
CLOSE HOLD

Material contained herein is sensitive. Deputy Secretary of Defense guidance restricts the release of data or analysis pertaining to evaluation of military bases for closure or realignment until the Secretary of Defense forwards recommendations to the Base Closure Commission on March 1, 1995. All individuals handling this information should take steps to protect the material herein from disclosure.

BRAC 95 Joint Cross-Service Group on Test & Evaluation

VOLUME 4

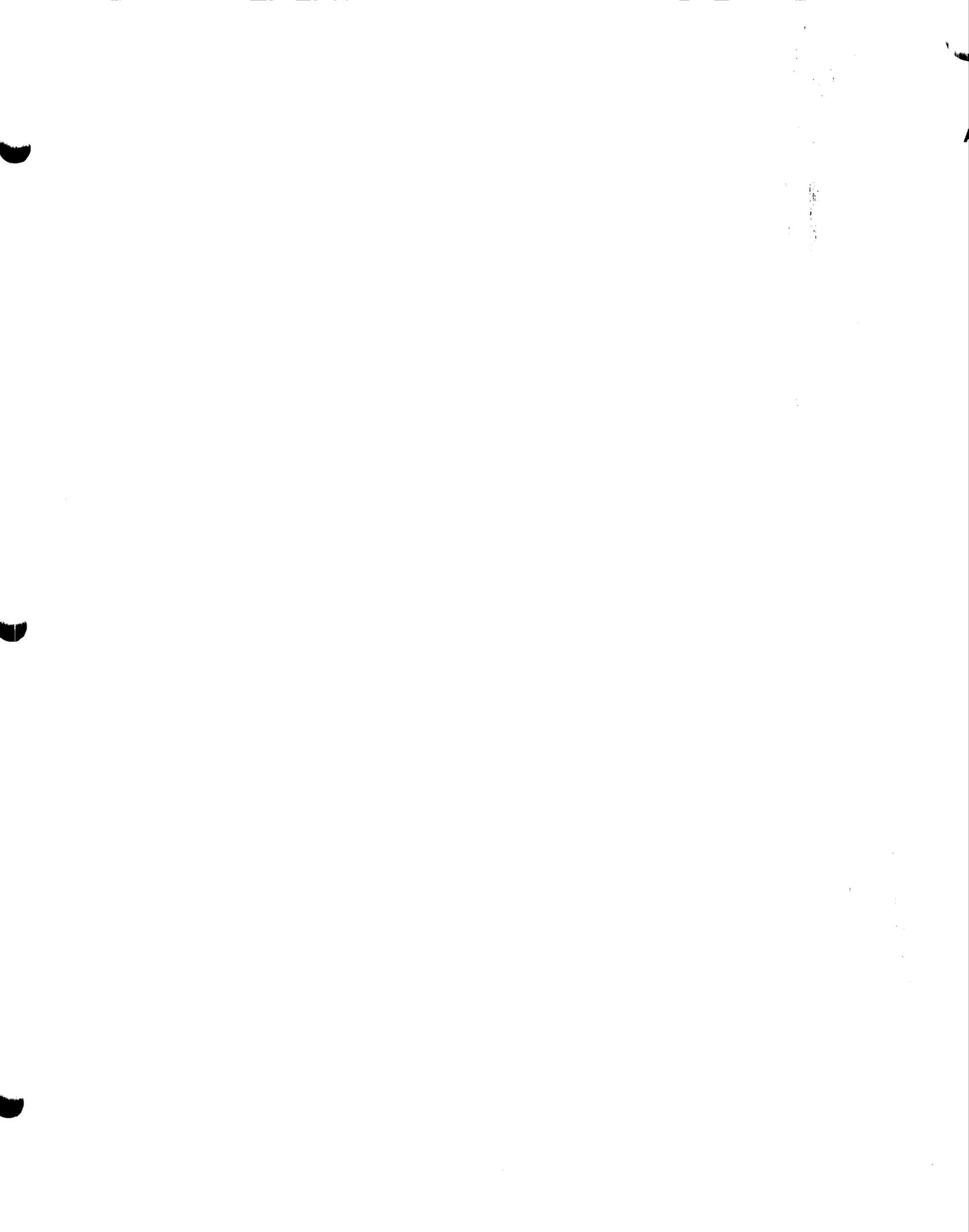
**Office of the Deputy Assistant Secretary of Defense
(Economic Reinvestment and Base Realignment and Closure)**

**Base Closure and Utilization
Room 3D814
(703) 697-8048/8050**

CLOSE HOLD

BRAC 95
DINT CROSS-SERVICE GROUP
ON TEST & EVALUATION
VOLUME 4

- A Meeting Minutes - Nov 8, 1994**
- B Meeting Minutes - Nov 16, 1994**
- C Meeting Minutes -**
- D Meeting Minutes -**
- E Meeting Minutes -**
- F Meeting Minutes -**
- G Meeting Minutes -**
- H Meeting Minutes -**
- I Meeting Minutes -**
- J Meeting Minutes -**
- K Meeting Minutes -**
- L Meeting Minutes -**



BRAC 95

Joint Cross-Service Group on Test & Evaluation

Tuesday, November 8, 1994

Minutes

The BRAC 95 Joint Cross-Service Group on Test and Evaluation convened at 1500. Mr. Nicholas Toomer and Mr. John Burt chaired the meeting. The list of attendees and handouts are attached.

The subgroup began the meeting by discussing the plan for completing the JCSG process, what constitutes core activities, how excess capacity is defined and briefed alternatives developed for Military Departments consideration.

The subgroup provided an overview of how the process will proceed based on current outlook of where they are now and if military value is released by the Military Departments in the future.

The next topic discussed how core activities will be defined. The subgroup proposed to include an activity in core if it was assigned workload in the majority of the optimization model runs, complied with the policy imperatives, is required to maintain the integrity of the test process, and it is required in order to preserve the critical capability at an MRTFB. An activity will not be considered core if it was not assigned workload in any optimization runs, it did not comply with policy imperatives and its workload could be accomplished at a core activity. The subgroup then provided a flowchart that displayed the process for how activities will be considered for core site status. The subgroup, using this definition, then provided the JCSG a list of core sites by Service. The subgroup then applied these core sites to excess capacity. If the JCSG agrees to the core siting concept as proposed excess capacity reductions will not be optimal. In other words, there will be a trade off in capacity if workload is moved towards the core sites.

The subgroup then presented how a roll up of the unconstrained alternatives by functional area would affect excess capacity. There was discussion whether to break up the Test Facility Category (TFC) to determine if further reductions in subcategories will reduce any more capacity. After discussing pros and cons of doing this, the Group decided to keep the TFC aggregated.

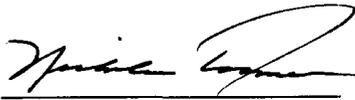
The briefing then centered on how military value will be incorporated into the analysis. The Army and Navy stated they are ready to deliver military value and the Air Force stated they will deliver approximately Nov 9. The subgroup proposed that they will focus their analysis on core activities with low military value and non-core activities with high military value but not

core sites with high military value or non-core activities with low military value. In these latter two cases, they will accept the optimization run output suggestions. Issues raised by doing this is at what level will analysis be completed: installation, activity or TFC/facility level? Also, what other factors should be considered for core determination? A slide depicting the first issue explains that the more macro a level the more savings can be generated (i.e. alternatives recommending a closure of an installation derive more savings than an alternative recommending the closure of an activity). Currently, the T&E JCSG analysis focuses on the activities. Considerable discussion took place on which level the subgroup should concentrate on, but the Group did not make a decision at this time regarding this issue.

The subgroup then discussed other factors for core determination. The first was the RTTC and the other was the Utah Test Range. Again, there was lengthy discussion as to whether these should be included as core sites, but no decisions rendered at this time.

There being no other items for discussion, the meeting adjourned at 1630.

Approved:



Nicholas Toomer
Acting Co-Chairman



John Burt
Co-Chairman

Attachments

BRAC 95

Joint Cross-Service Group on Test & Evaluation

November 8, 1994

List of Attendees

Mr. John Burt, Co-Chair
Mr. Nick Toomer, Acting Co-Chair
LTG (Ret) Howard Leaf, Air Force
Dr. Dan Stewart, Air Force
Mr. Parker Horner, Air Force
Mr. Doug Nation, Air Force
Col Wes Heidenreich, Air Force
Lt Col George London, Air Force
Mr. Walt Hollis, Army
Mr. John Gehrig, Army
Mr. Gary Holloway, Army
Mr. Tom Roller, Army
LTC Jack Marriott, Army
Mr. Gerald Schiefer, Navy
CDR Mark Samuels, Navy
Mr. Don DeYoung, Navy
Mr. Mike McAndrew, ODASD(I) BCU
Mr. Irv Boyles, OSD DTSE&E
Mr. Joe Moore, OSD DOT&E
Mr. David Vincent, DoD IG
Mr. Jim Friel, DoDIG
Mr. Keith West, DoDIG
Mr. Dave Hennessey, OUSD(C)
Lt Col Roy Rice, Tri-Dept BRAC Group

OPTIMIZATION MODEL RESULTS - AV, EC, and A/W

MINSITES = 13

ACTIVITY	MAXSFV (w=0)	MINSITES (w=95)	MAXSFV (w=0; NSITE)	MINXCAP (w=100)	MAXSFV (w=100; NSITE)
Arnold	X	X	X	-	X
Edwards	X	X	X	X	X
AFEWES	X	X	X	X	X
Eglin	X	X	X	X	X
Holloman	X	X	X	X	X
REDCAP	-	-	-	-	-
UTTR	-	-	-	-	-
Tyndall	-	-	-	-	-
China Lake	X	X	X	X	X
Dahlgren	X	X	X	X	X
Indian Head	-	-	-	X	-
Indianapolis	X	X	X	X	X
Crane	X	X	X	X	X
NAWC - WSMR	-	-	-	X	-
Patuxent	X	X	X	X	X
Point Mugu	X	X	X	X	X
Warminster	-	-	-	-	-
ATTC- Fort Rucker	-	-	-	-	-
ATTC - Edwards AFB	-	-	-	-	-
EPG	X	X	X	X	X
RTTC	-	-	-	-	-
YPG	X	-	-	-	X
WSMR	X	X	X	-	-
Number of activities	14	13	13	13	13
Weighted FV	2120	2120	2120	2002	1950
Excess Capacity	45%	45%	44%	32%	38%

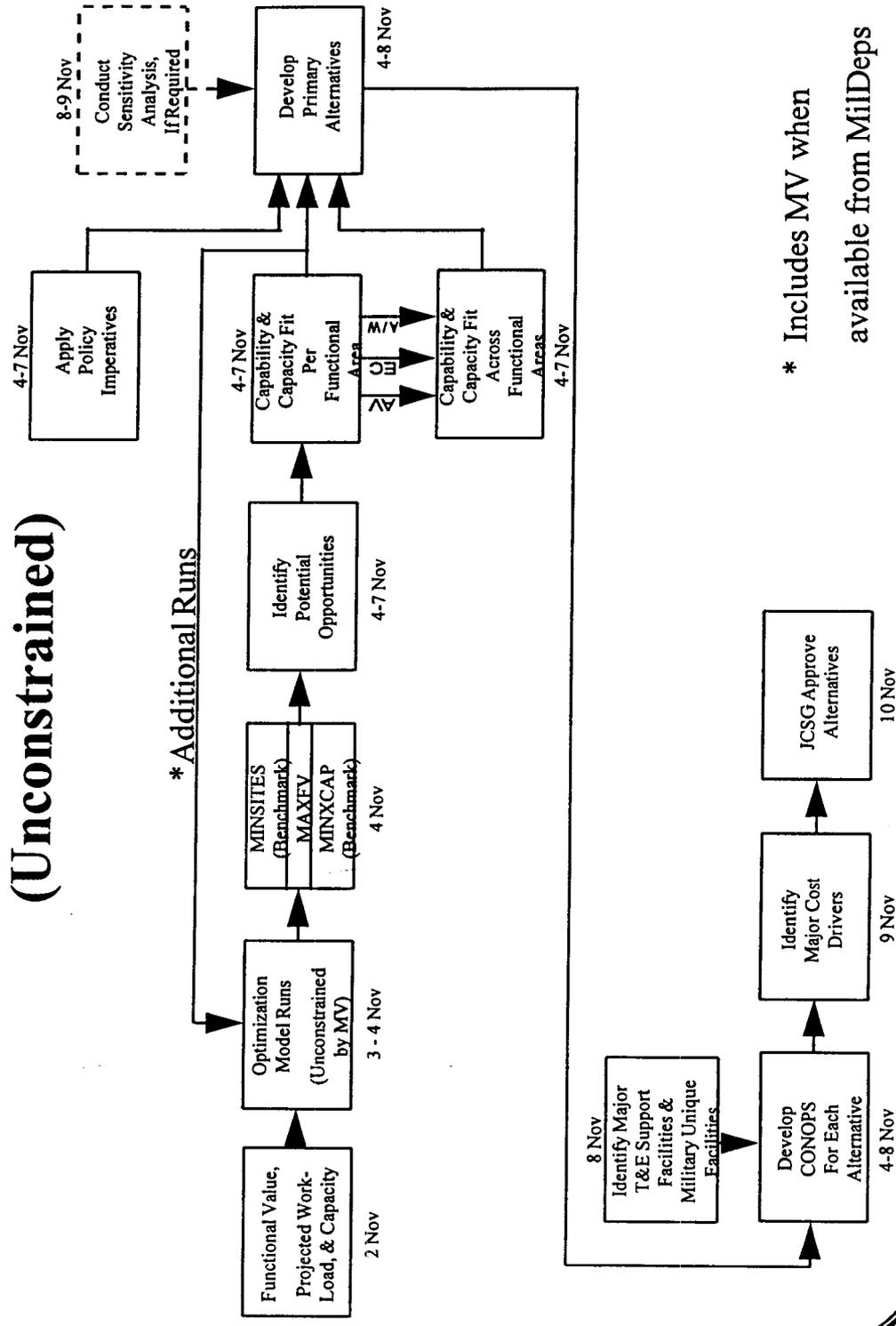
**TEST AND EVALUATION
JOINT CROSS SERVICE GROUP
MEETING**

