacity to provide an unknown technical product that will be discovered at an unknown moment in the future

1.3 Scope Refinements – Synopsis

1.3.1 Defense Agencies.

The TJCSG determined that the only Defense Agencies involved in technical functions were Defense Threat Reduction Agency (DTRA), Defense Advanced Research Projects Agency (DARPA), Defense Information Systems Agency (DISA) and Missile Defense Agency (MDA).

1.3.2 Target List.

From CDC #1 the TJCSG constructed a target list of technical facilities whose capacity is to be inventoried (Section 3). Using expert military judgment, the TJCSG identified target technical facilities at the installations or organizations that responded to CDC #1. The result was a target list (Appendix 1).

1.3.3 Detachments.

In the Supplemental Capacity Data Call, the TJCSG requested separate information on all detachments greater than 30 people. Information on detachments less than 30 people was to be provided by the technical facility to which the detachment belongs. This information was not originally requested in CDC #1.

1.4 Summary of Overall Capacity Analysis and Results.

The TJCSG based the calculations presented in this report upon certified data derived from the Supplemental Capacity Data Call. As of 29 Sept 04, capacity data has been received from 1540 separate technical facilities and their detachments (16 from Defense Agencies, 348 from Navy, 427 from Army and 749 from Air Force) who received Supplemental Capacity Data Call. The TJCSG is reconciling these responses to ensure that there are no duplications

Based on analysis of the TJCSG subgroups, there are inconsistencies in the capacity data received from some of the respondents in seven of the capacity measures. In some responses, the peak demonstrated data is shown to be less than current usage data in some of the technical capability areas.

Since excess capacity is determined by subtracting current usage from peak demonstrated capacity, the resulting excess capacity will result in a negative measure. To resolve this problem, the TJCSG subgroups are sending out Requests for Clarification to those respondents where this inconsistency is noted. Resulting capacity measures and tables will be updated as these inconsistencies in the data are resolved.

Because the TJCSG did not request data on peak demonstrated building use in the Supplemental Capacity Data Call, the TJCSG can not yet determine excess infrastructure (physical) capacity as directed in the Memorandum, Chairman Infrastructure Steering Group, 15 Jul 04, subject: Infrastructure Steering Group (ISG) Comments on the Technical Joint Cross-Service Group Interim Capacity Analysis Report. However, the TJCSG will provide a method to determine excess infrastructure (physical) capacity in the next interim report. In addition, based on responses to the capacity data call the TJCSG has determined that when calculating technical capacity, the capacity of buildings is a dependent parameter rather than an independent parameter. Building capacity will not be used as a measure of capacity in the Linear Optimization Model (LOM).

2 Functional Organization

2.0 Functional Overview.

This section provides an overview of the TJSCG organization. The TJCSG, as depicted in Figure 2-1 below, has conducted the analysis on the technical activities and functions identified in Section 1.

