

BRAC 2005
Technical Joint Cross-Service Group (TJCSG)
Meeting Minutes of 23 January 2004

Dr. Ron Sega, Director, Defense Research and Engineering chaired this meeting. The list of attendees is attached.

Dr. Sega opened the meeting by thanking everyone who supported the Boston offsite. Dr. Sega then turned the meeting over to Mr. Al Shaffer. The key points, decisions and action items from the meeting are as follows:

Key Points-

- The TJCSG Military Value (MV) analysis briefing to the Infrastructure Steering Group (ISG) could be either on 12 Feb 04 or 17 Feb 04.
- TJCSG data will be stored and analysis will be performed at a central location in the area of Washington, DC. It is anticipated that the people associated with these activities will be fully engaged by the end of June 04.
- The TJCSG CIT may need some contractor support possibly in the areas of information technology for data entry and number crunching, as well as organic support. The services may be asked to support this effort.
- Public comments on draft BRAC selection criteria to be closed on 30 Jan 04. It is anticipated that the final criteria will be published in federal register by 16 Feb 04.
- Subgroups are looking into the 13 DTAP areas and exploring possibilities for breaking them one level below into sub areas.
- Mr. Goldstain is leading a splinter group to develop policy imperatives for the TJCSG consideration. This was an action item from the 8 Jan 04 TJCSG meeting.
- Encroachment and environment has a greater impact on military value and should be accommodated into military value data call.
- "The process"- technical subgroups develop and propose MV attributes, metrics, and weights, and the CIT deliberates and presents them to the TJCSG for their approval.
- The attributes and metrics should be aligned and considered across the four BRAC criteria and weights assigned to them accordingly.
- Col Buckstad is developing standard operating procedures (SOP) for data control and will present at the next meeting.

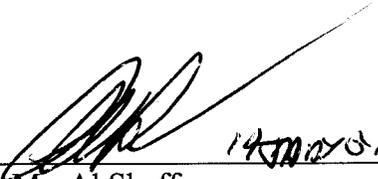
Decisions-

- Include encroachment and environment as metrics into military value. rml
- The CIT rebuild the attributes and metrics and aligned them with the BRAC criteria along with recommended weights.
- Pursue and capture the future war fighting technologies into military value.
- Next TJCSG meeting will be dedicated specifically to review the weights and military value equations.

Action Items-

- The CIT to identify core group of individuals required to support the TJCSG data analysis and scenario generation activities (assigned to Mr. Shaffer/du e by 27 Feb 04)
- The CIT to discuss the merit of contractor and/or organic support and provide recommendations to the TJCSG for consideration (assigned to Mr. Shaffer/du e by 27 Feb 04)
- Provide draft copies of the MOAs for four cross JCSGs to the TJCSG principals (assigned to COL Buckstad/du e by 27 Jan 04)
- Provide a list of metrics and its associated definition to the TJCSG principals (assigned to Dr. Short/du e by 27 Jan 04)
- Prepare a list of issues that are show stoppers and could greatly impact a facility to function (assigned to subgroup leads/du e by 27 Jan 04)
- CIT prepare a draft list of policy imperatives for the TJCSG review and for presentation to ISG (assigned to Mr. Goldstayn/du e by 30 Jan 04)
- Propose an evaluation and scoring plan that captures the future war fighting technologies into military value (assigned to Innovative Technologies subgroup/du e by 30 Jan 04)

Signed: _____


Mr. Al Shaffer

Chairman, Capabilities Integration Team

Approved: _____


Dr. Ronald Segal

Chairman,

Technical Joint Cross Service Group

Attachments:

1. List of Attendees
2. Briefing slides

(NOT A COMPLETE LIST)
Technical JCSG Meeting
23 January 8, 2004

Members:

Dr. Ronald Segal, Director, Defense Research and Engineering
Dr. Dan Stewart, Air Force
Dr. John Foulkes, Army
Dr. Barry Dillon, Marines
Mr. Jay Erb, OSD

Other:

Dr. John Hopps, Deputy Director, DDR&E
Mr. Al Shaffer, OSD
Col. Buckstad, OSD
Dr. Bob Rohde, Army
Mr. George Ryan, Navy
Mr. Gerry Schiefer, Navy
Mr. Roger Florence, DOD IG
Dr. Jim Short, OSD
Mr. Harshad Shah, OSD
Mr. Gary Strack, OSD
BG Fred Castle

**TJCSG Military Value Analysis
Briefing to the
Infrastructure Steering Group (ISG)**

**Dr. Ron Sega
Chairman, Technical Joint Cross Service Group
February 2, 2004**

January 15, 2004 2230 hours

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Purpose

- **Seek ISG approval of Technical Joint Cross Service Group (TJCSG) military value analytic framework**

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Presentation Overview

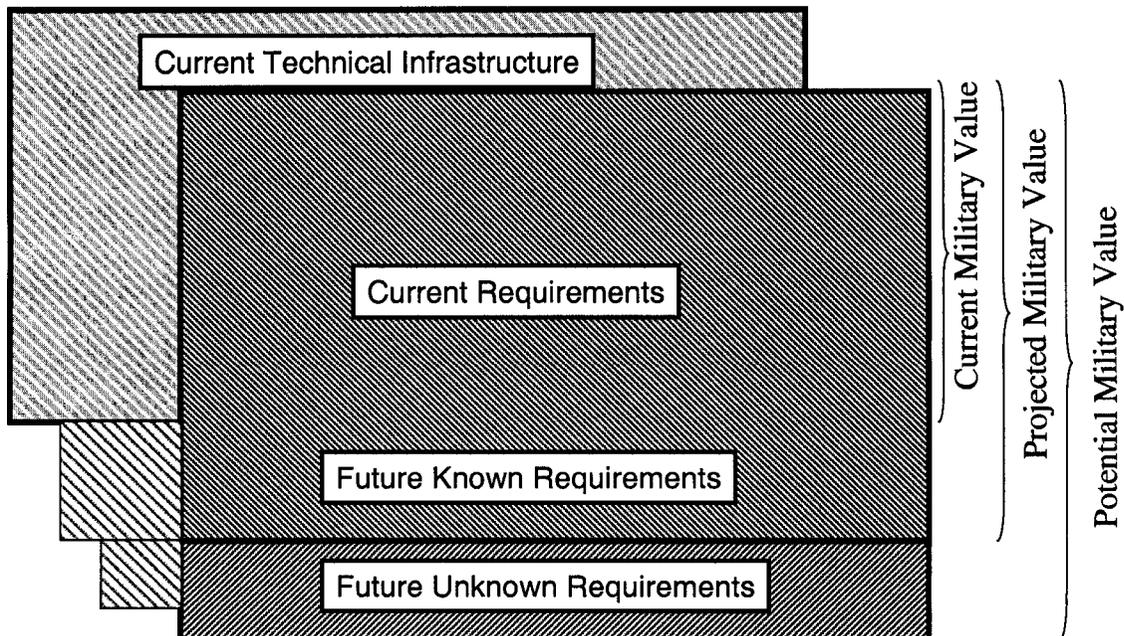
- Technical JCSG organization
- Battle Plan
- Approach & Assumptions
- Examples of Metrics, Weights & Rationale
 - Full set of metrics, question & weights in draft report appendix
- Next Steps
- Unresolved Issues
- Closing Remarks

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TJCSG Problem Space (V-1)



Military Value = Current(?) + Projected(?) + Potential(?)

100 is the maximum possible score for each type of Military Value

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TJCSG Military Value Construct (V-1)

Technical "Facility"
Military Value = Sum of **Interim Selection Criteria (1-4) Values** for **3 Requirement Time Frames (Current, Projected, Potential)**