8 November 1994

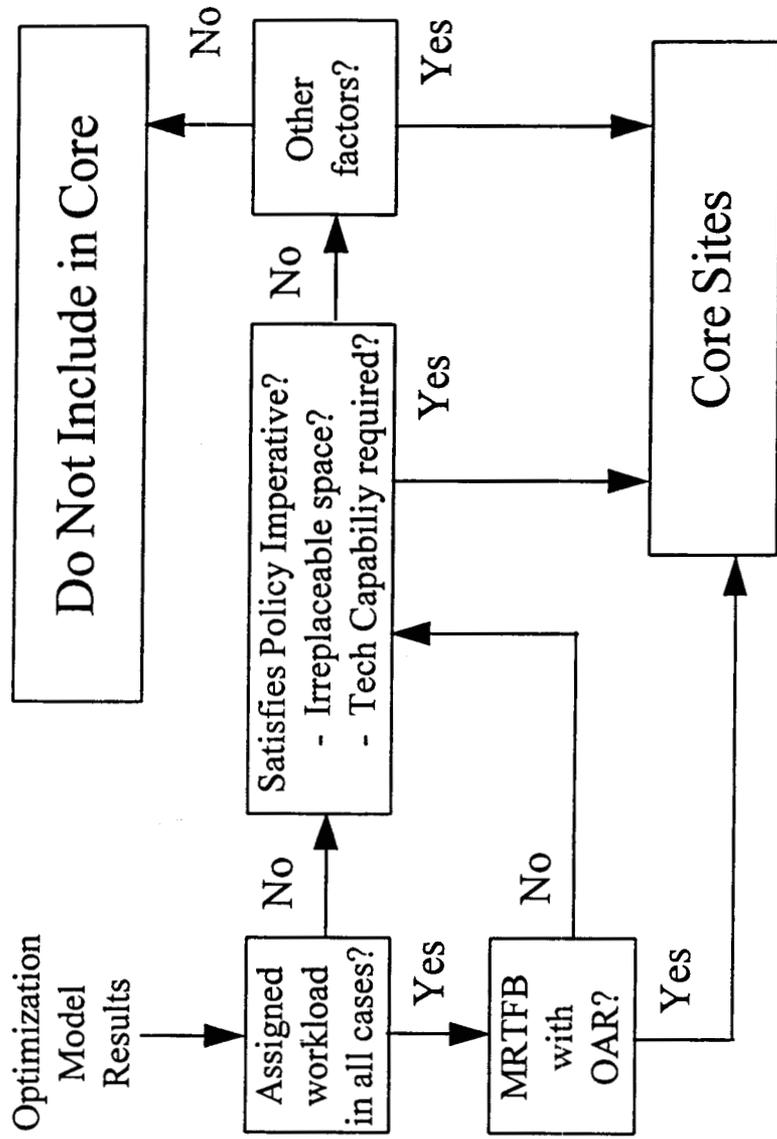
T&E JCSWG STATUS

- Draft Primary Alternatives
 - Process
 - Core Activities
 - Excess Capacity
 - Alternatives
 - Air Vehicles
 - Armament/Weapons
 - Electronic Combat
- Military Value
- Issues
- Classified Activities

POST OPTIMIZATION MODEL PROCESS (Unconstrained)



CORE T&E ACTIVITIES





DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

MM-0440-F8
BSAT/MS
14 November 1994

MEMORANDUM FOR CO-CHAIRS, TEST AND EVALUATION JOINT CROSS-SERVICE
GROUP

SUBJECT: PROVISION OF CERTIFIED NAVY DATA TO BRAC 95 TEST AND
EVALUATION JOINT CROSS-SERVICE GROUP

In compliance with the Internal Control Plan for Managing the Identification of DoD Cross-Service Opportunities as Part of the DoD 1995 Base Realignment and Closure Process, dated 13 April 1994 and as authorized by the BRAC 95 Steering Group by memorandum dated 5 August 1994, I am forwarding the enclosed data and information to be used for analysis by the Test and Evaluation Joint Cross-Service Group. This data was obtained by the Department of the Navy (DoN) in response to the Test and Evaluation Joint Cross-Service Group Guidance Package issued on 30 March 1994 and was certified in accordance with the DoN BRAC 95 certification policy and procedure.

The enclosed document is a certified true copy of revised data call responses received from the Naval Air Warfare Center, Weapons Division, China Lake. This revision provides new pages 49R, 51R, 53R, and 151R. These pages include figures that were included in the original response but inadvertently left out of previous revisions. The only changes authorized for the enclosed data call response will be any technical corrections made in response to errors identified by internal DoN verification checks, or for any additional clarifying information requested by the Test and Evaluation Joint Cross-Service Group. In either circumstance, another formal transmission will be made by DoN for any such data submitted to the Test and Evaluation Joint Cross-Service Group.


Charles P. Nemfakos
Vice Chairman
Base Structure Evaluation Committee

Enclosure



DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

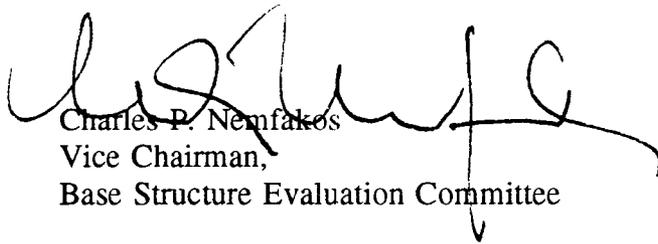
MM-0378-F7
BSAT/MS
7 October 1994

MEMORANDUM FOR CO-CHAIRS, TEST AND EVALUATION JOINT CROSS-SERVICE
GROUP

Subj: PROVISION OF CERTIFIED NAVY DATA TO BRAC 95 TEST AND
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The documents enclosed consist of a certified true copy of the revised data call response received from the activities listed on the attachment. If further revisions are necessary another formal transmission will be made by DoN.


Charles P. Nemfakos
Vice Chairman,
Base Structure Evaluation Committee

Attachment

1. Naval Air Warfare Center, Weapons Division, China Lake, CA

Revised Determination of Unconstrained Capacity forms for: Explosive and Ordnance Modeling (17R), Missile Engagement Simulation Arena (MESA) (206R), Sensor & Targeting Technology Facility (260R), Weapons Signal Processing Design Complex (307R).

2. Naval Surface Warfare Center, Indian Head Division, Indian Head, MD

Answers to RFC #AW-092 providing revised Historical Workload forms for: Non Destructive Test (NDT Facility (A-2R), Propulsion Component Test Facility (A-10R), Environmental Test Facility (A-19R), Cartridge Actuated Devices (CAD Test Facility (A-26R), and Chemical/Physical Characterization Facility (A-33R).

3. Naval Air Warfare Center, Weapons Division, Point Mugu, CA

Answer to RFC #AW-097 providing revised page 137R.

Attachment

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

W. E. NEWMAN, RADM, USN

NAME (Please type or print)

COMMANDER

Title

NAVAL AIR WARFARE CENTER

Activity

WE Newman
Signature

10/3/94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Title

Activity

Signature

Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

W.C. BOWES, VADM USN

NAME (Please type or print)

COMMANDER

Title

NAVAL AIR SYSTEMS COMMAND

Activity

W.C. Bowes
Signature

2 Oct 94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

**DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)**

NAME (Please type or print)

Title

W. Feamer
Signature

10/6/94
Date

WC

BRAC-95 CERTIFICATION

Reference: SECNAV NOTE 11000 dtd 8 Dec 93

In accordance with policy set forth by the Secretary of the Navy, personnel of the Department of the Navy, Uniformed and civilian, who provide information for use in the BRAC-95 process are required to provide a signed certification that states "I certify that the information contained herein is accurate and complete to the best of my knowledge and belief."

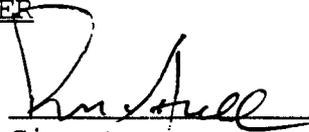
The signing of this certification constitutes a representation that the certifying official has reviewed the information and either (1) personally vouches for its accuracy and completeness or (2) has possession of, and is relying upon, a certification executed by a competent subordinate.

Each individual in you activity generating information for the BRAC-95 process must certify that information. Enclosure (1) is provided for individual certifications and may be duplicated as necessary. You are directed to maintain those certifications at your activity for audit purposes. For purposes of this certification sheet, the commander of the activity will begin the certification process and each reporting senior in the Chain of Command reviewing the information will also sign this certification sheet. This sheet must remain attached to this package and be forwarded up the Chain of Command. Copies must be retained by each level in the Chain of Command for audit purposes.

I certify the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

Roger K. Hull, CAPT, USN
Name (Please type or print)


Signature

Acting Commander
Title

28 Sep 94
Date

Naval Air Warfare Center Weapons Division China Lake Site
Activity

Data Call #13 Revision of 28 September 1994

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

W. E. NEWMAN, RADM, USN
NAME (Please type or print)
COMMANDER
Title
NAVAL AIR WARFARE CENTER
Activity

W E Newman
Signature
10/3/94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Title

Activity

Signature

Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

W.C. BOWES, VADM USN
NAME (Please type or print)
COMMANDER
Title
NAVAL AIR SYSTEMS COMMAND
Activity

W C Bowes
Signature
9 Oct 94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

**DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)**

NAME (Please type or print)

Title

W Bowes
Signature
10/6/94
Date

WC

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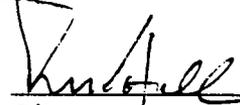
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ACTIVITY COMMANDER

Roger K. Hull, CAPT, USN
Name (Please type or print)


Signature

Acting Commander
Title

28 Sept 94
Date

Naval Air Warfare Center Weapons Division Point Mugu Site
Activity

Data Call #13 Revision of 28 September 1994

FOR OFFICIAL USE ONLY

BRAC 95 DATA CALL #13

T&E

ACTIVITY UIC: 63126

scenario would increase the number of simultaneous sources to greater than 30. A single missile AMRAAM launch against a full-scale QF-4 requires a minimum of three independent telemetry down-links. Using this AMRAAM scenario as a "typical" operation, NAWCWPNS could accommodate four simultaneous operations taking into account the normal requirement for redundant backup telemetry coverage. Under conditions that would impose the minimum number of telemetry requirements per mission, the maximum number of simultaneous missions that can be supported is 15.

-3.2.C.7 *What is the largest number of simultaneous test missions you have supported in your airspace?*

Up to twelve operations of varying complexity have been simultaneously supported.

-3.2.C.8 *Identify the number, types, and owners of aircraft at your installation.*

Custodian	No. of Aircraft (PAA*)	Aircraft (T/M/S**)
NAWS	1	UC-12
NAWCWPNS	1	RC-12
NAWCWPNS	7	F-14A/B
NAWCWPNS	5	F-14D
NAWCWPNS	3	TA-7C
NAWCWPNS	5	RP-3A
NAWCWPNS	15	QF-4N
NAWCWPNS	1	QF-4S
NAWCWPNS	1	YF-4J
NAWCWPNS	1	A-6E
VX-4***	4	F-14A/B
VX-4	6	F/A-18A/B/C
VXE-6	7	C-130
VXE-6	6	UH-1N
VFA-305	10	F/A-18A
VP-65	8	P-3C
HCS-5	6	HH-60H
CANG	12	C-130
AVTEL	3	DC-130
Flying Club	2	T-34B
FBI	4	Cessna182
FBI	2	OH-6
Air Resorts	1	CV-340
Renown	1	CV-440
Renown	1	CV-580
Total	113	

*Presently assigned aircraft.

**Type/model/series

***It is planned by COMOPTEVFOR to consolidate the Operational Test & Evaluation Squadrons (VX-5 at China Lake and VX-4 at Point Mugu) into a single squadron (VX-9) headquartered at China Lake. On 29 April 1994 VX-9 officially stood up and VX-5 was disestablished. COMOPTEVFOR has proposed that VX-4 be disestablished as a squadron in September 1994 and transition to an F-14 detachment of VX-9 at Point Mugu.

DATA CALL #13
INDIAN HEAD

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

DR. IRA M. BLATSTEIN

NAME (Please type or print)

Signature

TECHNICAL DIRECTOR

Title

Date

NAVAL SURFACE WARFARE CENTER

Activity

In certify that the information herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

NAME (Please type or print)

Signature

G. R. STERNER

Commander

Title Naval Sea Systems Command

Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

NAME (Please type or print)

Signature

Title

Date

WR
WR
WR
Signature
Date 10/6/94

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

CAPT. W. J. NEWTON
NAME (Please type or print)

W. J. Newton
Signature

COMMANDER
Title

23 September 1994
Date

INDIAN HEAD DIVISION, NSW
Activity

Pages A-2, A-10, A-19, A-26, and A-33: Per RFC # AW-092, changed *Armament/Weapons Test Hours* for FYs 86-93 to show the hours the facility was in use or will be used, not total man-hours worked in the facility.



DEPARTMENT OF THE NAVY
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20350-1000

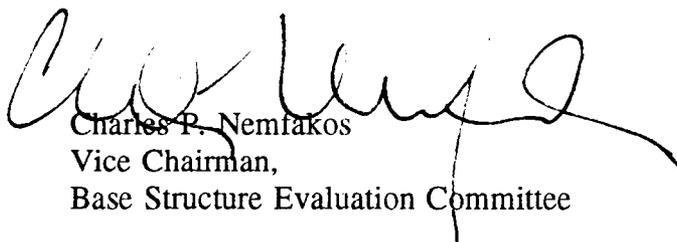
MM-0364-F7
BSAT/MS
4 October 1994

MEMORANDUM FOR CO-CHAIRS, TEST AND EVALUATION JOINT CROSS-SERVICE
GROUP

Subj: PROVISION OF CERTIFIED NAVY DATA TO BRAC 95 TEST AND
EVALUATION JOINT CROSS-SERVICE GROUP

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Charles P. Nemlakos
Vice Chairman,
Base Structure Evaluation Committee

Attachment

1. Naval Air Warfare Center, Aircraft Division, Indianapolis, IN

Answer to RFC #AW-089

2. Naval Air Warfare Center, Aircraft Division, Patuxent River, MD

Answers to RFC's #EC-035, AW-093, and AW-096.

Revised pages: AI1 R, AI67 R, AI110 R, AI143 R, AI144R, AI147 R, and MF63 R.

Attachment

DATA CALL #13 - RFC AW-093/AW-096
BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

WILLIAM E. NEWMAN
NAME (Please type or print)

COMMANDER
Title

NAVAL AIR WARFARE CENTER
Activity

W E Newman
Signature

9/29/94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Title

Activity

Signature

Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

WILLIAM C. BOWES
NAME (Please type or print)

COMMANDER
Title

NAVAL AIR SYSTEMS COMMMAND
Activity

W C Bowes
Signature

29 54 94
Date

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

NAME (Please type or print)

Title

W C Bowes
Signature

10/1/94
Date

WC

DATA CALL #13 - RFC AW-093/AW-096
BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 8 December 1993

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I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

BARTON D. STRONG
NAME (Please type or print)


Signature

COMMANDER
Title

29 September 1994
Date

NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION PATUXENT RIVER, MD
Activity

DATA CALL #13 - BSAT
REQUEST FOR CLARIFICATION CONTROL #EC-035
BRAC-95 CERTIFICATION

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

WILLIAM E. NEWMAN
NAME (Please type or print)

WE Newman
Signature

COMMANDER
Title

9/28/94
Date

NAVAL AIR WARFARE CENTER
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

WILLIAM C. BOWES
NAME (Please type or print)

W Bowes
Signature

COMMANDER
Title

29 Sep 94
Date

NAVAL AIR SYSTEMS COMMAND
Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

NAME (Please type or print)

W Bowes
Signature

Title

10/1/94
Date

WE

**DATA CALL #13 - BSAT
REQUEST FOR CLARIFICATION CONTROL #EC-035
BRAC-95 CERTIFICATION**

Reference: SECNAVNOTE 11000 of 8 December 1993

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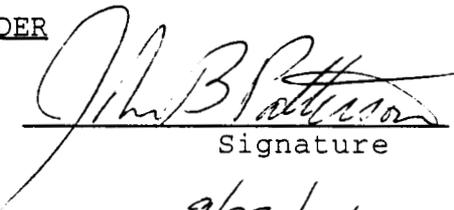
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I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

ACTIVITY COMMANDER

CAPTAIN JOHN B. PATTERSON

NAME (Please type or print)