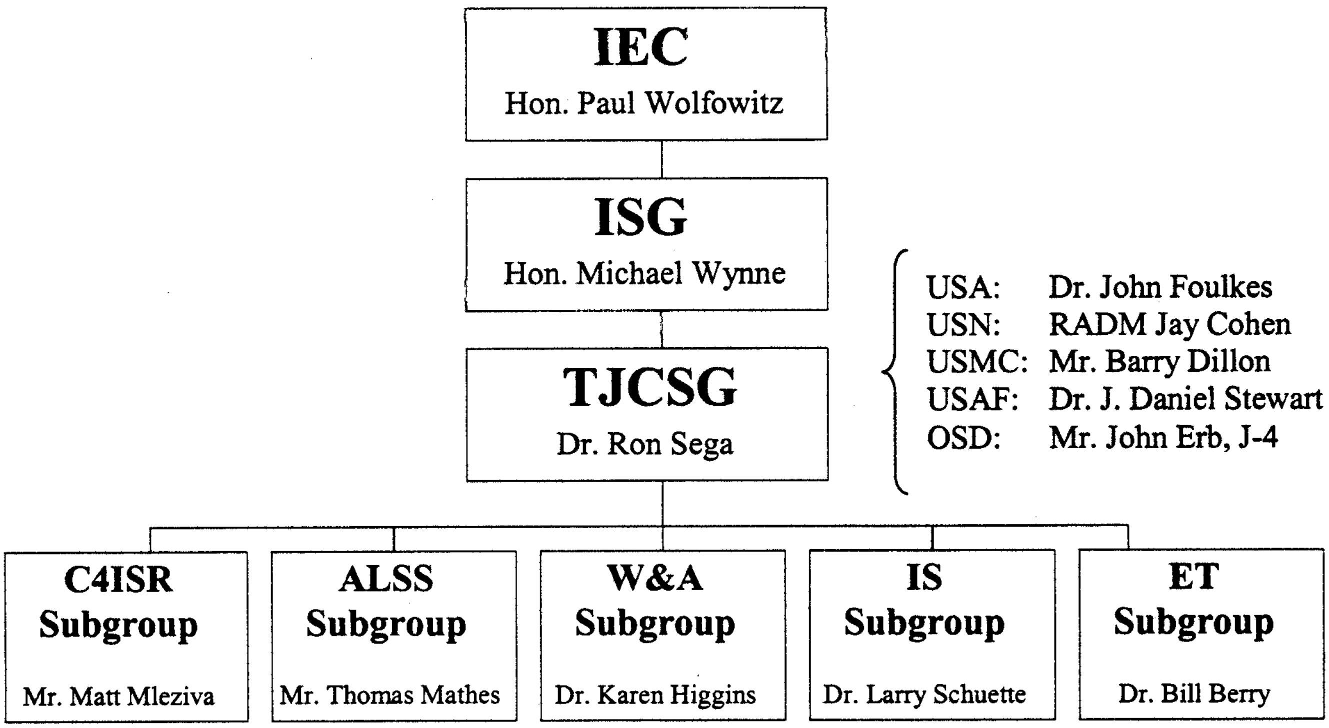


Figure 2-1. TJCSG Functional Organization.

Dr. Ron Sega, Director, Defense Research and Engineering (DDR&E) chairs the TJCSG. The members are:

USA: Dr. John Foulkes, Director Army Test & Evaluation Management Agency
USN: RADM Jay Cohen, Chief of Naval Research
USMC: Mr. Barry Dillon, Commander Marine Corps Systems Command
USAF: Dr. J. Daniel Stewart, Executive Director, HQ Air Force Materiel Command
OSD: Mr. John Erb, Deputy Director for Strategic Logistics, J-4, Joint Staff

2.1 TJCSG Subgroups.

There are five TJCSG Subgroups:

C4ISR Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance Systems
ALSS Air, Land, Sea and Space Systems

W&A Weapons and Armament Systems
IS Innovative Systems
ET Enabling Technologies

Each TJSCG Subgroup will examine capabilities in their assigned area across the three functions of Research, Development and Acquisition (D&A), and Test and Evaluation (T&E).

2.2 Capabilities Integration Team (figure 2.2).

The Capabilities Integration Team (CIT) integrates and reconciles the products of the TJCSG Subgroups for, and in collaboration with, the TJCSG.

2.3 Analytical Team (figure 2.2).

The TJCSG Analytical Team (AT) provides analytical support functions to all of the TJCSG activities. The AT develops common processes, methodologies, approaches and tools for the TJCSG Subgroups to assist them in high-level data analysis. The AT also oversees the execution of the Linear Optimization Model (LOM) (ref. 1.0.g) that will be used to identify candidate technical facilities for scenarios analysis. The AT will also prepare input data for Cost of Base Realignment Analysis (COBRA) (ref 1.0.g) model runs during scenario analysis. The AT disseminates analysis results to the TJCSG, the CIT and the five TJCSG Subgroups.

2.4 TJCSG Resources.

The funding and personnel resources for the TJCSG have been provided by contributions from the Army, Navy, Air Force and various OSD organizations involved on an as needed basis. The Navy provided space for the duration of BRAC 2005 where deliberative data can be securely stored and analyzed. To date, approximately 100 people (many at the SES/GO level) are supporting the various TJCSG activities. We estimate that the time spent by these 100 people equate to approximately 35 Full Time Equivalents (FTEs), now that data analysis efforts are reaching their peak.

2.5 Cross-JCSG Collaboration.

As depicted in Figure 2-2, the TJCSG collaborates with other JCSGs to develop BRAC recommendations. The TJCSG has signed Memoranda of Agreement with the Education and Training, Headquarters and Support Activities, Intel and Medical JCSGs.

2.5.1 Education and Training JCSG.

Support from the TJCSG for a Ranges Subgroup under the Education & Training (E&T) JCSG to address all range technical functions, including testing, training, and collective training. The statement in our April 1, 2003 report that the test and evaluation function "includes ranges and facilities whose primary mission is Test and Evaluation" has been removed. The ranges whose primary mission is Open Air Range (OAR) test and evaluation will be analyzed in collaboration with the E&T JCSG.

2.5.2 Headquarters and Support Activities JCSG.

The TJCSG has overall responsibility for determining the capacity to develop information technology. The Headquarters and Support Activities (H&SA) JCSG has responsibility to measure the overall capacity of communications from a base-level perspective. The TJCSG will work closely with the H&SA JCSG through its Defense Information Systems Agency (DISA) representative.

2.5.3 Intel JCSG.

The TJCSG has overall responsibility for unclassified intelligence systems RDT&E as part of the C4ISR Subgroup. The Intel JCSG has responsibility for intelligence operations. The Intel JCSG also has responsibility for classified intelligence systems. The C4ISR Subgroup of the TJCSG coordinates activities with the Intel JCSG.