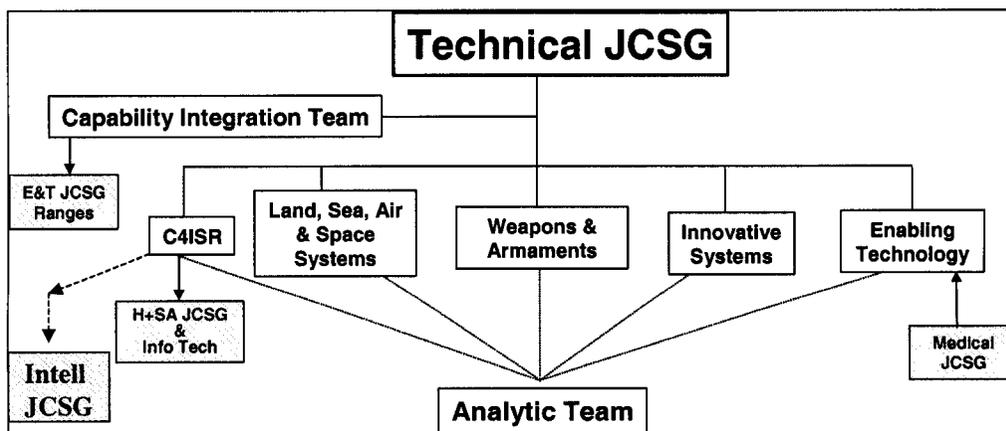
$$MV_{TF} = Req(curr) \sum_{i=1}^4 W_i C_i + Req(proj) \sum_{i=1}^4 W_i C_i + Req(proj) \sum_{i=1}^4 W_i C_i$$

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TJCSG Organization (V-1)



- Draft agreements for four cross-JCSG groups
 - Open-air Ranges (Education & Training JCSG)
 - Medical Research (Medical JCSG)
 - Information Technology (Headquarters & Support Activities JCSG)
 - C4ISR Information sharing with Intelligence JCSG
- Cross JCSGs provide capacity and/or value inputs to TJCSG Military Value assessments

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TJCSG Organization (V-1)

- **3 Functions:**
 - Research (S&T)
 - Development & Acquisition (D&A)
 - Test & Evaluation (T&E)
- **5 Technical Subgroups**
 - 4 Product (Output) Focused
 - 1 Process (Innovation) Focused
- **13 Technical Capability Areas**
 - Based on the Defense Technology Area Plan (DTAP, February 2003)
 - Aligns 100% of RDT&E Investment
 - Each Subgroup Responsible for One or More Technical Capability Areas
 - Supports QDR transformation operational goals

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TJCSG Organization

- Each TJCSG Technical Subgroup Has Specific "Lead" Responsibility to Define Military Value
- Innovative Technology Subgroup Responsible to Identify Attributes and Metrics of Innovation and Emergent Capability Needs

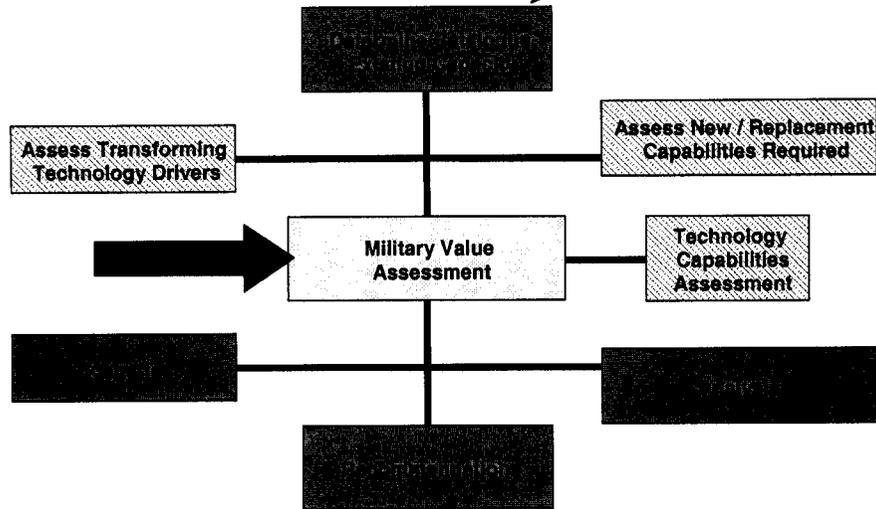
	Air Platforms	Ground Vehicles	Sea Vehicles	Space Platforms	Weapons	Nuclear Technology	Materials and Processes	Biomedical	Human Systems	Battlespace Environments	Chemical & Bio Def	Sensors, Electronics	Info Systems
T&E	[REDACTED]												
D&A	[REDACTED]												
Res	[REDACTED]												