Signature

ACTING COMMANDER

Title

9/22/94
Date

NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION PATUXENT RIVER, MD

• **BACKUPS**

CORE T&E ACTIVITIES

ARMY

Electronic Proving Ground
Yuma Proving Ground
White Sands Missile Range

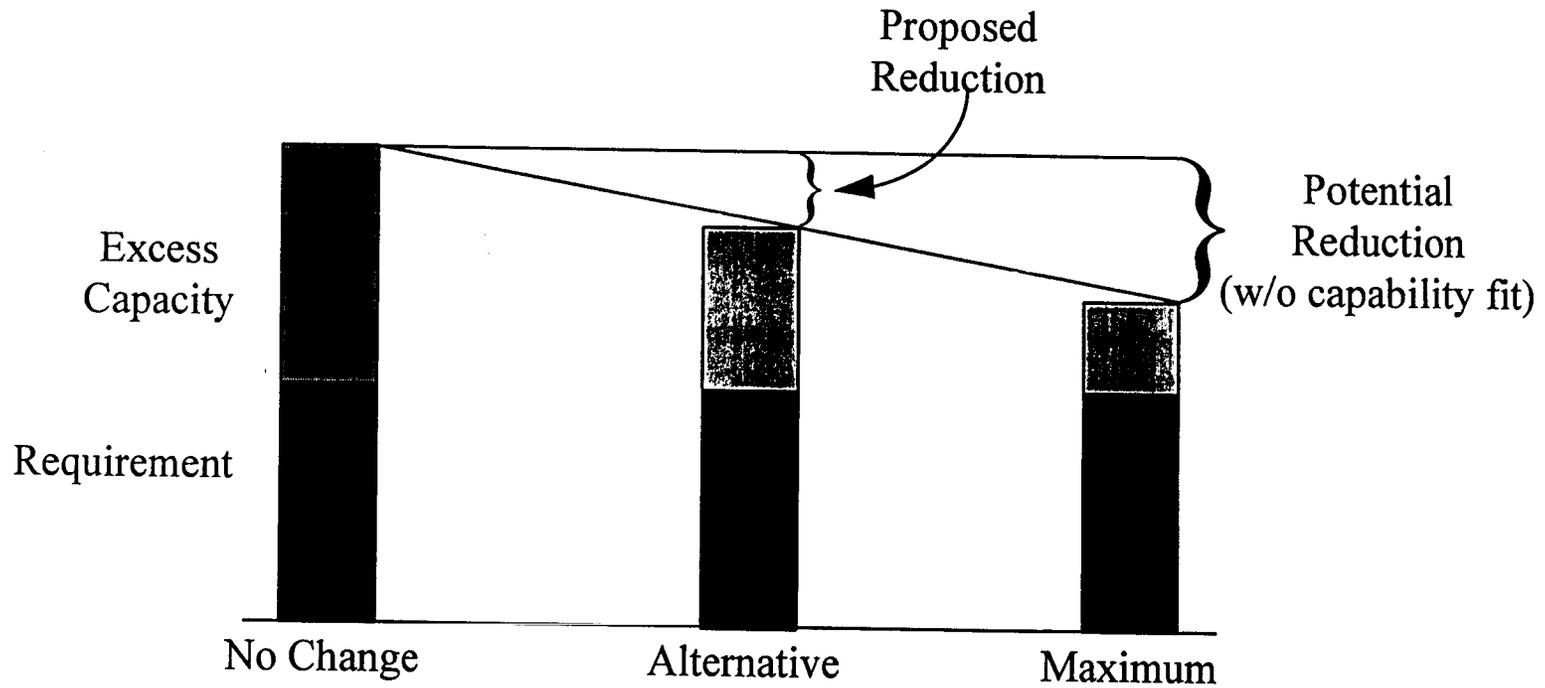
NAVY

NAWC China Lake
NAWC Patuxent River
NAWC Point Mugu
NAWC WSMR

AIR FORCE

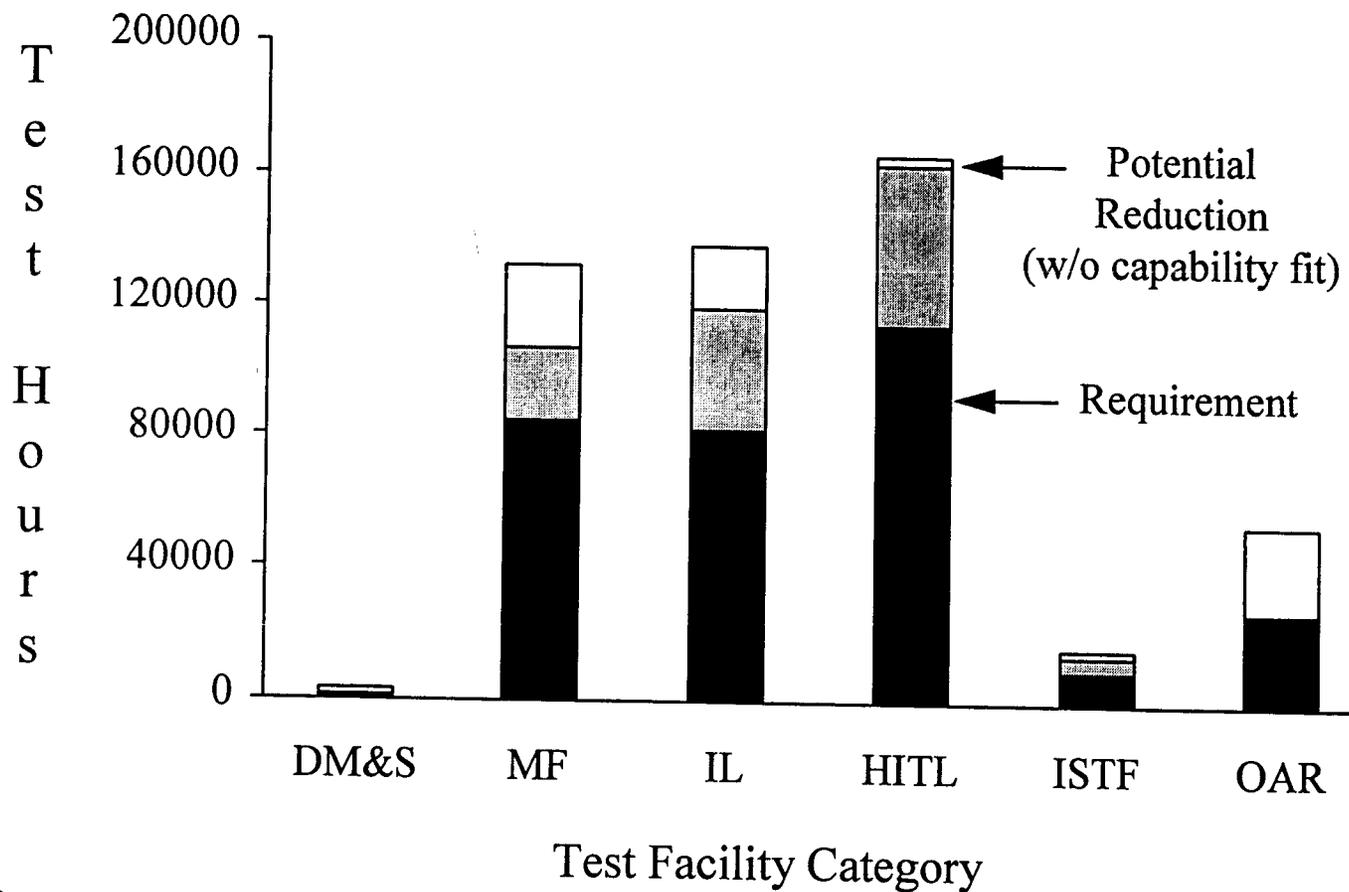
AEDC Arnold
AFFTC Edwards
AFDTC Egin
AFDTC Holloman

EXCESS CAPACITY REDUCTION - MEASURE OF MERIT



$$\text{Reduction Index} = \text{Proposed Reduction} / \text{Potential Reduction}$$

Workload and Capacity - Air Vehicles



DRAFT AIR VEHICLE ALTERNATIVES

- **Workload Realigned From:**
 - ATTC Ft Rucker: Relocate OAR work to a core activity
 - Tyndall (476 WEG): Relocate HITL work to a core activity
 - NAWC Warminster: Relocate DM&S work to a core activity
 - NSWC Dahlgren: Relocate MF-Env work to a core activity
 - NAWC Indianapolis: Relocate MF-Env work to a core activity
- **Excess Capacity Reductions:** Activities reduced from 16 to 10

DM&S - 70%

MF - 57%

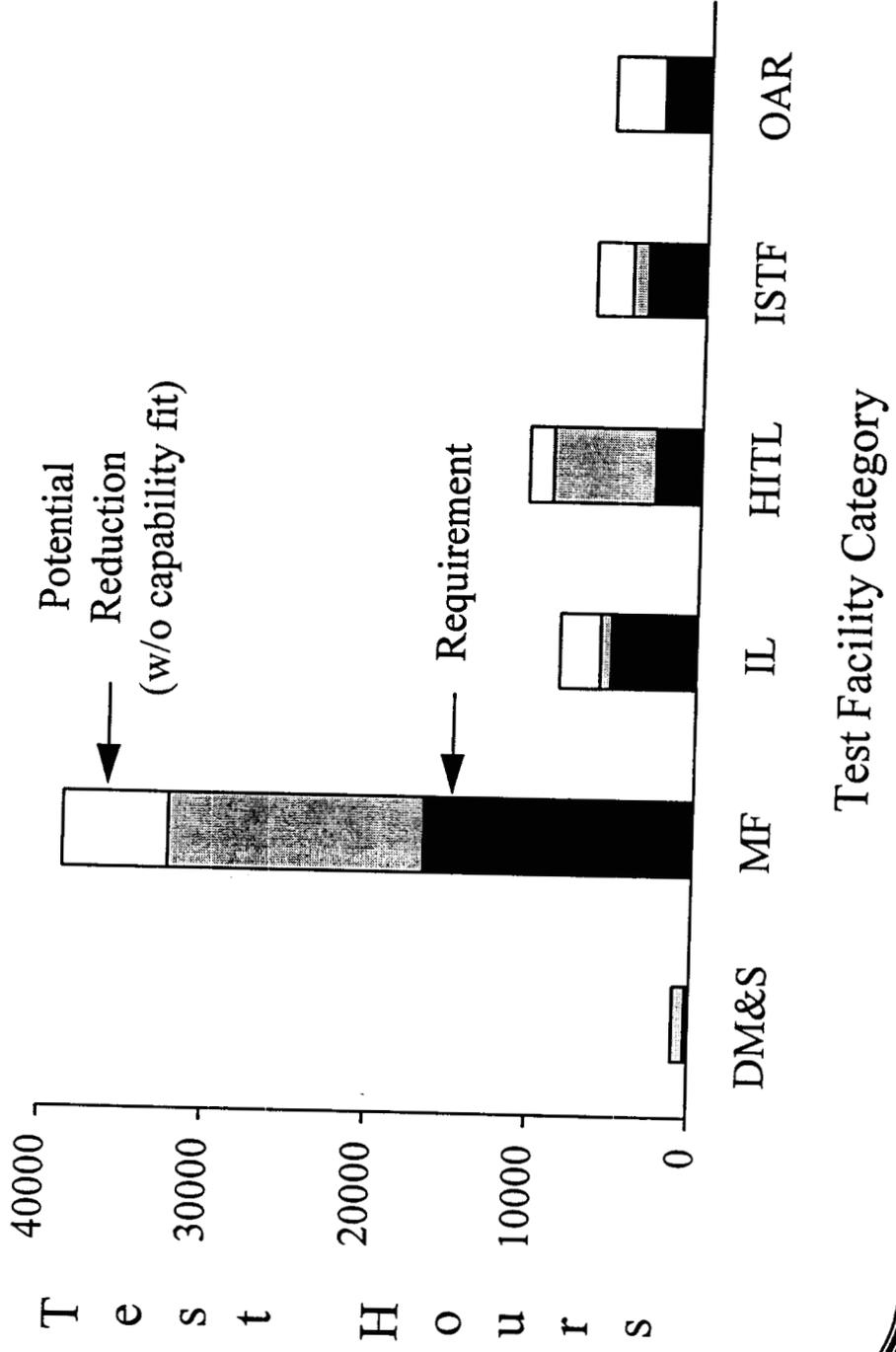
IL - 74%

HITL - ~~100%~~ 0%

ISTF - 100%

OAR - 69%

Workload and Capacity - Electronic Combat



DRAFT ELECTRONIC COMBAT ALTERNATIVES

- **Workload Realigned From:**
 - AFDTC AFEWES: Collocate with ISTF at a core activity
 - AFDTC REDCAP: Collocate with ISTF at a core activity
 - NSWC Crane: Relocate the Electronic Warfare Facility to another core activity that accomplishes MF-Env testing
- **Excess Capacity Reductions:** Activities reduced from 10 to 7

DM&S - 0%

HITL - 100%

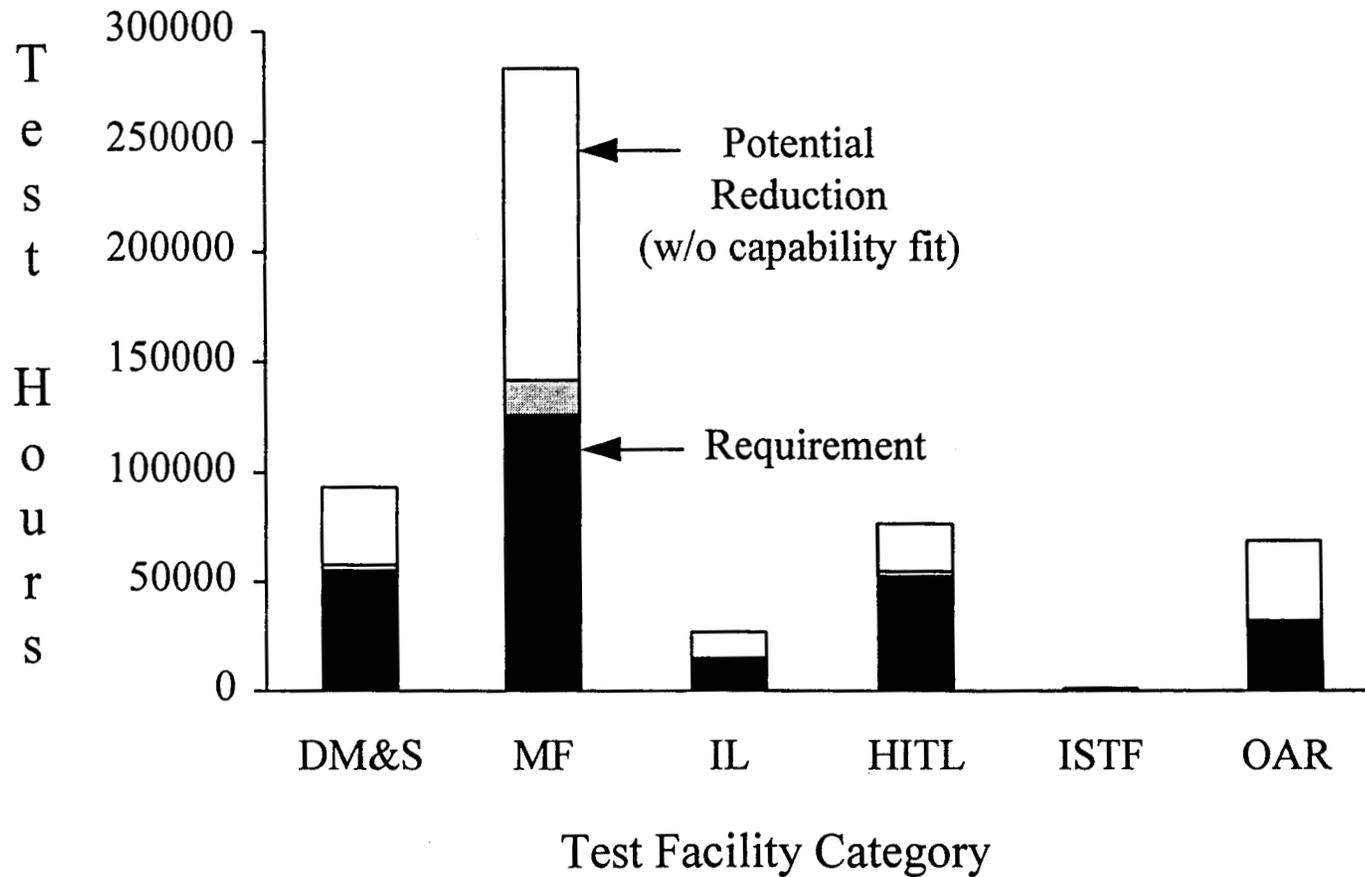
MF - 46%

ISTF - 0%

IL - 0%

OAR - 0%

Workload and Capacity - Armament / Weapons



DRAFT ARMAMENT/WEAPONS ALTERNATIVES

- **Workload Realigned From:**

- NSWC Crane: Relocate MF-Env & MF-GO work to a core activity
- NSWC Dahlgren: Relocate MF-EM & MF-GO work to a core activity
- NSWC Indian Head: Relocate MF-Env & MF-P work to a core activity
- Redstone Technical Test Center: Relocate MF-Env, MF-G & OAR work to a core activity