2.5.4 Medical JCSG.

The capacity for medical and dental aspects of human systems research will be measured by the TJCSG with support from the Medical JCSG. A member of a Medical JCSG Research Development and Acquisition working group will be a member of the Enabling Technology Technical Working Group addressing medical and dental technology

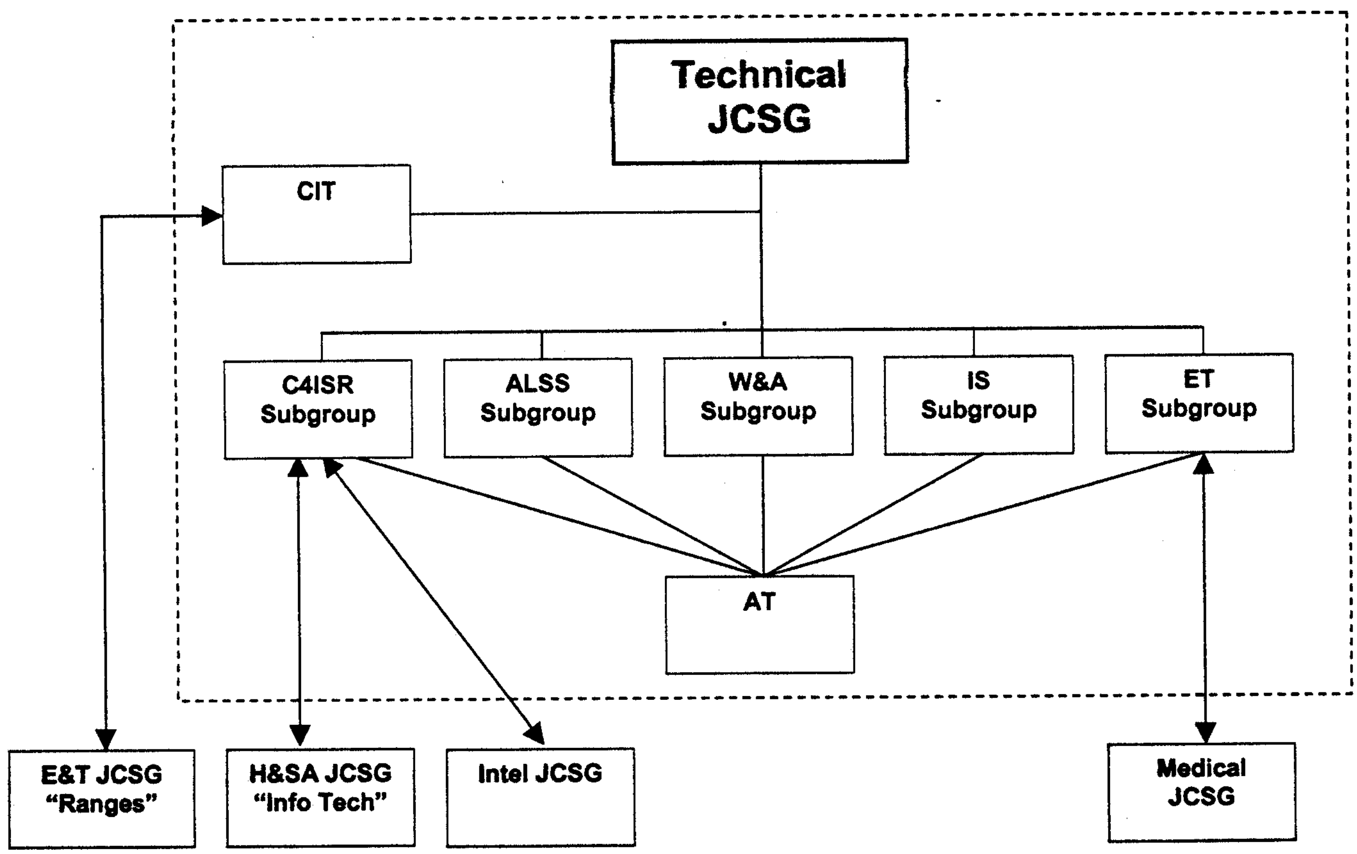


Figure 2-2. Cross-JCSG Collaboration

3 Technical Facilities Lists

Appendix 1 identifies those installations and organizations that have Technical Facilities. This list includes the complete inventory of technical facilities that responded to the CDC #1 and SCDC. Appendix 2 identifies those technical capability areas that were reported by these technical facilities

4 Capacity Analyses for Assigned Functions

The TJCSG adopted thirteen technologies addressed in the Defense Technology Area Plan (DTAP) as the analytical framework for its capacity analysis. As of 29 Sept 04, capacity data has been received from 1540 separate technical facilities and their detachments (16 from Defense Agencies, 348 from Navy, 427 from Army and 749 from Air Force) who received the Supplemental Capacity Data Call. The data included in Tables 4-1 through 4-8 reflect the current responses (aggregated) in the OSD database by technical capability for each function. These tables will be updated when the OSD database is updated. Appendix 3 contains a listing of all the Capacity Data for each Technical Facility by Technical Capability Area.

4.0 Excess Capacity.

In general, the TJCSG defined the *Current Excess Capacity* (C_E) as *Peak Demonstrated Capacity* (C_p) minus *Current Usage* (C_u) for each of eight capacity dimensions:

$$C_E = C_P - C_u \qquad \textit{(equation 4.1)}$$

where:

C_P = *Peak Demonstrated Capacity* = max demonstrated capacity from SCDC *(equation 4.2)*

$$C_u = \textit{Current Usage} = \frac{\sum_{i=01}^{03} C_{FYi}}{3} = \text{average over FY01-FY03} \qquad \textit{(equation 4.3)}$$

4.1 Capacity Dimensions.

The TJCSG defined the following eight capacity dimensions to analyze technical capacity.