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Battle Plan

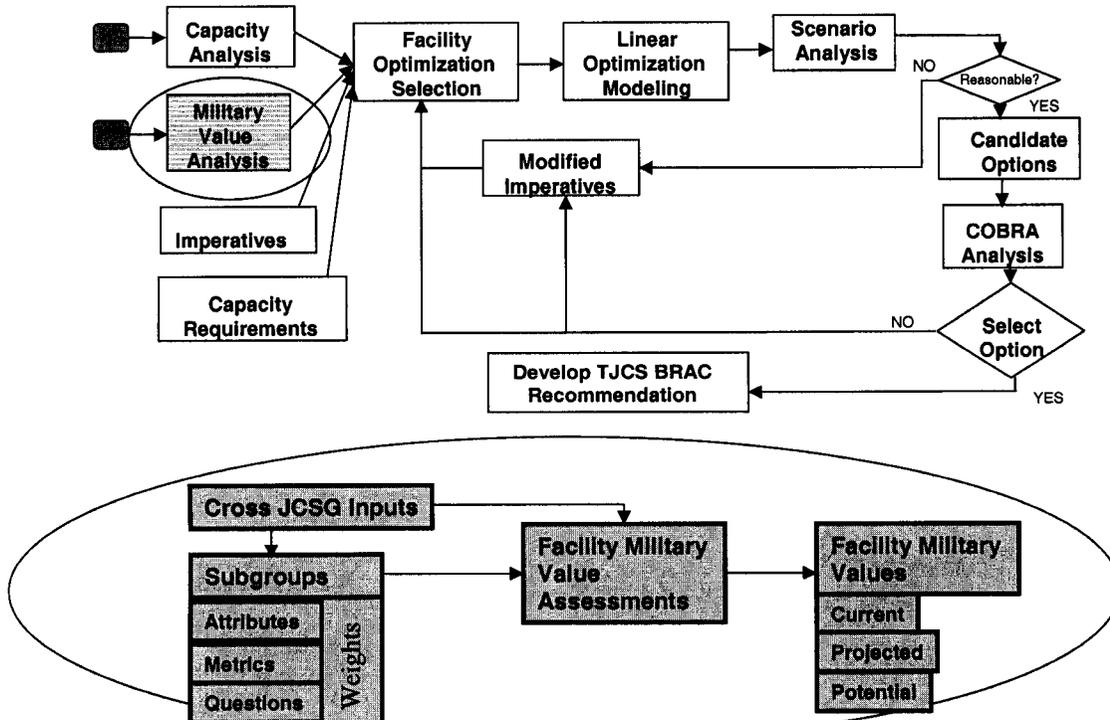


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BRAC Execution Model



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Assumptions and Definitions

- **Definition of Technical Facility:**
 - *A collection of people and physical infrastructure that performs a technical function(s) in a specific technical capability area at a specific installation.*
- **Technical facility may have different military value for each function and each technology area, but each facility has a unique, lead function and capability area**
- **All Military Value Data Are Normalized in a Consistent Fashion, so Military Value for Each Attribute, Metric is between 0, 1**

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Common and Unique Attributes (V-1)

Blocks 1-3 of Approach

- **No Unique Attributes, Five Common Attributes**
- **Each Attribute Maps to a Military Value Criteria**

Criteria	Attributes	Metrics
1. Current and Future Military Requirements	A. Operational Impact ?%	Technology Transfer, Missions Supported, Systems Fielded, Systems DT&E, Rapid Res Fielding, Advanced Capability, Productivity
2. Availability and Condition of Land, Facilities, and Associated Airspace	A. Physical Environment ?% B. Physical Structures and Equipment?%	Special Features, Special Infrastructure, Dimensions, Terrain, Climate, Encroachment, Connectivity (weapons only) To be added
3. Ability to Accommodate Contingency, Mobilization, and Future Total Force	A. Synergy ?%	Jointness, Multiple Functions, Peripheral Assets, Co-location, Multiple Systems, % C4ISR
4 Cost and Manpower Implications.	A. People ?%	Experience, Education Level, Professional Certification, Patents/Publications, Quality of Life, Training