- **Excess Capacity Reductions:** Activities reduced from 13 to 9

DM&S - 0%

HITL - 0%

MF - 37%

ISTF - 0%

IL - 0%

OAR - 3%

MILITARY VALUES

ARMY - Ready for Delivery

NAVY - Ready for Delivery

AIR FORCE - To be delivered 11/9/94
(per feedback from Review Group meeting of 11/4/94)

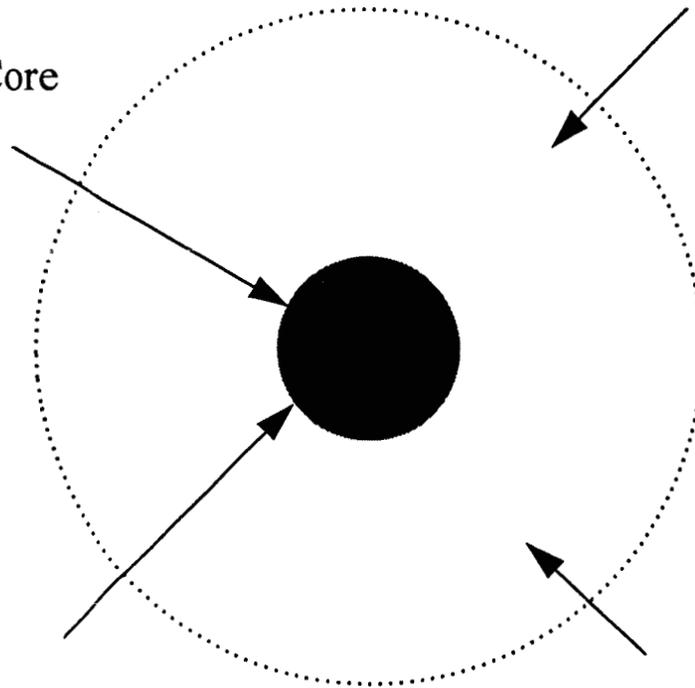
MILITARY VALUE ANALYSIS FOCUS

Do not focus on Core
Activities with
high MILVAL

Do not focus on Non-Core
Activities with low
MILVAL

Do focus on Core
Activities with low
MILVAL

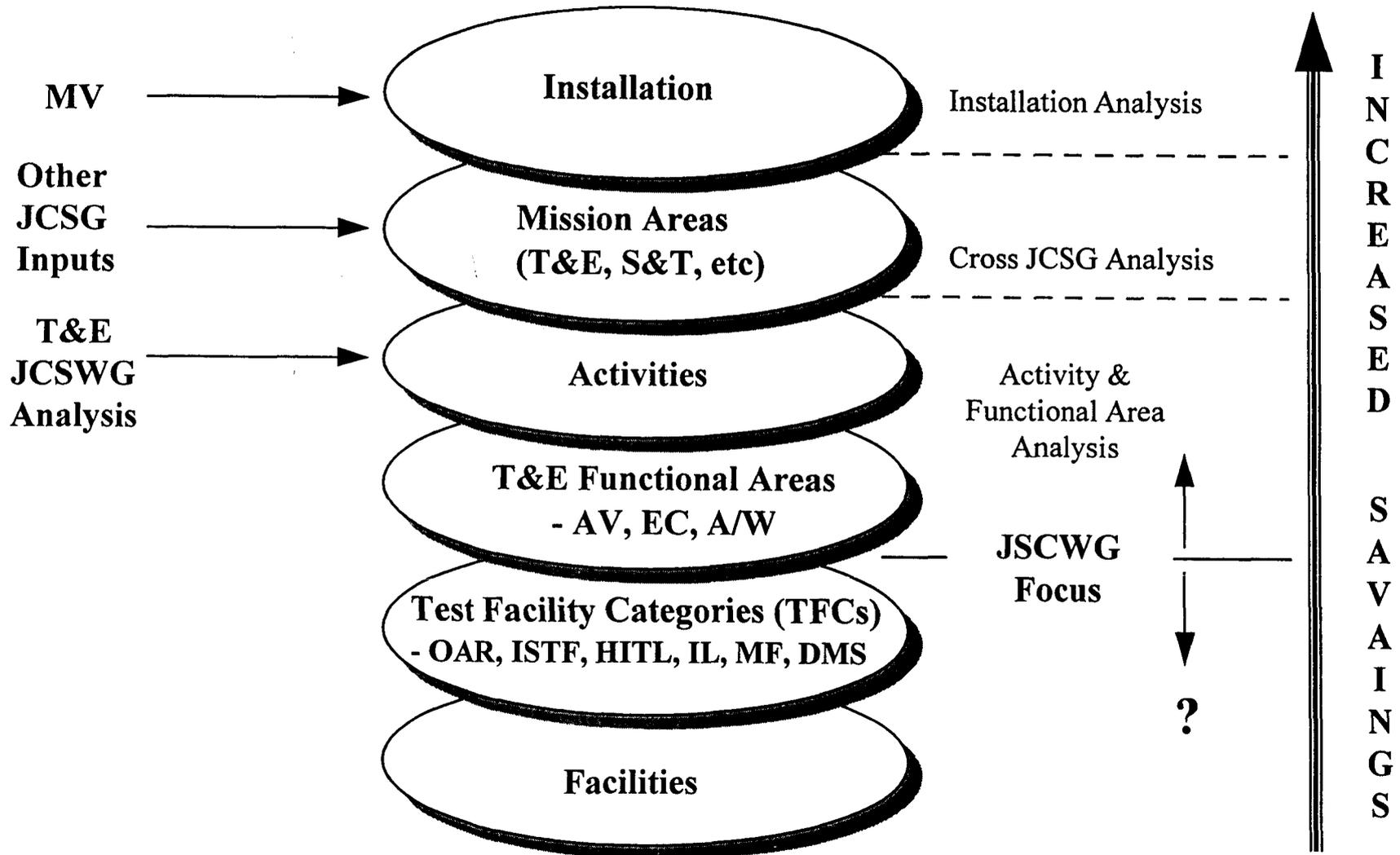
Do focus on Non-Core
Activities with high
MILVAL



ISSUES

- What Level of Analysis
 - Installation?
 - Activity?
 - TFC/Facility?
- Other Factors for Core Determination

Issue: Level of Analysis Required



6/2/00

ACTIVITY	BMS	MIF	IL	HTL	ISIF	OAR
AEDC, Arnold		X				
AFDTC, Eglin	X	X		X		X
AFDTC, Holloman		X				
NAWC, China Lake	X	X	X	X		X
NAWC, Patuxent River					X	
NAWC, Pt. Mugu	X	X	X	X		X
NAWC at WSMR						X
WSMR, White Sands NM		X				X
YPG, Yuma AZ		X				X

OTHER FACTORS - RTTC

- Preponderance of workload in areas outside purview of T&E JCSG analysis
 - Component Test - 71% non-A/W T&E
 - Induced Environmental - 76% non-A/W T&E
 - NDT & Natural Environment - 78% non-A/W T&E
 - Small Missile Range - 91% non-A/W T&E
- No identifiable savings from realigning small fraction of facility's workload
- Co-location with major customers (i.e., PMs, RD&E Center, Missile and Space Intelligence Center) provides synergy and efficiencies
- High reimbursement rate
- Military Value?

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

NEXT ECHELON LEVEL (if applicable)

NAME (Please type or print)

Signature

Title

Date

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

MAJOR CLAIMANT LEVEL

W.C. BOWES, VADM USN

NAME (Please type or print)

[Handwritten Signature]

Signature

COMMANDER

Title

11 OCT 94

Date

NAVAL AIR SYSTEMS COMMAND

Activity

I certify that the information contained herein is accurate and complete to the best of my knowledge and belief.

DEPUTY CHIEF OF NAVAL OPERATIONS (LOGISTICS)
DEPUTY CHIEF OF STAFF (INSTALLATIONS & LOGISTICS)

J. B. GREENE, JR.

NAME (Please type or print)

[Handwritten Signature]

Signature

ACTING

Title

13 OCT 1994

Date

WC

DATA CALL #13
nawcwpns
china lake

BRAC-95 CERTIFICATION

Reference: SECNAVNOTE 11000 of 08 December 1993

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ACTIVITY COMMANDER

W. E. NEWMAN, RADM, USN
NAME (Please type or print)

W E Newman
Signature

COMMANDER
Title

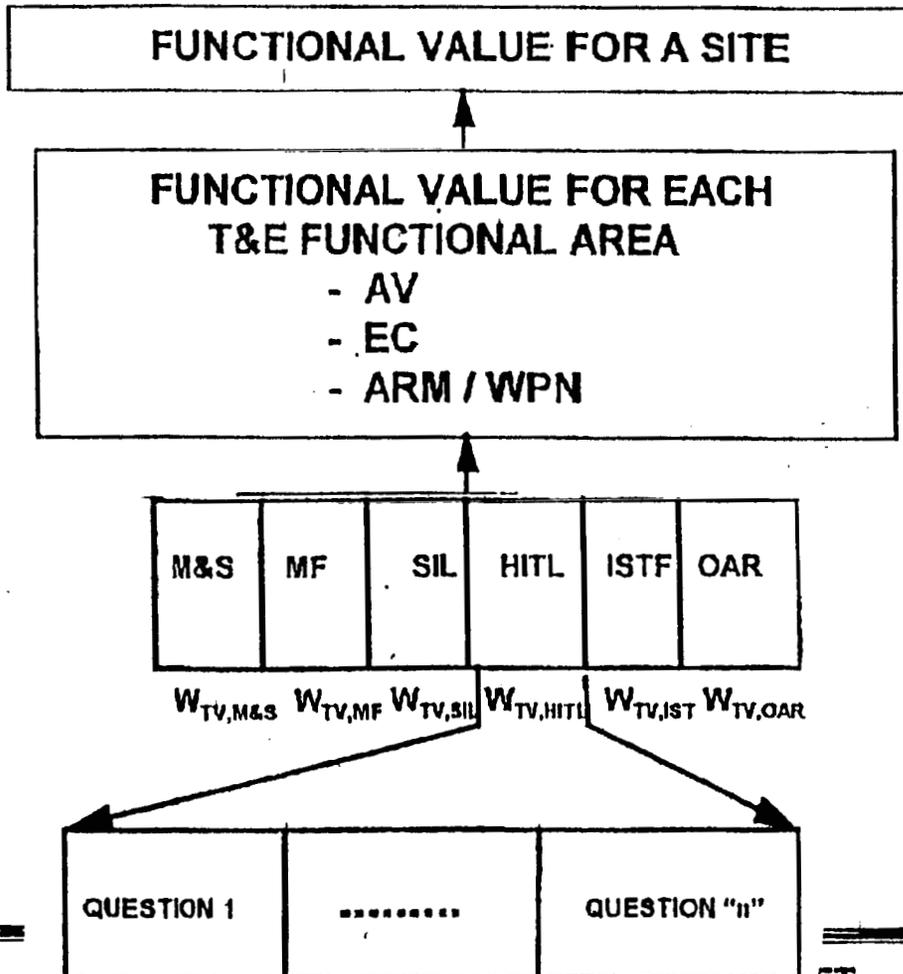
10/7/94
Date

NAVAL AIRE WARFARE CENTER
Activity

OTHER FACTORS - UTTR

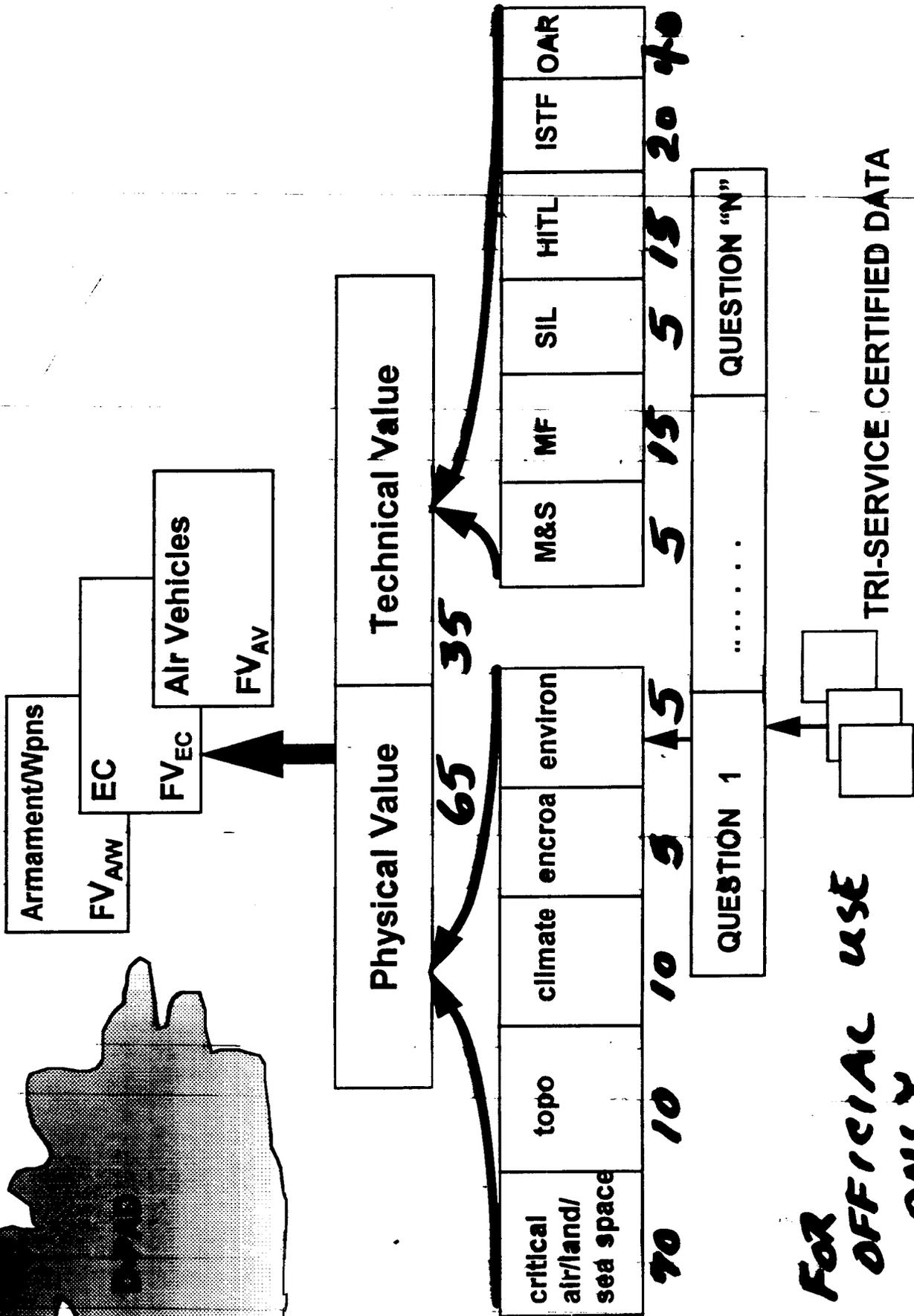
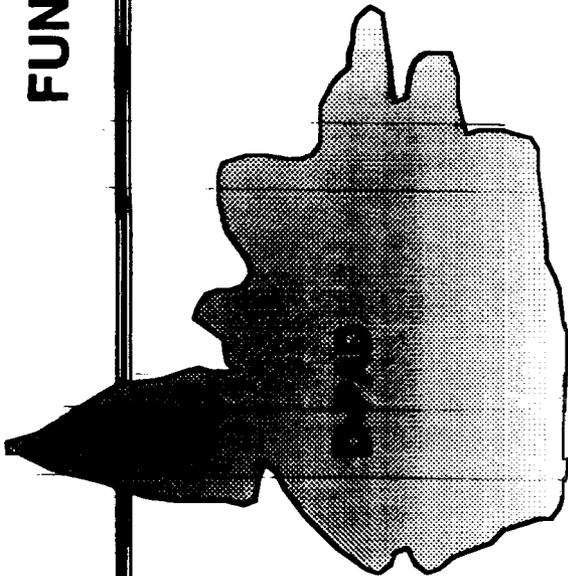
- Previously agreed to treat TMD and Cruise Missiles (CM) during capability fit phase of analysis
 - TMD and CM requirements not included in Functional Value analysis
- UTTR currently supports 10-12 FOT&E CM tests per year, plus some developmental tests
 - Location driven by Terrain Following technology and impact area requirements
- Collocated with major customers (Training and Depot)
- Need to take into consideration future requirements for UTTR during development of final alternatives
 - Preserve critical air/land/sea space