a. Work Years	Number of Full-Time Equivalents (FTEs)
b. Equipment Use	Number of days the equipment is available for use
c. Facility Use	Number of days the facility is available for use
d. Test Resource Workload	Number of test hours
e. Funding	Amount of funding
f. Building Use	Net square feet of building used
g. Acquisition Category (ACAT) Funding	Amount of ACAT program funding
h. Number of ACATs	Number of ACAT programs being funded

RESEARCH	C_u	C_P	C_E
Air Platforms	5149	6977	1,828
Battlespace Env	1158	1236	78
Biomedical	2008	2623	615
Chem-Bio	1843	1731	-112
Ground Vehicles	1016	1777	761
Human Systems	2056	2074	18
Info Systems	5491	3318	-2,173
Materials	2213	2615	402
Nuclear Tech	210	200	-10
Sea Vehicles	697	817	120
Sensors	4382	5122	740
Space Platforms	1524	1665	141
Weapons	4852	4991	139

D&A	C_u	C_P	C_E
Air Platforms	54349	64062	9,713
Battlespace Env	540	606	66
Biomedical	343	522	179
Chem-Bio	2154	1208	-946
Ground Vehicles	221566	6312	-215,255
Human Systems	3007	3283	276
Info Systems	17052	18945	1,893
Materials	1039	1101	62
Nuclear Tech	921	986	64
Sea Vehicles	5048	5475	427
Sensors	1338456	38570	-1,299,886
Space Platforms	5184	5096	-88
Weapons	339619	33265	-306,354

T&E	C_u	C_p	C_E
Air Platforms	19268	12324	-6,944
Battlespace Env	355	200	-154
Biomedical	157	163	6
Chem-Bio	897	993	96
Ground Vehicles	1906	2666	760
Human Systems	681	794	113
Info Systems	2625	2489	-135
Materials	406	426	20
Nuclear Tech	480	524	44
Sea Vehicles	1383	1430	47
Sensors	3691	3865	174
Space Platforms	833	942	109
Weapons	13442	11285	-2,157

Table 4-1. Work Years (FTEs).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

RESEARCH	C_u	C_P	C_E
Air Platforms	341136	1151117	809,981
Battlespace Env	15273	89644	74,371
Biomedical	2086	68984	66,898
Chem-Bio	809	169541	168,732
Ground Vehicles	56370	368187	311,817
Human Systems	7120	251501	244,381
Info Systems	56606	895410	838,804
Materials	39794	363057	323,263
Nuclear Tech	3666	69224	65,558
Sea Vehicles	21172	1022067	1,000,895
Sensors	219413	1011830	792,417
Space Platforms	242535	345088	102,553
Weapons	153350	1051686	898,336

D&A	C_u	C_P	C_E
Air Platforms	1096519	1623002	526,483
Battlespace Env	1477	64824	63,347
Biomedical	273		-273
Chem-Bio	660	95957	95,297
Ground Vehicles	1143	315743	314,600
Human Systems	7404	214997	207,593
Info Systems	174079	1230254	1,056,175
Materials	12305	307257	294,952
Nuclear Tech	55001	104936	49,935
Sea Vehicles	60270	1030421	970,151
Sensors	141569	1398929	1,257,360
Space Platforms	146483	174624	28,141
Weapons	286978	1358264	1,071,286

T&E	C_u	C_P	C_E
Air Platforms	827682	1237488	409,806
Battlespace Env	10807	8581	-2,226
Biomedical	349	42792	42,443
Chem-Bio	2566	130841	128,275
Ground Vehicles	39066	434316	395,250
Human Systems	3295	214841	211,546
Info Systems	79607	1130413	1,050,806
Materials	21707	268297	246,590
Nuclear Tech	43492	70992	27,500
Sea Vehicles	76069	1189042	1,112,973
Sensors	203566	1568222	1,364,656
Space Platforms	22071	26280	4,209
Weapons	422086	1469897	1,047,811

Table 4-2. Equipment Use (Days available).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

RESEARCH	C_u	C_P	C_E
Air Platforms	112961	685405	572,444
Battlespace Env	50257	229545	179,288
Biomedical	70474	120360	49,886
Chem-Bio	87162	245503	158,341
Ground Vehicles	56850	179410	122,560
Human Systems	93786	236116	142,330
Info Systems	135240	598177	462,937
Materials	195010	538650	343,640
Nuclear Tech	20144	105680	85,536
Sea Vehicles	105345	625844	520,499
Sensors	332982	1272436	939,454
Space Platforms	228289	432464	204,175
Weapons	220767	753682	532,915

D&A	C_u	C_P	C_E
Air Platforms	1372911	630362	-742,549
Battlespace Env	13330	101527	88,197
Biomedical	145	8760	8,615
Chem-Bio	52370	179534	127,164
Ground Vehicles	11286	148878	137,592
Human Systems	26407	164948	138,541
Info Systems	341064	984089	643,025
Materials	42793	239412	196,620
Nuclear Tech	113426	117728	4,302
Sea Vehicles	128444	633312	504,868
Sensors	261583	1087544	825,961
Space Platforms	134481	85848	-48,633
Weapons	411301	884174	472,873