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- **AI Comment: Next three-four slides need to be brought to a higher level, but provide a good context for TJCSG**

Common and Unique Metrics (#1)

Blocks 4-6 of Approach

- **Few Unique Metrics—Identified in Blue Below**
- **Each Metric is Measurable, either through Direct Numerical Assessment or on a predetermined scale (0-1)**

Attribute	Metric	Average Weight	Definitions
Synergy	1. Jointness	1. 29%	
	2. Multiple Functions	2. 25%	
	3. Peripheral Assets	3. 20%	
	4. Co-location	4. 12%	
	5. Multiple Systems	5. 10%	
	6. % C4ISR	6. 5%	
Operational Impacts	1. Technology Transfer	1. 22%	
	2. Missions Supported	2. 18%	
	3. Systems Fielded	3. 15%	
	4. Systems DT&E	4. 15%	
	5. Rapid Res Fielding	5. 14%	
	6. Advanced Capability	6. 14%	
	7. Productivity	7. 3%	

Common and Unique Metrics (#2)

Blocks 4-6 of Approach

- Few Unique Metrics—Identified in Blue Below
- Each Metric is Measurable, either through Direct Numerical Assessment or on a predetermined scale (0-1)

Attribute	Metric	Weight	Definition
Physical Environment	1. Special Features	1. 31%	
	2. Special Infrastructure \	2. 21%	
	3. Dimensions	3. 14%	
	4. Terrain	4. 12%	
	5. Climate	5. 12%	
	6. Encroachment	6. 9%	
	7. Connectivity (weapons only)	7. 15% (We	
Physical Structures and Equipment	Need to Get from Pete Desalva		
People	1. Experience	1. 32%	
	2. Education Level	2. 26%	
	3. Professional Certification	3. 13%	
	4. Patents, Publications,	4. 12%	
	5. Quality of Life	5. 10%	
	6. Training	6. 6%	

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Equation Rollup V-1

- Using the Attributes and Metrics defined previously, a unique equation for each Facility can be defined for each timeframe of Military Value:

Operational Impact + Physical Environment	
+ Existing Physical Structure + People	= Current Mil Val
	?%
Projected Operational Impact + Programmed Physical Structure (Milcon)	
+ People (Workforce shaping)	= Projected Mil Val
	?%
Buildable Land + Insulation from Encroachment + Synergy	= Potential Mil Val
	?%
Total Facility Military Value	100%

Next Steps

- **Technical, strategic & operational imperatives**
 - Colonel Buckstad's outline
 - Colonel DeSalva's schedule

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Unresolved Issues

- **Unresolved issues affecting Military Value analysis needing ISG (or other) attention**
 - Use of technical military judgment to assign military value to intangible assets (e.g., intellectual capacity) lacking clear metrics subject to quantitative audit
- CIT NEEDS TO DEFINE CORPORATELY
- **Organizational level at which to collect the military value data**
 - 1995 Lab JCSG & T&E JCSG after action reports claimed they went into too much detail
 - What level is too little detail?

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Closing Remarks

- **Flight Path Solid**
- **Attributes and Metrics defined, linked to military value criteria**
- **Request ISG Approval**