FUNCTIONAL VALUE HIERARCHY



CLOSE HOLD - SENSITIVE

FUNCTIONAL VALUE FRAMEWORK



DRAFT
BRAC 95 T&E JOINT ANALYSIS ALTERNATIVE
DOCUMENTATION

Electronic Combat

1.
 - a. **Control Number:** EC-001
 - b. **Short Title:** Electronic Combat
 - c. **Date:** 11/4/94
 - d. **Joint Group:** Test & Evaluation Joint Cross-Service Group
 - e. **Background:** A summary of the Electronic Combat sites/activities that were included in the optimization run is provided at enclosure (1). The capacities utilized for each Test Facilities Category (TFC) and sub-category at each activity are provided as well as an indication if workload was/was not assigned to each activity by the optimization model. The following table displays the workload requirements that were provided as inputs to the optimization model.

TEST FACILITY CATEGORY	SUB-CATEGORY	CAPACITY (TEST HOURS)
Digital Models & Simulation (DM&S)	None	246
Measurement Facilities	Communications/Antenna	298
	Environmental	2174
	Electro-Magnetic Environmental Effects	4929
	Guidance	1728
	Radar Cross-Section	6674
	Signature	826
Integration Laboratories	None	5317
Hardware-In-The-Loop	None	2833
Installed Systems Test Facility	None	3604
Open Air Ranges	None	2771

Reassignment

2. Scenario Description: Close the HITL facility at JJ and stop accomplishing EC T&E at AA

a. **Concept of Operations (CONOPS)** - Disestablish the Hardware-in-the-Loop (HITL) EC test facility located at JJ and reassign the workload to DD and GG. Additionally, this scenario suggests that the T&E workload currently being performed at AA could be reassigned to DD, FF, HH and II. This action would affect the following facilities at AA: ...

3. Installations in the Scenario

a. The table below provides a tabular list of the sites that were not assigned Electronic Combat workload and where the workload was assigned.

ITEM NUMBER	LOSING SITE	LOSING ACTIVITY	TYPE OF WORK	GAINING SITE	GAINING ACTIVITY
1	AA	AA	MF-R	II	II
2	AA	AA	IL	DD	DD
	"	"	"	HH	HH
3	AA	AA	OAR	FF	FF
	"	"	"	HH	HH
4	JJ	JJ	HITL	DD	DD
	"	"	"	GG	GG

4. Rationale for Realignment

a. Measures of Merit: Disestablishing the JJ facility and realigning EC T&E workload from AA reduces the number of activities involved in accomplishing EC testing from ten to eight, thus saving improvement and modernization (I&M) and Operations and Maintenance (O&M) funds. The average EC T&E functional value increases from 40 to 42 as the result of these consolidations, and excess capacity for EC testing reduces from 7089 to 3246 hours/year for RCS measurement facilities, from 3117 to 659 hours/year for integration laboratories, from 7757 to 6717 hours/year for hardware-in-the-loop test facilities, and from 2408 to 587 hours/year for open air ranges.

- Resulting T&E Average Functional Value: Increase to 42 from 40
- Excess Capacity Reductions (test hours/year):
 - RCS Measurement Facilities: Reduces from 7089 to 3246
 - Integration Laboratories: Reduces from 3117 to 659
 - Hardware-in-the-Loop Facilities: Reduces from 7757 to 6717
 - Open Air Ranges: Reduces from 2408 to 587.

Associated impacts
 b. Pros Associated with Alternative: Disestablishing the EC HITL at JJ and the EC facilities at AA will reduce unnecessary duplication of EC test resources, save scarce T&E resources, and enhance implementation of the DoD EW Test Process by collocating synergistic test capabilities.

c. Compliance with Policy Imperatives: This alternative satisfies all of the policy imperatives establish in the T&E JCSG Analysis Plan.

d. Capability Fit/Operational Feasibility Check: This alternative meets all capability requirements and appears to operationally feasible except for the areas identified in the table below:

TEST FACILITY CATEGORY/SUB-CATEGORY	CAPABILITY FIT/DISCREPANCIES
Digital Models & Simulations (DM&S)	
Measurement Facilities (MF)	
- Communications/Computers	
- Environmental	
- Electro-magnetic Environmental Effects	
- Guidance	
- Radar Cross-Section	
- Signature	
Integration Laboratories (IL)	
Hardware-in-the-Loop (HITL)	
Installed Systems Test Facilities (ISTF)	
Open Air Ranges (OAR)	

5. Remarks

a. Major Cost Drivers: The major cost associated with disestablishing JJ involves the relocation of test capabilities not already existing elsewhere. JJ capabilities that are moveable and are generally limited to recently acquired and documented assets such as the ABC simulator and the EFD capability. Disestablishment of the RCS facility at AA would incur no major costs, assuming the range would not have to be relocated (mothballing is an option). Realignment of integration laboratory workload should not require significant expense, while some OAR threat simulators not duplicated on other EC OAR's would have to be relocated. MILCON may be required for relocation of JJ capabilities, depending upon the gaining location.

b. Associated Impacts: Customer requirements can generally be met at other existing EC test facilities. However, all of the EC facilities at AA perform workload outside the T&E mission area. Thus, other mission and functional areas will be impacted by realignment of EC T&E work from AA.

INSTALLATION	ACTIVITY	TEST FACILITY CATEGORY / SUB-CATEGORY	CAPACITY IN TEST HOURS	WORKLOAD ASSIGNED IN THIS ALTERNATIVE
AA	AA	MF-R	3843	NO
		IL	2458	NO
		OAR	1821	NO
BB	BB	MF-EM	6301	YES
CC	CC	MF-C	218	YES
		ISTF	4550	YES
DD	DD	MF-S	788	YES
		IL	850	YES
		HITL	420	YES
EE	EE	DM&S	1010	YES
		MF-C	1008	YES
		MF-E	775	YES
		MF-EM	1626	YES
		OAR	861	YES
FF	FF	MF-E	4656	YES
		MF-S	728	YES
		ISTF	2202	YES
		OAR	1978	YES
GG	GG	HITL	9130	YES
HH	HH	IL	5126	YES
		OAR	1200	YES
II	II	MF-G	2400	YES
		MF-R	9920	YES
JJ	JJ	HITL	1040	NO

Enclosure (1)

POLICY IMPERATIVES	DESCRIPTION OF ALTERNATIVE'S COMPLIANCE WITH POLICY IMPERATIVES
1. RETAIN IRREPLACEABLE AIR, LAND, AND SEA SPACE	
- At least one sea range and at least one land range	Satisfied
- Topography: mountains, forested or jungle, cultivated lowland, and desert	Satisfied
- Climatology: tropic, arctic, and temperate	Satisfied
2. RETAIN BACKUP CAPABILITY TO AVOID SINGLE NODE FAILURE WHERE COST EFFECTIVE, AND TO MITIGATE RISK	??
3. REALIGN/CONSOLIDATE INTO EXISTING MRTFB's THAT HAVE OPEN AIR RANGES, WHERE COST EFFECTIVE	Satisfied ?? (China Lake OAR?)
4. RETAIN THE CAPABILITY TO SATISFY REQUIREMENTS IN EACH TEST FACILITY CATEGORY (TFC) FOR EACH FUNCTIONAL AREA TO PRESERVE THE TEST PROCESS	Satisfied

CORE ACTIVITY DEFINITION

- **Activity included in core if:**
 - It was assigned workload in the majority of the optimization model runs, complied with policy imperatives, and is required to maintain the integrity of the test process
 - It is required in order to preserve the critical capability at an MRTFB
 - AEDC Arnold (Propulsion), WSMR (TMD & Surface-to-Surface missiles), NAWC WSMR (Standard missile), Yuma Proving Ground (Air Armament Range)
- **Activity not included in core if:**
 - It was not assigned workload in any optimization model run
 - It did not comply with the policy imperatives
 - Its workload could be accomplished at a core activity

DRAFT
BRAC 95 T&E JOINT ANALYSIS ALTERNATIVE
DOCUMENTATION

Air Vehicles

1.
 - a. Control Number: AV-001
 - b. Short Title: Air Vehicles
 - c. Date: 11/8/94
 - d. Joint Group: Test & Evaluation Joint Cross-Service Group (JCSG)

2. **Baseline for Air Vehicles T&E**

A summary of the Air Vehicles activities that were included in the analysis is provided at enclosure (1). The capacities for each Test Facility Category (TFC) and sub-category at each activity are provided as well as the TFC and sub-category projected workload requirements. The T&E facilities which were included in the analysis, the support facilities, and facilities which were excluded from analysis based on workload percentage, test hours, and service unique determination are summarized in Attachment (1) to the cover memorandum. Table 1 displays the summary level workload and capacity requirements which were provided as inputs to the optimization model and used by the JCSG to insure capability/capacity fit.

Table 1. AIR VEHICLES PROJECTED WORKLOAD & CAPACITY REQUIREMENTS

TEST FACILITY CATEGORY	SUB-CATEGORY	REQUIREMENT (TEST HOURS)	CAPACITIES (TEST HOURS)
Digital Models & Simulation (DM&S)	None	1,273	3,380
Measurement Facilities	Avionics & Aircraft Subsystems	2,631	6,155
	Communications/Navigation/Antenna	1,136	2,091
	Environmental/Vibration/Structures	23,158	35,314
	Electro-Magnetic Environmental Effects	943	3,347
	Guidance/Sensor/Signature	30,719	47,487
	Propulsion	25,854	37,155
	Sled Tracks	170	614
Integration Laboratories	None	81,806	138,167
Hardware-In-The-Loop	None	114,171	166,054
Installed Systems Test Facility	None	9,674	16,087
Open Air Ranges	None	27,578	53,761

3. Scenario Description:¹

The following sixteen (16) AV T&E activities were evaluated by the T&E JCSG. The Major Range and Test Facility Bases (MRTFBs) are noted.

Table 2. ACTIVITIES IN THE AIR VEHICLES ANALYSIS

DEPARTMENT	ACTIVITY	MRTFB
ARMY	Yuma Proving Ground	YES
	Electronic Proving Ground-Ft. Huachuca	
	ATTC-Ft. Rucker	
	ATTC-Edwards AFB	
NAVY	NAWCAD-Indianapolis	
	NAWCAD-Patuxent River	YES
	NAWCWPN-China Lake	YES
	NAWCWPN-Pt. Mugu	YES
	NSWC-Dahlgren	
	NSWC-Warminster	
AIR FORCE	AEDC-Arnold AFB	YES
	AFDTC-Eglin AFB	YES
	AFFTC-Edwards AFB	YES
	AFDTC-Holloman AFB	
	Utah Test and Training Range	
	476 WEG-Tyndall AFB	

Policy imperatives were applied to the outputs from the optimization model runs to determine core Air Vehicles T&E activities. Therefore, the scenario for Air Vehicles T&E consists of the following nine (9) activities:

- ARMY: Electronic Proving Ground-Ft. Huachuca
 Yuma Proving Ground

- NAVY: NAWC-China Lake
 NAWC-Patuxent River
 NAWC-Point Mugu

- AIR FORCE: AFDTC-Eglin AFB
 AFFTC-Edwards AFB
 AFDTC-Holloman AFB
 AEDC-Arnold

¹ Alternatives are possible only if the sites have Military Value of Band II or III.

TABLE 3. RESULTING DOD T&E INFRASTRUCTURE FOR AIR VEHICLES T&E

TEST FACILITY CATEGORY/ SUB-CATEGORY	ACTIVITIES	CAPACITY (IN TEST HOURS)	PROJECTED WORKLOAD FY2001 (IN TEST HOURS)
Digital Modeling & Simulation	Edwards, Pax River	3,380	1,273
Measurement		125,269	84,611
Avionics	Edwards, EPG, Pax River	6,155	2,631
Comm/Navigation	Pax River	2,091	1,136
Environmental	Edwards, EPG, AFDTC, Pt. Mugu, China Lake	28,420	23,158
EM Vulnerability	Dahlgren	3,347	943
Guidance	AFDTC, Holloman, China Lake, Pax River	47,487	30,719
Propulsion	AEDC, Pax River	37,155	25,854
Sled Track	Holloman	614	170
Integration Labs	Edwards, Pax River	133,925	81,806
Hardware-in-the-Loop	Pax River	163,371	114,171
Installed Systems Test Facility	Edwards, Pax River	16,087	9,674
Open Air Range	Edwards, EPG, YPG, Pax River, Pt. Mugu	38,115	27,578

4. Installations in the Scenario

For Military Department considerations, Table 4 lists the losing and gaining activities, the type of work which could be relocated, the amount of work at the losing activity, and the capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

TABLE 4. LOSING AND GAINING ACTIVITIES

ITEM	LOSING ACTIVITY	GAINING ACTIVITY	TYPE OF WORK	AMOUNT OF WORK	CAPACITY DELETED
1	ATTC-FT.RUCKER	YUMA PROVING GROUND	OAR		
2	AQTD-EDWARDS	YUMA PROVING GROUND	OAR		
3	NAWCAD INDIANAPOLIS	NAWC PATUXENT RIVER	MFE +IL		
4	NSWC DAHLGREN	NAWC PATUXENT RIVER	MFE		
5	WARMINISTER	NAWC PATUXENT RIVER	DM&S		

6	UTTR	AFFTC EDWARDS	OAR		
7	476 WEG TYNDALL AFB	PAX ACETRF OR EDWARD'S IFAST,OR DEPOTS OT&E DECISION	HITL		
TOTAL					

Table 5. lists the T&E facilities under consideration for realignment at the losing activities.