T&E	C_u	C_P	C_E
Air Platforms	881038	1056682	175,644
Battlespace Env	52594	67320	14,726
Biomedical	150	35040	34,890
Chem-Bio	55686	92246	36,560
Ground Vehicles	100312	205318	105,006
Human Systems	17365	130640	113,275
Info Systems	82320	528188	445,868
Materials	94740	105352	10,612
Nuclear Tech	36093	60850	24,757
Sea Vehicles	122215	443757	321,542
Sensors	194169	778873	584,704
Space Platforms	13804	30130	16,326
Weapons	586840	877269	290,429

Table 4-3. Facility Use (Days available).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

RESEARCH	C_u	C_P	C_E
Air Platforms	3178327	827,314	-2,351,014
Battlespace Env	431544	376,811	-54,733
Biomedical	959682	1,212,649	252,968
Chem-Bio	322743	406,703	83,960
Ground Vehicles	370819	470,571	99,752
Human Systems	602461	593,416	-9,045
Info Systems	1731951	2,083,079	351,127
Materials	1442400	1,091,966	-350,434
Nuclear Tech	209790	295,078	85,287
Sea Vehicles	340490	408,993	68,503
Sensors	2087489	1,994,947	-92,542
Space Platforms	332953	623,664	290,711
Weapons	2391988	2,547,807	155,818

D&A	C_u	C_P	C_E
Air Platforms	62,710,728	60,662,599	-2,048,129
Battlespace Env	237,803	774,753	536,950
Biomedical	174,627	294,931	120,304
Chem-Bio	471,225	726,710	255,485
Ground Vehicles	4,857,120	5,990,630	1,133,510
Human Systems	1,705,499	2,539,617	834,117
Info Systems	13,013,394	15,319,662	2,306,268
Materials	303,696	329,541	25,845
Nuclear Tech	59,456	3,188,862	3,129,406
Sea Vehicles	15,988,814	15,928,535	-60,280
Sensors	8,303,233	9,329,384	1,026,151
Space Platforms	8,393,820	4,968,885	-3,424,935
Weapons	17,581,233	23,100,397	5,519,164

T&E	C_u	C_P	C_E
Air Platforms	3,670,051	5,226,890	1,556,840
Battlespace Env	37,320	28,596	-8,724
Biomedical	21,070	27,209	6,139
Chem-Bio	76,412	102,896	26,484
Ground Vehicles	512,866	670,407	157,540
Human Systems	111,937	133,033	21,096
Info Systems	313,538	346,890	33,352
Materials	55,426	60,885	5,458
Nuclear Tech	1,027,604	35,510	-992,094
Sea Vehicles	314,710	348,864	34,154
Sensors	685,313	832,967	147,654
Space Platforms	97,252	76,065	-21,188
Weapons	3,894,053	1,811,627	-2,082,426

Table 4-5. Funding ($K).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

T&E	C_u	C_P	C_E
Air Platforms	338392	544674	206,282
Battlespace Env	2000	2000	0
Biomedical	3046	4307	1,261
Chem-Bio	105136	131303	26,167
Ground Vehicles	171292	655140	483,848
Human Systems	35519	76648	41,129
Info Systems	322978	461425	138,447
Materials	179386	202752	23,365
Nuclear Tech	41541	61177	19,636
Sea Vehicles	99925	112274	12,349
Sensors	479288	584202	104,913
Space Platforms	780328	911777	131,449
Weapons	947915	1155518	207,603

Table 4-4. Test Resource Workload (Test hours).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

RESEARCH	C_u	C_P	C_E
Air Platforms	3178327	827,314	-2,351,014
Battlespace Env	431544	376,811	-54,733
Biomedical	959682	1,212,649	252,968
Chem-Bio	322743	406,703	83,960
Ground Vehicles	370819	470,571	99,752
Human Systems	602461	593,416	-9,045
Info Systems	1731951	2,083,079	351,127
Materials	1442400	1,091,966	-350,434
Nuclear Tech	209790	295,078	85,287
Sea Vehicles	340490	408,993	68,503
Sensors	2087489	1,994,947	-92,542
Space Platforms	332953	623,664	290,711
Weapons	2391988	2,547,807	155,818

D&A	C_u	C_P	C_E
Air Platforms	62,710,728	60,662,599	-2,048,129
Battlespace Env	237,803	774,753	536,950
Biomedical	174,627	294,931	120,304
Chem-Bio	471,225	726,710	255,485
Ground Vehicles	4,857,120	5,990,630	1,133,510
Human Systems	1,705,499	2,539,617	834,117
Info Systems	13,013,394	15,319,662	2,306,268
Materials	303,696	329,541	25,845
Nuclear Tech	59,456	3,188,862	3,129,406
Sea Vehicles	15,988,814	15,928,535	-60,280
Sensors	8,303,233	9,329,384	1,026,151
Space Platforms	8,393,820	4,968,885	-3,424,935
Weapons	17,581,233	23,100,397	5,519,164

T&E	C_u	C_P	C_E
Air Platforms	3,670,051	5,226,890	1,556,840
Battlespace Env	37,320	28,596	-8,724
Biomedical	21,070	27,209	6,139
Chem-Bio	76,412	102,896	26,484
Ground Vehicles	512,866	670,407	157,540
Human Systems	111,937	133,033	21,096
Info Systems	313,538	346,890	33,352
Materials	55,426	60,885	5,458
Nuclear Tech	1,027,604	35,510	-992,094
Sea Vehicles	314,710	348,864	34,154
Sensors	685,313	832,967	147,654
Space Platforms	97,252	76,065	-21,188
Weapons	3,894,053	1,811,627	-2,082,426