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Backup Slides

**Complex equation with matrix of
weights beneath**

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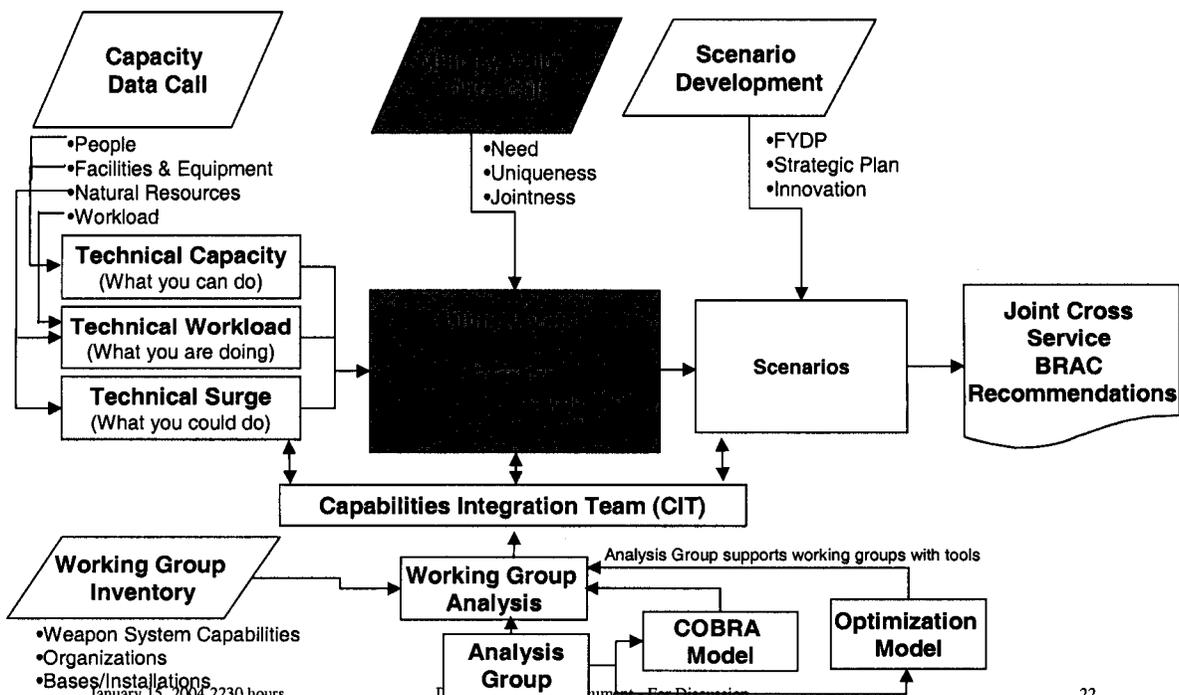
Backup Slides

MVfacility I normalized =

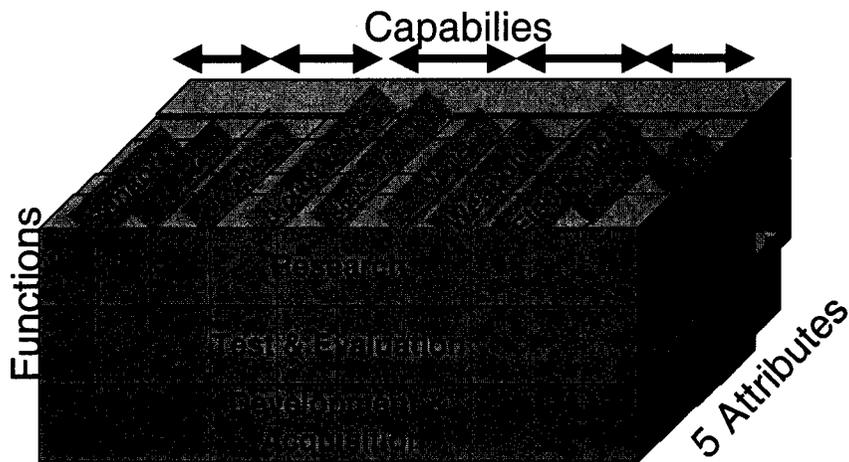
$$\begin{aligned}
 & (W1syn) \langle (Si=1,nsyn (wi)(metrici))synergy \rangle / nsyn \\
 & + (W1oi) \langle (Si=1,noi (wi)(metrici))operational\ impact \rangle / noi \\
 & + (W2) \langle (Si=1,npe (wi)(metrici))physical\ env \rangle / npe \\
 & + (W3) \langle (Si=1,nsse (wi)(metrici))structures\ equipment \rangle / nse \\
 & + (W4) \langle (Si=1,npeo (wi)(metrici))people \rangle / npeo
 \end{aligned}$$

**IN CASE THEY
GET BORED**

Technical JCSG- "Battle Plan"



Technical Capability Areas



- Technical capability areas correspond to the Defense Technology Area Plan categories