TABLE 5. T&E FACILITIES AT LOSING ACTIVITIES

ACTIVITY	TTC	FACILITY
ATTC FT.RUCKER	OAR	
AQTD EDWARDS	OAR	
NAWCAD INDIANAPOLIS	MF-E +IL	
NSWC DAHLGREN	MFE	
NSWC WARMINISTER	DM&S	
UTTR	OAR	
476 WEG TYNDALL AFB	HITL	

5. Rationale for Realignments

a. Measures of Merit.

(1) Number of T&E Activities.

Realigning Air Vehicles T&E reduces the number of activities involved in testing from sixteen (16) to nine (9), thus saving Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds.

(2) Excess Capacity Reductions. (see Table 4)

Table 4. EXCESS CAPACITY REDUCTIONS BY TEST FACILITY CATEGORY.

TEST FACILITY CATEGORY	CURRENT EXCESS CAPACITY	EXCESS CAPACITY REDUCTION
Digital Models & Simulation	2,100	None
Measurement Facilities	47,600	6,900
Integration Laboratories	56,300	4,200
Hardware-in-the-Loop	51,900	2,700

Installed System Test Facilities	6,400	None
Open Air Ranges	26,200	15,400
TOTAL	190,500	29,200

b. Compliance with Policy Imperatives: This alternative satisfies all of the policy imperatives establish in the T&E JCSG Analysis Plan.

(1) **Retain Irreplaceable Air/Land/Sea Space.** By focusing the Air Vehicles T&E at the core activities, two sea ranges (NAWC-Patuxent River MD, and NAWC-Pt Mugu CA) and three land ranges (AFFTC at Edwards AFB CA, Electronic Proving Ground AZ, and Yuma Proving Ground AZ) are retained. Together these activities provide the full spectrum of diversity in both topography and climate.

(2) **Retain Back-up Capability to Avoid Single Node Failure.** Each test facility category workload requirement is met using more than one activity. Therefore, back-up capability is maintained.

(3) **Retain Capability to Satisfy Tri-Department Air Vehicles T&E Requirements.** The nine (9) activity scenario for Air Vehicles T&E meets the Tri-Department requirements. No pervasive rationale exists to maintain the T&E facilities under consideration UTTR, Tyndall, NAWC-Indianapolis, NAWC-Warminster, and ATTC-Ft. Rucker.

(4) **Realign/Consolidate into Existing MRTFBs with Open Air Ranges.** MRTFB activities are maintained in this scenario; whereas, non-MRTFB activities are not maintained. The workload associated with UTTR, Tyndall, NAWC-Indianapolis, NAWC-Warminster, AQTD-Edwards and ATTC-Ft. Rucker can be consolidated into the existing MRTFB activities.

c. Capability Fit/Operational Feasibility Check: This alternative meets all capability requirements and appears to be operationally feasible.

6. Remarks

a. Major Cost Drivers:

- (1) Potential MILCON
- (2) Equipment moving cost
- (3) Support Facility Requirements

b. Impacts associated with realignments:

Note: The following Data to be put in above format:

a. Relocate the OAR at ATTC-Ft. Rucker to YPG.

(1) Major Cost Drivers: The replacement value for the facility is \$31 M. Estimated moving costs are approximately \$100 K.

(2) Associated Impacts: Increases efficiency of Army rotary wing testing.

b. Relocate the OAR at AQTD-Edwards to YPG.

(1) Major Cost Drivers: Data not available.

(2) Associated Impacts: Increases efficiency of Army rotary wing testing.

c. Relocate the OAR testing at UTTR to Edwards.

(1) Major Cost Drivers: UTTR facility and equipment cost data is not available.

(2) Associated Impacts: None.

d. Relocate the HITL at the 476 WEG to another existing activity in government-owned space.

(1) Major Cost Drivers: The replacement value for the facility and equipment is \$95 M. Estimated moving costs are not available.

(2) Associated Impacts: None

e. Relocate the DM&S facility at Warminster to Pax River.

(1) Major Cost Drivers: Total replacement value of the facility is \$18.4 M; \$10 M for the structure and \$8.4 M for equipment. The estimated moving cost would be approximately \$3-4 M.

(2) Associated Impacts: None **f. Relocate the MFE facility at Dahlgren to Pax River.**

(1) Major Cost Drivers: Relocation might require moving at least some of the equipment and the possible construction of some facilities. Replacement value is \$20.6 M for equipment and \$2 M to move equipment.

(2) Associated Impacts: This facility currently performs substantial work for the Army.

f. Relocate the MFE at Dahlgren to Pax River.

(1) Major Cost Drivers: Relocation might require moving at least some of the equipment and the possible construction of some facilities. Replacement value is \$20.6 M for equipment and \$2m to move

(2) Associated Impacts: Both IL facilities perform only 10% (TACAIR POD) and 18% Integrated Avionics Lab work in T&E.

g. Relocate the MF-E and two IL facilities at Indianapolis to Pax River.

(1) Major Cost Drivers: Relocation of the Product Quality Assurance and Evaluation facility would require moving part of the facility equipment to Pax river. Replacement value is \$14 M and \$2 M to move the equipment. Replacement value for the Integrated Avionics Lab and TACAIR Pod Lab is \$3.2 M and \$0.6 M, respectively. The total estimated cost to move both facilities is, as well as other support facilities, is approximately \$16 M.

(2) Associated Impacts: Both IL facilities perform only 10% (TACAIR Pod) and 18% Integrated Avionics Lab) of their work in T&E.

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Electronic Combat

1. **a. Control Number:** EC-001
 b. Short Title: Electronic Combat
 c. Date: 11/4/94
 d. Joint Group: Test & Evaluation Joint Cross-Service Group

2. **Baseline for Electronic Combat (EC) T&E**

A summary of the Electronic Combat activities that were included in the analysis is provided at enclosure (1). The capacities for each Test Facility Category (TFC) and sub-category at each activity are provided as well as the TFC and sub-category projected workload requirements. The T&E facilities which were included in the analysis, the support facilities, and facilities which were excluded from analysis based on workload percentage, test hours, and service unique determination are summarized in Attachment (1) to the cover memorandum. Table 1 displays the summary level projected workload and capacity requirements which were provided as inputs to the optimization model and used by the JCSG to insure capability/capacity fit.

TABLE 1. ELECTRONIC COMBAT PROJECTED WORKLOAD REQUIREMENTS & CAPACITY

TEST FACILITY CATEGORY	SUB-CATEGORY	REQUIREMENT (TEST HOURS)	CAPACITIES (TEST HOURS)
Digital Models & Simulation (DM&S)	None	246	1010
Measurement Facilities	Communications/Antenna	298	1226
	Environmental	2174	5431
	Electro-Magnetic Environmental Effects	4929	7927
	Guidance	1728	2400
	Radar Cross-Section	6674	13763
	Signature	826	1516
Integration Laboratories	None	5317	8434
Hardware-In-The-Loop	None	2833	10590
Installed Systems Test Facility	None	3604	6752
Open Air Ranges	None	2771	5860

3. Scenario Description

The following ten (10) EC T&E activities were evaluated by the T&E JCSG. Major Range and Test Facility Bases (MRTFB's) are noted.

TABLE 2. ACTIVITIES IN THE ELECTRONIC COMBAT ANALYSIS

DEPARTMENT	ACTIVITY	MRTFB
ARMY	Electronic Proving Ground, Ft Huachuca	
NAVY	NAWC China Lake	YES
	NSWC Crane	
	NAWC Patuxent River	YES
	NAWC Point Mugu	YES
AIR FORCE	AFFTC Edwards AFB	YES
	AFDTC Eglin AFB	YES
	AFDTC Buffalo (REDCAP)	
	AFDTC Ft Worth (AFEWES)	
	AFDTC Holloman AFB	YES

Policy imperatives were applied to the outputs from the optimization model runs to determine core Electronic Combat T&E activities. Therefore, the scenario for Electronic Combat T&E consists of the following seven (7) activities:

- Army: Electronic Proving Ground, Ft Huachuca
- Navy: NAWC China Lake
NAWC Patuxent River
NAWC Point Mugu
- Air Force: AFDTC Eglin AFB
AFFTC Edwards AFB
AFDTC Holloman AFB

These seven (7) activities meet the policy imperatives and operational feasibility requirements as shown in Enclosure (2). A summary of the resulting DoD T&E capabilities for Electronic Combat is shown in Table 3 below with activities listed in alphabetical order within each TFC.

TABLE 3. RESULTING DoD T&E CAPABILITIES FOR ELECTRONIC COMBAT

ACTIVITY	TEST FACILITY CATEGORY / SUB- CATEGORY	CAPACITY IN TEST HOURS	PROJECTED WORKLOAD FY2001
Electronic Proving Ground, Ft Huachuca	DM&S	1010	246
		1010	246
Electronic Proving Ground, Ft Huachuca	MF-Communications	1008	
NAWC Patuxent River		218	
		1226	298
AFDTC Eglin AFB	MF-Environmental	4656	
Electronic Proving Ground, Ft Huachuca		775	
		5431	2174
Electronic Proving Ground, Ft Huachuca	MF-Electromagnetic	1626	
NSWC Crane		6301	
		7927	4929
AFDTC Holloman AFB	MF-Guidance	2400	1728
		2400	1728
AFDTC Holloman AFB	MF-Radar Cross Section	9920	
NAWC China Lake		3843	
		13763	6674
AFDTC Eglin AFB	MF-Signature	728	
NAWC Point Mugu		788	
		1516	826
AFFTC Edwards AFB	IL	5126	
NAWC China Lake		2458	
NAWC Point Mugu		850	
		8434	5317
AFDTC Buffalo (REDCAP)	HITL	1040	
AFDTC Ft Worth (AFEWES)		9130	
NAWC Point Mugu		420	
		10590	2833
AFDTC Eglin AFB	ISTF	2202	
NAWC Patuxent River		4550	
		6752	3604
AFFTC Edwards AFB	OAR	1200	
AFDTC Eglin AFB		1978	
Electronic Proving Ground, Ft Huachuca		861	
NAWC China Lake		1821	
		5860	2771

4. Installations in the Scenario

For Military Department consideration, Table 4 lists in alphabetical order the losing and gaining activities, the type of work which could be relocated, the amount of work at the losing activity, and the capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

TABLE 4. LOSING AND GAINING ACTIVITIES

ITEM	LOSING ACTIVITY	GAINING ACTIVITY	TYPE OF WORK	AMOUNT OF WORK	CAPACITY DELETED
1	AFDTC Buffalo (REDCAP)		HITL	86	1040
		AFFTC Edwards AFB			
		NAWC Point Mugu			
2	AFDTC Ft Worth (AFEWES)		HITL	2524	9130
		AFFTC Edwards AFB			
		NAWC Point Mugu			
3	NSWC Crane		MF-EM	4344	6301
		EPG, Ft Huachuca			
		NAWC Patuxent River			
TOTAL				6954	16471

Table 5 lists the T&E facilities under consideration for realignment at the losing activities.

TABLE 5. T&E FACILITIES AT LOSING ACTIVITIES

ACTIVITY	TTC	FACILITY
AFDTC Buffalo (REDCAP)	HITL	REDCAP
AFDTC Ft Worth (AFEWES)	HITL	AFEWES
NSWC Crane	MF-Environmental	Electronic Warfare Facility

5. Rationale for Realignment

a. **Measures of Merit:** Relocating REDCAP, AFEWES, and NSWC Crane's Electronic Warfare Facility reduces the number of activities involved in accomplishing testing from ten (10) to seven (7), potentially saving Operations & Maintenance (O&M) and Investment & Modernization (I&M) funds. The average Electronic Combat functional value increases from 40 to 50 as a result of this consolidation scenario. Table 6 below provides excess capacity reductions for Electronic Combat testing as well as what percentage of the maximum achievable reductions are realized with this scenario.

TABLE 6. EXCESS CAPACITY REDUCTIONS FOR ELECTRONIC COMBAT

TEST FACILITY CATEGORY	SUB-CATEGORY	ALTERNATIVE REDUCTION (TEST HOURS)	% MAXIMUM ACHIEVABLE REDUCTION *
Digital Models & Simulation (DM&S)	None		
Measurement Facilities	Communications/Antenna		
	Environmental		
	Electro-Magnetic Environmental Effects	2998	46%
	Guidance		
	Radar Cross-Section		
	Signature		
Integration Laboratories	None		
Hardware-In-The-Loop	None	1460	100%
Installed Systems Test Facility	None		
Open Air Ranges	None		

* See Enclosure (3) for maximum achievable reductions

6. Remarks

a. Cost Drivers:

(1) Potential MILCON - Approximately 25% of the EW Facilities MF-EM T&E could be moved to EPG with no MILCON. MILCON may be required for relocation of REDCAP and AFEWES capabilities, depending upon the gaining location. NAWC Patuxent River already accomplishes electromagnetic environmental effects T&E within the ACETEF, but may have to invest in expanding that capability in order to absorb the work from NSWC Crane

(2) Equipment moving costs - The major cost associated with disestablishing REDCAP and AFEWES involves the relocation of test capabilities not already existing elsewhere. Most unique REDCAP capabilities are moveable; these are generally the recently acquired and documented assets such as the SUAWACS simulator and the Battle Management Command and Control capability. AFEWES hybrid threat simulators having high utilization rates could be collocated with an EC ISTF. A cost savings could occur as many simulators already exist at core ISTF activities. AFEWES assets with low utilization rates should not be relocated as these capabilities exist elsewhere. Moving MF-EM workload to EPG, which matches current technical capability, would require no equipment moving costs.

(3) Support Facility Requirements - Gaining activities appear to have sufficient support facilities.

b. Impacts Associated with realignments: Impacts will occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY cost may be incurred to witness testing, and the need to transport test articles/items may

increase transportation costs. The relative percentage of facility use for Electronic Combat follows for each activity:

TABLE 7. RELATIVE PERCENTAGE OF USE OF LOSING FACILITIES

ACTIVITY	FACILITY	T&E	S&T	DE	IE	T&D	OTHER
AFDTC Buffalo	REDCAP	100%					
AFDTC Ft Worth	AFEWES	100%					
NSWC Crane	EW Facility	70%		5%	15%	10%	

INSTALLATION	ACTIVITY	TEST FACILITY CATEGORY / SUB-CATEGORY	CAPACITY IN TEST HOURS	WORKLOAD ASSIGNED IN THIS ALTERNATIVE
NAWC China Lake	NAWC China Lake	MF-R	3843	YES
		IL	2458	YES
		OAR	1821	YES
NSWC Crane	NSWC Crane	MF-EM	6301	NO
NAWC Patuxent River	NAWC Patuxent River	MF-C	218	YES
		ISTF	4550	YES
NAWC Point Mugu	NAWC Point Mugu	MF-S	788	YES
		IL	850	YES
		HITL	420	YES
Fort Huachuca	Electronic Proving Ground	DM&S	1010	YES
		MF-C	1008	YES
		MF-E	775	YES
		MF-EM	1626	YES
		OAR	861	YES
Eglin AFB	AFDTC	MF-E	4656	YES
		MF-S	728	YES
		ISTF	2202	YES
		OAR	1978	YES
Fort Worth, TX	AFDTC (AFEWES)	HITL	9130	NO
Edwards AFB	AFFTC	IL	5126	YES
		OAR	1200	YES
Holloman AFB	AFDTC	MF-G	2400	YES
		MF-R	9920	YES
Buffalo, NY	AFDTC (REDCAP)	HITL	1040	NO

Enclosure (1)

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DOCUMENTATION

Armament/Weapons

1. a. Control Number: A/W-001
 b. Short Title: Armament/Weapons T&E
 c. Date: 8 November 1994
 d. Joint Group: Test & Evaluation Joint Cross Service Group

2. Baseline for Armament/Weapons T&E

A summary of the Armament/Weapons activities which were included in the analysis is provided at Enclosure (1). The capacities for each Test Facility Category (TFC) and sub-category at each activity are provided as well as the TFC and sub-category projected workload requirements. The TE facilities which were included in the analysis, the support facilities, and the facilities which were excluded from analysis based on workload percentage, test hours, and service unique determination are summarized in Attachment (1) to the cover memorandum. Table 1 displays the summary level projected workload and capacity requirements which were provided as inputs to the optimization model and used by the JCSG to insure capability/capacity fit.