Table 4-5. Funding ($K).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

RESEARCH	C_u	C_P	C_E
Air Platforms	18646905	Not Asked	Incalculable
Battlespace Env	844576	Not Asked	Incalculable
Biomedical	886353	Not Asked	Incalculable
Chem-Bio	1005089	Not Asked	Incalculable
Ground Vehicles	8631185	Not Asked	Incalculable
Human Systems	2586240	Not Asked	Incalculable
Info Systems	2641974	Not Asked	Incalculable
Materials	1700633	Not Asked	Incalculable
Nuclear Tech	141125	Not Asked	Incalculable
Sea Vehicles	715163	Not Asked	Incalculable
Sensors	5566801	Not Asked	Incalculable
Space Platforms	2021413	Not Asked	Incalculable
Weapons	3935113	Not Asked	Incalculable

D&A	C_u	C_P	C_E
Air Platforms	1,799,556	Not Asked	Incalculable
Battlespace Env	279,775	Not Asked	Incalculable
Biomedical	70,497	Not Asked	Incalculable
Chem-Bio	316,247	Not Asked	Incalculable
Ground Vehicles	816,943	Not Asked	Incalculable
Human Systems	488,378	Not Asked	Incalculable
Info Systems	2,118,126	Not Asked	Incalculable
Materials	69,267	Not Asked	Incalculable
Nuclear Tech	411,778	Not Asked	Incalculable
Sea Vehicles	0	Not Asked	Incalculable
Sensors	1,456,198	Not Asked	Incalculable
Space Platforms	2,686,122	Not Asked	Incalculable
Weapons	1,967,578	Not Asked	Incalculable

T&E	C_u	C_P	C_E
Air Platforms	30646,294	Not Asked	Incalculable
Battlespace Env	142201	Not Asked	Incalculable
Biomedical	7749	Not Asked	Incalculable
Chem-Bio	203556	Not Asked	Incalculable
Ground Vehicles	1608278	Not Asked	Incalculable
Human Systems	425328	Not Asked	Incalculable
Info Systems	1102366	Not Asked	Incalculable
Materials	816632	Not Asked	Incalculable
Nuclear Tech	363283	Not Asked	Incalculable
Sea Vehicles	1933387	Not Asked	Incalculable
Sensors	2564818	Not Asked	Incalculable
Space Platforms	531835	Not Asked	Incalculable
Weapons	10675441	Not Asked	Incalculable

Table 4-6. Building Use (Net Square Feet Used).

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

D&A	C_u	C_P	C_E
Air Platforms	31,025,166	40,531,086	9,505,920
Battlespace Env	4,191	6,558	2,367
Biomedical	22,595	23,083	488
Chem-Bio	123,325	127,240	3,915
Ground Vehicles	5,268,309	5,852,262	583,953
Human Systems	831,570	1,101,193	269,623
Info Systems	9,556,674	8,105,224	-1,451,451
Materials	64,004	161,506	97,502
Nuclear Tech	2,152,891	3,044,089	891,197
Sea Vehicles	218,145	277,942	59,797
Sensors	2,632,963	2,965,634	332,671
Space Platforms	4,422,297	4,881,402	459,105
Weapons	9,698,501	11,913,863	2,215,361

Table 4-7. ACAT Funding ($K).

D&A	C_u	C_P	C_E
Air Platforms	1,093	1,097	4
Battlespace Env	4	4	0
Biomedical	2	2	0
Chem-Bio	15	18	3
Ground Vehicles	42	44	2
Human Systems	64	70	6
Info Systems	315	284	-31
Materials	10	8	-2
Nuclear Tech	10	12	2
Sea Vehicles	24	24	0
Sensors	176	165	-11
Space Platforms	3	4	1
Weapons	185	162	-23

Table 4-8. Number of ACATs.

C_u = Current Usage, C_p = Peak Capacity, C_E = Excess Capacity

4.2 Future Capacity

The above calculations and tables identify the current excess capacity that exists within the Department of Defense. The TJCSG must ensure that the Department of Defense retains enough technical infrastructure and capacity to meet the future needs of the warfighter through the year 2025. The TJCSG has developed the following equations to determine Future Required Capacity and Future Excess Capacity in each Technical Capability Area.

Future Required Capacity ={ΣCurrent Usage x (Funding Ratio + FSA)} + Surge *(equation 4.4)*

Where

Funding Ratio = $\frac{\text{FY 04-09 Funding}}{\text{FY 01-03Funding}}$ *(all funding information from FY04 President's Budget)*

FSA = Force Structure Adjustment. This factor is either a growth or a reduction factor and is determined using expert military judgment.

Surge = 10%

Future Excess Capacity = ΣPeak Capacity – Future Required Capacity *(equation 4.5)*

These Future Capacity measures will be determined and used during the Scenario development process to ensure that the DoD retains enough capacity to meet future requirements.