[Companion text will

- contrast military value attributes with capacity attributes
- remark if TJCSG principals depart from DTAP framework with the intent to provide framework which captures a facilities ability to provide future unknown technology capabilities]

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Approach

- **Determine military value of DoD controlled technical facilities**
 - Common attributes & metrics for all functions (3) & all technology areas (13)
 - Specialized metrics for some functions and some technology areas
 - Weights of interim selection criteria, common attributes & common metrics determined by consensus within five technical subgroups
 - Weights of all questions and specialized attributes & specialized metrics determined by individual subgroup

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Examples of Metrics, Weights & Rationale

- **Attribute: Synergy**
- **Metrics**
 - Number of tech areas supported & Col DeSalva's weight
 - Number of Services using facility & Col DeSalva's weight
 - Co-location with customer, user, ISEA & Col DeSalva's weight
 - Community support (academic, industry, govt) & Col DeSalva's weight
- **Example Rationale for one weight—get subgroups to complete once we agree to the full set of common metrics**
- **Synergy metrics are common across all functions**
 - metrics vary for some attributes across the functions

Examples of Metrics, Weights & Rationale

- **Attribute: People**
- **Metrics**
 - Education & Col DeSalva's weight
 - Experience & Col DeSalva's weight
 - Papers/patents/awards & Col DeSalva's weight
 - Quality of life & Col DeSalva's weight
 - Etc.
- **Example Rationale for one weight—get subgroups to complete once we agree to the full set of common metrics**
- **People metrics are not common across all functions**

Equations

• Military Value Equation

$$MV_{\text{facility } i} = (W_1)(\text{SCrit}_{1i}) + (W_2)(\text{SCrit}_{2i}) + (W_3)(\text{SCrit}_{3i}) + (W_4)(\text{SCrit}_{4i})$$

– Definition of terms

- W_i are the four interim selection criteria
- SCrit_{1i} is the score of interim selection criteria 1 at location i

Approach Version 1—Likely Back

1. Each Technical Subgroup Work (independently) on Attributes to Assess Military Value over their Specific Domain
2. Identify Common and Unique Attributes Across All Subgroups
3. Align Attributes to Military Value Criteria—Do They Fit?
4. Each Technical Subgroup Identify Metrics Associated with the Attributes in Their Technical Domain
5. Identify Common and Unique Metrics Across All Subgroups
6. Have Subgroups Identify Weights for Each Technical Function and Each Capability Area the group is Responsible for; Allows Comparison of Like Areas, e.g.;
 - A. Air Platform T&E facilities with Air Platform T&E Facilities
 - B. Materials Laboratories with Materials Laboratories
7. Worst Case Scenario—39 Separate Military Value Schema, one for Each Function and Each Technical Capability Area
 - A. Reality is Subgroups Began to See Emergent Similarity, Number of Separate Schema Reduced
 - B. Each Separate Schema Can be Represented as a Unique Equation
8. Each Facility under TJCSG Responsibility is Aligned with one principal Function and Technical Area, so TJCSG can “Bin” Like Facilities

Criteria Weights

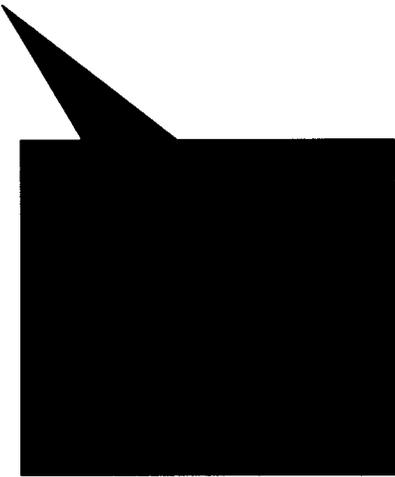
- Since All Metrics will be Normalized with scores from 0 to 1, the Weights can be applied to criteria or attributes—the result is the same
- Proposal: Final Weights will be assigned after running some test cases to understand the numbers

Criteria	Attributes	Weights Proposed
1. Current and Future Military Requirements	A. Synergy B. Operational Impact	25
2. Availability and Condition of Land, Facilities, and Associated Airspace	A. Physical Environment	25
3. Ability to Accommodate Contingency, Mobilization, and Future Total Force	A. Physical Structures and Equipment	25
4 Cost and Manpower Implications.	A. People	25