TABLE 1. ARMAMENT/WEAPONS PROJECTED WORKLOAD REQUIREMENT & CAPACITY

TEST FACILITY CATEGORY	SUB-CATEGORY	REQUIREMENTS (TEST HOURS)	CAPACITIES (TEST HOURS)
Digital Models & Simulation	None	55,305	93,574
Measurement Facilities	Environmental	56,129	142,303
	Electromagnetic	2,096	3,626
	Guidance	44,228	86,726
	Guns/Ordnance	14,296	27,344
	Propulsion	6,801	17,312
	Sled Tracks	2,608	5,944
Integration Laboratories	None	13,368	26,854
Hardware-in-the-Loop	None	52,667	76,680
Installed System Test Facilities	None	792	1,374
Open Air Ranges	None	31,742	68,857
TOTAL		280,032	1,101,188

3. Scenario Description

The following thirteen (13) Armament/Weapons T&E activities were evaluated by the T&E JCSG. Major Range and Test Facility Bases (MRTFB's) are noted.

TABLE 2. ACTIVITIES IN THE ARMAMENT/WEAPONS T&E ANALYSIS

DEPARTMENT	ACTIVITY	MRTFB
ARMY	Redstone Technical Test Center	
	White Sands Missile Range	YES
	Yuma Proving Ground	YES
NAVY	NAWC-China Lake	YES
	NAWC-Patuxent River	YES
	NAWC-Pt. Mugu	YES
	NAWC-WSMR	
	NSWC-Crane	
	NSWC-Dahlgren	
	NSWC-Indian Head	
AIR FORCE	AEDC, Arnold AFB	YES
	AFDTC, Eglin AFB	YES
	AFDTC, Holloman AFB	YES

Policy imperatives were applied to the outputs from the optimization model runs to determine core Armament/Weapons T&E activities. The scenario for Armament/Weapons T&E consists of the following nine (9) activities:

ARMY: White Sands Missile Range, NM
Yuma Proving Ground, AZ

NAVY: NAWC-China Lake, CA
NAWC-Patuxent River, MD
NAWC-Pt. Mugu, CA
NAWC-WSMR, NM

AIR FORCE: AEDC, Arnold AFB, TN
AFDTC, Eglin AFB, FL
AFDTC, Holloman AFB NM

These nine (9) activities meet the policy imperatives and operational feasibility requirements as shown in Enclosure (2). A summary of the resulting DOD T&E capabilities for Armament/Weapons T&E is shown in Table 3 below with installations listed in alphabetical order within each TFC.

TABLE 3. RESULTING DOD T&E CAPABILITIES FOR ARMAMENT/WEAPONS

ACTIVITY	TEST FACILITY CATEGORY / SUBCATEGORY	CAPACITY IN TEST HOURS	PROJECTED WORKLOAD FY2001
AFDTC Eglin AFB	DMS	57,820	
NAWC China Lake		27,672	
NAWC Pt. Mugu		8,082	
		93,574	55,305
NAWC China Lake	MF-Environment	35,419	
NAWC Pt. Mugu		72,053	
WSMR White Sands NM		18,300	
YPG Yuma AZ		201	
		125,973	56,129
NAWC Pt. Mugu	MF-Electromag.	1,700	
WSMR White Sands NM		915	
		2,615	2,096
AFDTC Eglin AFB	MF-Guidance	14,045	
AFDTC Holloman AFB		23,000	
NAWC China Lake		17,310	
NAWC Pt Mugu		1,652	
		56,007	44,228
AFDTC Eglin AFB	MF-Guns/Ordnance	12,870	
NAWC China Lake		12,254	
		25,124	14,296
AEDC Arnold AFB	MF-Propulsion	9,266	
NAWC China Lake		6,046	
		15,312	6,801
AFDTC Eglin AFB	MF-Sled Tracks	3,764	
AFDTC Holloman AFB		787	
NAWC China Lake		1,393	
		5,944	2,608
NAWC China Lake	IL	14,938	
NAWC Pt. Mugu		11,916	
		26,854	13,368
AFDTC Eglin AFB	HITL	18,611	
NAWC China Lake		3,167	
NAWC Pt. Mugu		54,902	
		76,680	52,667

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ACTIVITY	TEST FACILITY CATEGORY / SUBCATEGORY	CAPACITY IN TEST HOURS	PROJECTED WORKLOAD FY2001
AFDTC Eglin AFB	ISTF	443	
NAWC Patuxent River		931	
		1,374	792
AFDTC Eglin AFB	OAR	16,036	
NAWC China Lake		3,986	
NAWC Pt. Mugu		11,609	
WSMR White Sands NM		28,116	
NAWC White Sands NM		3,925	
YPG Yuma AZ		3,997	
		67,669	31,742

4. Installations in the Scenario

For Military Department consideration, Table 4 lists the losing and gaining activities, the type of work which could be relocated, the amount of work at the losing activity, and the capacity which could be deleted. The potential gaining activities are listed in alphabetical order.

TABLE 4. LOSING AND GAINING SITES/ACTIVITIES

ITEM NUMBER	LOSING ACTIVITY	GAINING ACTIVITY	TYPE OF WORK	AMOUNT OF WORK	CAPACITY DELETED
1	NSWC Crane		MF-Env	153	360
		NAWC China Lake			
		NAWC Pt. Mugu			
		WSMR White Snds			
		YPG Yuma AZ			
2	NSWC Indian Head		MF-Env	1,152	1,600
		NAWC China Lake			
		NAWC Pt. Mugu			
		WSMR White Snds			
		YPG Yuma, AZ			
3	RTTC Redstone Arsenal		MF-Env	9,749	14,370
		NAWC China Lake			
		NAWC Pt. Mugu			
		WSMR White Snds			
		YPG Yuma AZ			
4	NSWC Dahlgren		MF-EM	684	1,011
		NAWC Pt. Mugu			
		WSMR White Snds			

ITEM NUMBER	LOSING ACTIVITY	GAINING ACTIVITY	TYPE OF WORK	AMOUNT OF WORK	CAPACITY DELETED
5	RTTC Redstone Arsenal		MF-G	20,340	30,719
		AFDTC Eglin AFB			
		AFDTC Holloman			
		NAWC China Lake			
		NAWC Pt. Mugu			
6	NSWC Crane		MF-GO	989	1,680
		AFDTC Eglin AFB			
		NAWC China Lake			
7	NSWC Dahlgren		MF-GO	270	540
		AFDTC Eglin AFB			
		NAWC China Lake			
8	NSWC Indian Head		MF-P	1,044	2,000
		AEDC Arnold AFB			
		NAWC China lake			
9	RTTC Redstone Arsenal		OAR	786	1,188
		AFDTC Eglin AFB			
		NAWC China Lake			
		NAWC Pt. Mugu			
		WSMR White Sands			
		NAWC White Sands			
		YPG Yuma AZ			
TOTAL				35,167	53,468

Table 5 lists the T&E facilities under consideration for realignment at the losing activities.

5. T&E FACILITIES AT LOSING ACTIVITIES.

ACTIVITY	TFC	FACILITY
NSWC Crane	MF-Environmental	Automated Infrared Test
	MF-Guns/Ordnance	Ordnance Test Area
	MF-Guns/Ordnance	Transient Velocity Windstream Apparatus
NSWC Indian Head	MF-Environmental	Environmental Test
	MF-Propulsion	Propulsion Component Test
NSWC Dahlgren	MF-Electromagnetic	Electromagnetic Vulnerability Assessment
	MF-Guns/Ordnance	Explosive Experimental Area
RTTC Redstone Arsenal	MF-Environmental	Non-Destructive and Natural Environment
	MF-Environmental	Induced Environmental
	MF-Guidance	Component Test
	Open Air Ranges	Small Missile Range

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5. **Rationale for Realignment**

a. **Measures of Merit:** Realigning Armament/Weapons T&E reduces the number of activities involved in accomplishing testing from thirteen (13) to nine (9), potentially saving Operations and Maintenance (O&M) and Investment and Modernization (I&M) funds. The average Armament/Weapons T&E functional value increases from 38 to 47 as the result of this consolidation scenario. Table 6 below provides excess capacity reductions for Armament/Weapons testing as well as what percentage of the reduction potential (without regard to capability fit) are realized with this scenario.

TABLE 6. EXCESS CAPACITY REDUCTIONS FOR ARMAMENT/WEAPONS T&E.

TEST FACILITY CATEGORY	SUB-CATEGORY	CAPACITY REDUCTION	% REDUCTION POTENTIAL
Digital Models & Simulation	None	None	0%
Measurement Facilities	Environmental	16,330	
	Electromagnetic	1,011	
	Guidance	30,719	
	Guns/Ordnance	2,220	
	Propulsion	2,000	
	Sled Tracks	None	
	TOTAL MF		37%
Integration Laboratories	None	None	0%
Hardware-in-the-Loop	None	None	0%
Installed System Test Facilities	None	None	0%
Open Air Ranges	None	1,188	3%
TOTAL		53,468	22%

* See Enclosure (3) for reduction potentials in test hours.

6. **Remarks**

a. **Cost Drivers:**

(1) **Potential MILCON:** Gaining activities appear to have sufficient capability and work areas to add the realigned workload without a requirement for MILCON. However, a more detailed evaluation of the electromagnetic capabilities is required.

(2) **Equipment Transportation:** Moving equipment, such as robotic pyrotechnic loading devices, air flow devices, and electrostatic discharge (ESD) equipment, may be required. Selection of receiving activity(ies) will determine the amount of equipment which needs to be moved.

(3) **Support Facility Requirements:** Gaining activities appear to have sufficient support facilities.

b. Impacts Associated with Realignments: Impacts will occur to the S&T, Development Engineering (DE), and In-service Engineering (IE) activities which are customers of the T&E facilities. Increased TDY costs will be incurred to witness testing, and the need to transport test articles/items may increase transportation costs. The relative percentage of facility use for Armament/Weapons follows for each activity:

(1) NSWC-Crane:

FACILITY	T&E	S&T	DE	IE
Automated IR Test	80%	2%	18%	
Ordnance Test	80%	5%	10%	5%
Transient Velocity Windstream Apparatus	50%	10%	40%	

(2) NSWC-Dahlgren:

FACILITY	T&E	S&T	DE	IE	OTHER
EM Vulnerability Assessment	24%	2%	4.8%	33%	
Explosive Experimental Area	15%	50%	30%		5%

(3) NSWC-Indian Head:

FACILITY	T&E	S&T	DE	IE
Environmental Test	10%	20%	50%	20%
Propulsion Component Test	50%	10%	30%	10%

(4) Redstone Technical Test Center:

FACILITY	T&E	S&T	DE	IE
Induced Environments	23.6%		1.2%	4.4%
Non-Destructive & Natural Environment	11.5%		0.9%	9.6%
Component Test	29.4%	1.3%		16.0%
Small Missile Range	8.8%	0.7%	0.5%	

7. Additional Consolidation Opportunities for Military Department Consideration

The nine (9) activity scenario described in Sections 1 through 6 above focuses on activity consolidation. If an activity is maintained in the scenario, then all of the activity's T&E facilities are maintained. This leads to the following Armament/Weapons T&E locations which are listed in alphabetical order in Table 7 below:

TABLE 7. LOCATION OF ARMAMENT/WEAPONS T&E CAPABILITIES

ACTIVITY	DMS	MF	IL	HITL	ISTF	OAR
AEDC, Arnold		X				
AFDTC, Eglin	X	X		X	X	X
AFDTC, Holloman		X				
NAWC, China Lake	X	X	X	X		X
NAWC, Patuxent River					X	
NAWC, Pt. Mugu	X	X	X	X		X
NAWC at WSMR						X
WSMR, White Sands NM		X				X
YPG, Yuma AZ		X				X

Additional consolidation opportunities exist at the TFC level, because each TFC is supported by more than one activity and further reductions of excess capacity can be identified. The following additional option for Armament/Weapons T&E consolidation warrants consideration by the Military Departments.

- a. Reduce the number of Open Air Ranges which provide Armament/Weapons T&E.
- b. Consolidate DMS, MF, IL, HITL, and ISTF facilities to the maximum extent possible and cost effective into the remaining MRTFB activities.
- c. To the maximum extent possible and cost effective, realign workload out of activities which support only one TFC.