APPENDIX 1

LIST OF TECHNICAL FACILITIES

Installation/Location	Technical Facility
U. S. Army	
Aberdeen Proving Ground	Army Environmental Center
Aberdeen Proving Ground	Army Environmental Health & Hygiene Agency
Aberdeen Proving Ground	Army Evaluation Center
Aberdeen Proving Ground	ATEC/Aberdeen Test Center
Aberdeen Proving Ground	HQ Developmental Test Command
Aberdeen Proving Ground	RDECOM HQ
Aberdeen Proving Ground	RDECOM/ARL
Aberdeen Proving Ground	Army Materiel Systems Analysis Activity
Aberdeen Proving Ground	RDECOM/Edgewood Chemical Biological Center
Aberdeen Proving Ground	USAMRICD
Adelphi	RDECOM/ARDEC
Adelphi	RDECOM/ARL
Detroit Arsenal	PEOs and PMs
Detroit Arsenal	RDECOM/TARDEC
Detroit Arsenal	TACOM
Dugway Proving Ground	ATEC
Ft A P Hill	RDECOM/CERDEC/NVESD
Ft Belvoir	CECOM/SEC
Ft Belvoir	CECOM
Ft Belvoir	Concepts Analysis Agency
Ft Belvoir	PEOs and PMs
Ft Belvoir	RDECOM/CERDEC
Ft Belvoir	RDECOM/SOSI
Ft Benning	Ft Benning, GA (ARI)
Ft Bragg	ARI
Ft Detrick	MITC
Ft Detrick	Joint Vaccine Acq. Program
Ft Detrick	PEOs and PMs
Ft Detrick	PM Medical Comm for Combat Casualty Care
Ft Detrick	USACEHR
Ft Detrick	USAMMA
Ft Detrick	USAMMDA
Ft Detrick	USAMRAA
Ft Detrick	USAMRIID

Ft Detrick	USAMRMC
Ft Eustis	RDECOM/AMRDEC
Ft Eustis	ATEC/Developmental Test Command
Ft Eustis	PEOs and PMs
Ft Hood	RDECOM
Ft Hood	ATEC/Operational Test Command
Ft Huachuca	ATEC/Army Electronic Proving Ground
Ft Huachuca	ATEC
Ft Huachuca	CECOM/SEC
Ft Huachuca	PEOs and PMs
Ft Huachuca	RDECOM/ARL
Ft Knox	ARI
Ft Leavenworth	ARI
Ft Monmouth	RDECOM/ARL
Ft Monmouth	RDECOM/CERDEC
Ft Monmouth	CECOM/SEC
Ft Monmouth	CECOM
Ft Monmouth	PEOs and PMs
Ft Monroe	ARI
Ft Rucker	ARI
Ft Rucker	Aviation Technical Test Center
Ft Rucker	USAARL
Ft Sam Houston	AMEDD Ctr & School
Ft Sam Houston	USAISR
Ft Sam Houston	Health Care Acq. Activity
Ft Sam Houston	USA Medical Command
Ft Sill	ATEC
Ft Sill	CECOM/SEC
Picatinny Arsenal	CECOM/SEC
Picatinny Arsenal	RDECOM/ARDEC
Picatinny Arsenal	PEOs and PMs
Redstone Arsenal	AMC/AMCOM
Redstone Arsenal	ATEC/RTTC
Redstone Arsenal	PEOs and PMs
Redstone Arsenal	RDECOM/AMRDEC
Redstone Arsenal	SMDC
Rock Island Arsenal	RDECOM/ECBC

Rock Island Arsenal	ATEC
Rock Island Arsenal	Army Materiel Systems Analysis Activity
Rock Island Arsenal	TACOM
Selfridge AAP	RDECOM/TARDEC
Soldier Systems Center	TACOM
Soldier Systems Center	CECOM
Soldier Systems Center	RDECOM
Soldier Systems Center	USARIEM
Tripler Army Medical Center	Tripler Army Medical Center
Walter Reed Army Medical Center	Walter Reed Army Medical Center
Watervliet AAP	RDECOM/TARDEC
White Sands Missile Range	ATEC/MENEFEE PEAK CO
White Sands Missile Range	ATEC/IDAHO LAUNCH COMPLEX
White Sands Missile Range	RDECOM/ARL
White Sands Missile Range	ATEC
White Sands Missile Range	ATEC/GREEN RIVER TEST COMPLEX
Yuma Proving Ground	ATEC
U. S. Air Force	
Arlington/Ballston, VA	AFSOR
Arnold AFB, TN	AEDC
Brooks City-Base, TX	AFRL/HE
Brooks City-Base, TX	ASC 311th Wing
Edwards AFB, CA	AFRL/PR
Edwards AFB, CA	AFFTC HQ/412th TW
Eglin AFB, FL	AFRL/MN
Eglin AFB, FL	AAC HQ/SPOs/PEOs
Eglin AFB, FL	46th TW, 53rd TW
Hanscom AFB, MA	AFRL/VS/SN
Hanscom AFB, MA	ESC/HQ/SPOs/PEOs
Hill AFB, UT	Ogden ALC/LM/YP/LI -- D&A
Hill AFB, UT	Ogden ALC/WM/LM/LH/YP, AFOTEC Det 4, UTTR -- T&E
Holloman AFB, NM	46th Test Group
Kirtland AFB, NM	AFRL/DE/VS
Kirtland AFB, NM	ASC/ABL
Kirtland AFB, NM	AFOTEC HQ
Kirtland AFB, NM	SMC-Det 12
Lackland AFB, TX	CPSG, AIA