NOTIONAL WEIGHTS FOR RIGHT NOW

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Management Planning for TJCSG Discussion

- Situation – Long Term plans not available
- Management Course of Action
 - Master Plan w/
 - Defined Process (Execution Model)
 - Work Breakdown Structure
 - Schedule
 - Analysis Plan for Capacity and Military Value

TJCSG Meeting

Capacity Data Call Clarification Q&A Process

COL ROBERT D. BUCKSTAD

HARSHAD SHAH

ODDRE, Plans and Programs

23 January 2004

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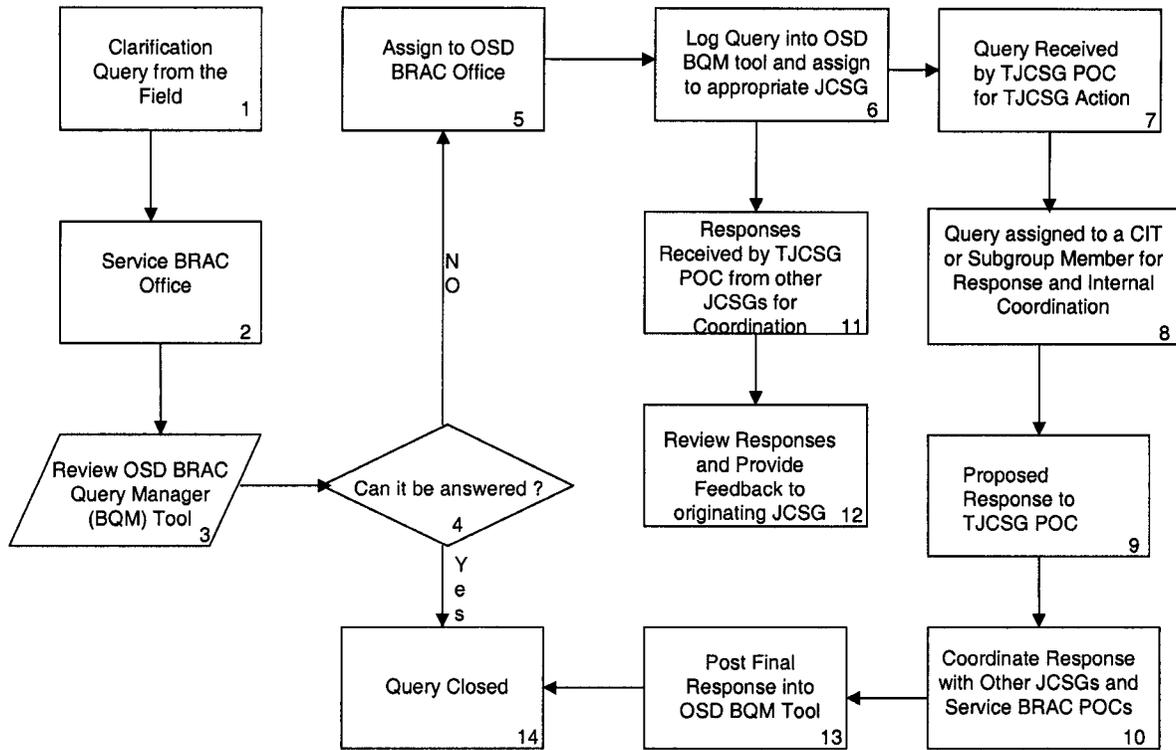
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The Purpose of this briefing is to Review Field
Clarification Questions & Answer Process with
TJCSG Principals

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BRAC Capacity Data Call/Field Query Clarification Process



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TJCSG Field Clarification Q&A Statistics

(as of 22 Jan 04)

Total Number of OSD Queries into BRAC Query Manager (BQM)	464
Total Number of Responses Received/Reviewed by TJCSG POCs	212
Total Query Received from OSD BRAC Office for TJCSG Action	29
TJCSG Query Assigned to CIT or Subgroup Member	15
Response Received from CIT or Subgroup Member	11
Total Number of TJCSG Query Closed	05

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