Langley AFB, VA	AF C2ISRC
Los Angeles AFB, CA	SMC HQ/SPOs/PEOs
Maui, HI	AFRL/DE
Mesa, AZ	AFRL/HE
Nellis AFB,NV	AFWC
Onizuka AFB,CA	OD-4, RNAO
Robins AFB,GA	ALC AE/LG/LB/LF/LM/LR/LS/LT/MA -- D&A
Robins AFB,GA	ALC/EN, 339 FTS -- T&E
Rome, NY	AFRL/IF/SN
Tinker AFB, OK	ALC/AE/LG/LP/PS/LH/LC/LR -- D&A
Tinker AFB, OK	ALC/EN/MA/CTA, MAB, 10th FTS -- T&E
Tucson, AZ	AATC
Tyndall AFB, FL	AFRL
Wright-Patterson AFB, OH	AFRL HQ/VA/PR/SN/IF/HE/ML
Wright-Patterson AFB, OH	ASC HQ/SPOs/PEOs
U. S. Navy	
	AEGIS_TECHREP_MOORESTOWN_NJ
	AIRTEVRON_NINE_CHINA_LAKE_CA
	AIRTEVRON_ONE
	CBTDIRSYSACT_DAM_NECK_VA
	CG_MCB_CAMPEN
	CG_MCB_QUANTICO_VA
	CG_MCCDC_QUANTICO_VA
	CNR_ARLINGTON_VA
	COMNAVAIRSYSCOM_PATUXENT_RIVER_MD
	COMNAVAIRWARCENACDIV_PATUXENT_RIVER_MD
	COMNAVAIRWARCENWPNDIV_CHINA_LAKE_CA
	COMNAVSEASYSCOM_WNY_DC
	COMNAVSURFWARCEN_WASHINGTON_DC
	COMNAVUNSEAWARCEN_NEWPORT_RI
	COMOPTEVFOR_NORFOLK_VA
	DIRSSP_WASHINGTON_DC
	DRPM_AAA_WASHINGTON_DC
	NATEC_SAN_DIEGO_CA
	NAVAIRWARCENACDIV_LAKEHURST_NJ
	NAVAIRWARCENTRASYSDIV_ORLANDO_FL
	NAVAIRWARCENWPNDIV_PT_MUGU_CA

	NAVAIRWPNSTA_CHINA_LAKE_CA
	NAVCLOTEXTRSCHFAC_NATICK_MA
	NAVEODTECHDIV_INDIAN_HEAD_MD
	NAVHLTHRSCHCEN_SAN_DIEGO_CA
	NAVMEDRSCHCEN_SILVER_SPRING_MD
	NAVOBSY_WASHINGTON_DC
	NAVORDSAFSECACT_INDIAN_HEAD_MD
	NAVORDTESTU_CAPE_CANAVERAL_FL
	NAVPSSCOL_MONTEREY_CA
	NAVPMOSSP_DET_MAGNA_UT
	NAVPMOSSP_PITTSFIELD_MA
	NAVPMOSSP_SUNNYVALE_CA
	NAVSURFWARCEN_CARDEROCKDIV_BETHESDA_MD
	NAVSURFWARCEN_COASTSYSSTA_PANAMA_CITY_FL
	NAVSURFWARCENDIV_CORONA_CA
	NAVSURFWARCENDIV_CRANE_IN
	NAVSURFWARCENDIV_DAHLGREN_VA
	NAVSURFWARCENDIV_INDIAN_HEAD_MD
	NAVSURFWARCENDIV_PORT_HUENEME_CA
	NAVSURFWARCENSHIPSYSENGSTA_PHILADELPHIA_PA
	NAVUNSEAWARCENDIV_KEYPORT_WA
	NAVUNSEAWARCENDIV_KEYPORT_RI
	NAVXDIVINGU_PANAMA_CITY_FL
	NCTSI_SAN_DIEGO_CA
	NFESC_PORT_HUENEME_CA
	NRL_WASHINGTON_DC
	PACMISRANFAC_HAWAREA_BARKING_SANDS_HI
	SEASPARROWPROJSUPPO_WASHINGTON_DC
	SPAWARINFOTECHCEN_NEW_ORLEANS_LA
	SPAWARSYSCEN_CHARLESTON_SC
	SPAWARSYSCEN_NORFOLK_VA
	SPAWARSYSCEN_SAN_DIEGO_CA
	SPAWARSYSCOM_SAN_DIEGO_CA
	SSFA_CHANTILLY_VA
	SURFCOMBATSYSCEN_WALLOPS_ISLAND_VA

Appendix 2

Technical Facilities Reporting in Technical Capability Areas

(Note: This is a separate PDF file on portal in Capacity Analysis Project)

Appendix 3

Capacity Data for each Technical Facility by Technical Capability Function

Note: This Appendix is Under Construction.
It will be posted as a PDF file on the portal in the Capacity Analysis project when completed