BASELINE FOR ARMAMENT/WEAPONS

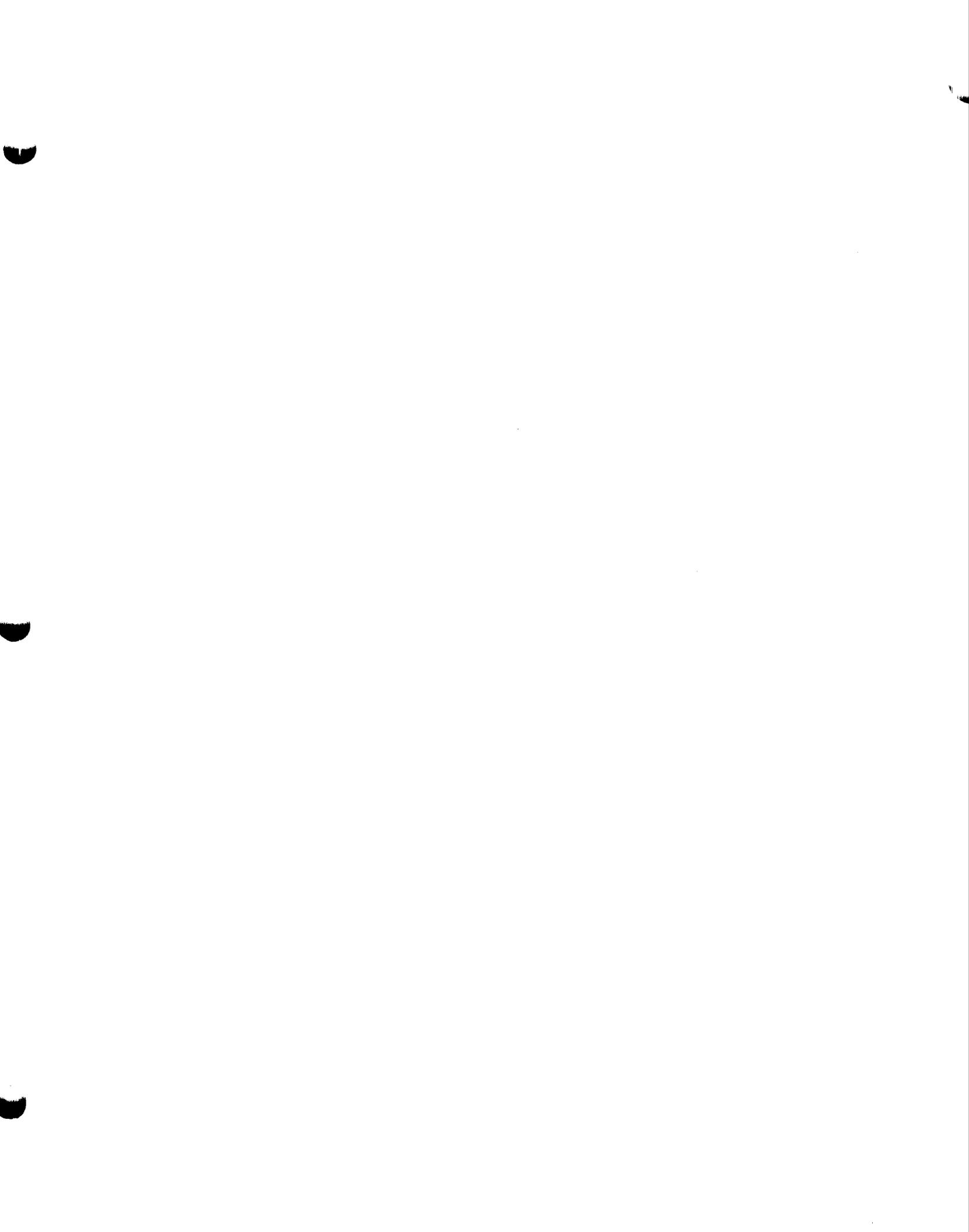
INSTALLATION	ACTIVITY	TEST FACILITY CATEGORY/ SUBCATEGORY	CAPACITY IN TEST HOURS	PROJECTED WORKLOAD FY 2001
China Lake	China Lake	DMS	27,672	
Eglin AFB	AFDTC		57,820	
Pt. Mugu	Pt. Mugu		8,082	
			93,574	55,305
China Lake	China Lake	HITL	3,167	
Eglin AFB	AFDTC		18,611	
Pt. Mugu	Pt. Mugu		54,902	
			76,680	52,667
China Lake	China Lake	IL	14,938	
Pt. Mugu	Pt. Mugu		11,916	
			26,854	13,368
Eglin AFB	AFDTC	ISTF	443	
Pax River	Pax River		931	
			1,374	792
China Lake	China Lake	MF-Environment	35,419	
Crane	Crane		360	
Indian Hd	Indian Hd		1,600	
Pt. Mugu	Pt. Mugu		72,053	
Redstone	RTTC		14,370	
White Sands	WSMR		18,300	
Yuma	YPG		201	
			142,303	56,129
Dahlgren	Dahlgren	MF-Electromag.	1,011	
Pt. Mugu	Pt. Mugu		1,700	
White Sands	WSMR		915	
			3,626	2,096
China Lake	China Lake	MF-Guidance	17,310	
Eglin AFB	AFDTC		14,045	
Holloman	AFDTC, 46TG		23,000	
Pt. Mugu	Pt. Mugu		1,652	
Redstone	RTTC		30,719	
			86,726	44,228

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BASELINE FOR ARMAMENT/WEAPONS

INSTALLATION	ACTIVITY	TEST FACILITY CATEGORY/ SUBCATEGORY	CAPACITY IN TEST HOURS	PROJECTED WORKLOAD FY 2001
China Lake	China Lake	MF-Guns/Ordn	12,254	
Crane	Crane		1,680	
Dahlgren	Dahlgren		540	
Eglin AFB	AFDTC		12,870	
			27,344	14,296
Arnold AFB	AEDC	MF-Propulsion	9,266	
China Lake	China Lake		6,046	
Indian Hd	Indian Hd		2,000	
			17,312	6,801
China Lake	China Lake	MF-Sled Tracks	1,393	
Eglin AFB	AFDTC		3,764	
Holloman	AFDTC, 46TG		787	
			5,944	2,608
China Lake	China Lake	OAR	3,986	
Eglin AFB	AFDTC		16,036	
Pt. Mugu	Pt. Mugu		11,609	
Redstone	RTTC		1,188	
White Sands	WSMR		28,116	
White Sands	NAWC		3,925	
Yuma	YPG		3,997	
			68,857	31,742
			1,101,188	280,032

15



BRAC 95

Joint Cross-Service Group on Test & Evaluation

Wednesday, November 16, 1994

Minutes

The BRAC 95 Joint Cross-Service Group on Test and Evaluation convened at 1000. Mr. Philip Coyle and Mr. John Burt chaired the meeting. The list of attendees and handouts are attached.

The meeting began with a report from the IG representative on the audit being performed at five sites on the documentation to support the request for clarifications (RFCs) provided during the process. He stated that 4 of 5 teams are complete and no problems were encountered. The fifth site, however, had problems with supporting documentation when respondents used military judgment to answer RFCs. Although this is not indicative that responses are invalid, the respondent should have documented the use of military judgment. The final team report should be complete by the end of the week.

The subgroup then briefed the status of the constrained optimization model run using military value. They stated the Military Departments released military value today and they will run the model using a weight on military value equal to 95. They said there is an issue with the assignment of military value for tenants and T&E activities at non-government locations that needs a JCSG decision. After a discussion of where this issue applies, the Group decided that tenant units/organizations will use the military value assigned to the host command at the installation or of the parent organization/base if it is an activity not collocated with their higher headquarters. For activities on non-government locations the military value assigned will be the lowest value.

The subgroup then presented a summary of alternatives showing which activities fall into the "core" sites and which activities by functional area are affected. The discussion then turned to overall impact (i.e. how much capacity has been reduced). The results showed that considerable excess capacity will remain in each functional area.

The subgroup then discussed their plan for archiving records in the TEC Facility. The subgroup asked that OSD representatives make themselves available in the next few weeks as the workload diminishes so they can complete archiving.

Discussion then turned to a crosswalk of alternatives between the Laboratory JCSG and the T&E JCSG. The main question was who in this group would perform the interaction. After discussing the pros and cons (which centered on availability of personnel) the Group decided that the JCSG functionals, not the subgroup, will perform this function. The Chairs stated that they

will determine who will consult with the Lab JCSG. This crosswalk is scheduled to be completed by Nov 18.

The final subgroup topic centered on future support. The completion of the constrained run will be the final task for most members of the subgroup. Only a few will stay around to finalize any differences between the constrained and unconstrained alternatives, although none are expected. The remaining members will be released to their Services and requests for manpower assistance will be channeled through the appropriate JCSG Service principal.

The next was presented by Mr. Boyles on the functional value scoring process. The JCSG methodology for determining functional value based scoring on the certified data and output of the DPAD model. At issue here is how activities claimed and certified airspace and subsequently how the JCSG scored the data. Because the Services defined airspace differently, their functional value outcome had the appearance of discrimination of how airspace was handled. The Chairs directed a sensitivity analysis called the "Reasonable Man" Approach to determine if there were any inconsistencies that result in significant differences in functional value. Mr. Boyles stated that the initial approach taken was to do a "quick look" estimate of restricted airspace and then to manually calculate the functional value. The initial look showed no significant difference to the original functional value scores. This was subsequently verified using the DPAD model and the "Reasonable Man" airspace measures. The team determined airspace using 150 nautical miles radius for the AV and AW areas and 200 nautical miles for EC. The team then used FAA Order 7400.8B for determining special use airspace and NOAA maps for references. The accompanying slides further defines how these were applied to measuring the airspace. The data was then input into the DPAD model and resulted in generally the same functional values as the manual calculations. The DoDIG representatives then replicated the procedure and validated the results.

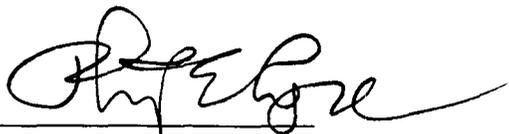
The Navy representatives pointed out that although the limited application of this "Reasonable Man" approach did not change the functional value order, it did show movement in the direction of results that meet a true test of reasonableness. The Navy further pointed out that if the "Reasonable Man" approach were applied to all the scoring areas that would actually be affected (i.e. topography, amount of supersonic airspace, altitude, straightline segments, etc.) then there would be significant changes in the functional value results. The Navy voiced their objection to using the functional values as currently scored, but stated that they would abide by the decision of the Co-Chairs on how to proceed, regardless of their decision.

The final discussion centered on preparation of final alternatives once the constrained run is complete. Once the subgroup completes the comparison of the unconstrained and constrained runs, they will report changes to the JCSG. If there are no differences in the optimization output,

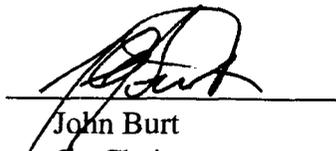
the completed alternatives will be coordinated with JCSG principals and then signed out to the Military Departments by the Chairs.

There being no other items for discussion, the meeting adjourned at 1130.

Approved:



Philip Coyle
Co-Chairman



John Burt
Co-Chairman

Attachments

BRAC 95

Joint Cross-Service Group on Test & Evaluation

November 16, 1994

List of Attendees

Mr. Philip Coyle, Co-Chair
Mr. John Burt, Co-Chair
Mr. Nick Toomer, Co-Study Team Leader
Mr. John Bolino, Co-Study Team Leader
LTG (Ret) Howard Leaf, Air Force
Dr. Dan Stewart, Air Force
Mr. Parker Horner, Air Force
Mr. Doug Nation, Air Force
Lt Col George London, Air Force
Mr. John Gehrig, Army
Mr. Gary Holloway, Army
CAPT Dave Rose, Navy
CDR Mark Samuels, Navy
Mr. Don DeYoung, Navy
Mr. Mike McAndrew, ODASD(I) BCU
Mr. Irv Boyles, OSD DTSE&E
Mr. Joe Moore, DOT&E
MAJ Rob Pope, DDR&E(LM)
Mr. David Vincent, DoD IG
Ms. Barbara Moody, DoDIG
Mr. Dave Hennessey, OUSD(C)

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**T&E
JOINT CROSS-SERVICE GROUP
MEETING**

16 NOV 94

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T&E JCSG MEETING AGENDA

16 NOVEMBER 1994

- **FUNCTIONAL VALUE SENSITIVITY ANALYSIS** **OSD**
- **DoD IG FIELD AUDIT (RFCs) RESULTS** **DoD IG**
- **JCSWG STATUS** **JCSWG**
 - **CONSTRAINED MODEL RUN**
 - **ALTERNATIVES (AV, EC, A/W)**
 - **CORE ACTIVITIES**
 - **EXCESS CAPACITY**
 - **ANALYSIS PLAN EXECUTION**
 - **DATA ARCHIVES**
- **ISSUES** **JCSWG**

CONSTRAINED OPTIMIZATION MODEL RUN

- MILITARY VALUES PROVIDED 16 NOV 94
- RUN MODEL WITH $W=95$
- ISSUE WITH ASSIGNMENT OF MV FOR TENANTS AND T&E ACTIVITIES AT NON-GOVERNMENT LOCATIONS

OPTIMIZATION MODEL RESULTS - AV, EC, and A

MIN SITES = 13

ACTIVITY	MAXSFV (W=0)	MIN SITES (W=95)	MAXSFV (W=0, NSITE)	MINXCAP (W=100)	MAXSFV (W=100, NSITE)	MIN MV (W=95)
Arnold	X	X	X	-	X	X
Edwards	X	X	X	X	X	X
AFEWES	X	X	X	X	X	X
Eglin	X	X	X	X	X	X
Holloman	X	X	X	X	X	X
REDCAP	-	-	-	-	-	-
UTTR	-	-	-	-	-	-
Tyndall	-	-	-	-	-	-
China Lake	X	X	X	X	X	X
Dahlgren	X	X	X	X	X	X
Indian Head	-	-	-	-	-	-
Indianapolis	X	X	X	X	X	X
Crane	X	X	X	X	X	X
NAWC - WSMR	-	-	-	-	-	-
Patuxent	X	X	X	X	X	X
Point Mugu	X	X	X	X	X	X
Warminster	-	-	-	-	-	-
ATTC - Fort Rucker	-	-	-	-	-	-
ATTC - Edwards AFB	-	-	-	-	-	-
EPG	X	X	X	X	X	X
RTTC	-	-	-	-	-	-
YPG	X	X	X	X	X	X
WSMR	X	X	X	X	X	X
Number of activities	14	13	13	13	13	13
Weighted FV	2120	2120	2120	2002	1950	1950
Excess Capacity	45%	45%	44%	32%	38%	38%

Issue: Assignment of MV to Tenants Activities and Activities Located on Non-Government Facilities

- **Navy did not assign a separate MV for NAWC WSMR. Since it is a detachment of NAWC China Lake the Navy would assign the same MV band.**
- **Air Force did not assign MV's for RED CAP and AFEWES since they are not on DoD property. Air Force would assign the lowest MV band**
- **Army did not assign MV to AQTD Edwards AFB. Army would assign MV band of the host AFFTC Edwards AFB**

OPTIONS

TENANTS

1. Use MV of Host for Tenant
 - Inconsistent with Navy's Input
 - Satisfactory with Army and AF
2. Use MV of Parent Organization/Base
 - Consistent with Navy's Input and Preferred by Navy
 - Inconsistent with "Base Focus" of BRAC (AF and Army)

NON-GOVERNMENT INSTALLATIONS

1. Assign MV=0
 - MV Not Relevant to Non-Government Installations
2. Assign MV=1
 - Acknowledge Relevance, but assigns Low Value

T&E JCSG ALTERNATIVES SUMMARY

ACTIVITY	AV	EC	A/W
ARMY			
AQTD-Edwards	REALIGN		
ATTC- Fort Rucker	REALIGN		
RTTC-Redstone Arsenal			REALIGN
WSMR			CORE
WSMR-EPG	CORE	CORE	
YPG	CORE		CORE
NAVY			
NAWC-China Lake	CORE	CORE	CORE
NAWC-Indianapolis	REALIGN		
NAWC-Patuxent River	CORE	CORE	CORE
NAWC-Point Mugu	CORE	CORE	CORE
NAWC-Warminster	REALIGN		
NAWC-WSMR			CORE
NSWC-Crane		REALIGN	REALIGN
NSWC-Dahlgren	REALIGN		REALIGN
NSWC-Indian Head			REALIGN
AIR FORCE			
AFDTC-REDCAP		REALIGN	
AFDTC-Eglin	CORE	CORE	CORE
AFDTC-Holloman	CORE	CORE	CORE
AFDTC-AFEWES		REALIGN	
AFFTC-Edwards	CORE	CORE	
AFFTC-UTTR	CORE		
AEDC-Tulahoma	CORE		CORE
476 WEG-Tyndall	REALIGN		

AV ALTERNATIVE

CORE ACTIVITIES

ARMY: Electronic Proving Ground, Ft. Huachuca, AZ
Yuma Proving Ground, AZ

NAVY: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Pt. Mugu, CA

AIR FORCE: AFDTC Eglin AFB, FL
AFFTC Edwards AFB, CA
AFDTC Holloman AFB, NM
AEDC Arnold AFB, TN
Utah Test and Training Range, UT

REALIGNMENTS

ARMY: AQTD Edwards AFB, FL
ATTC Ft. Rucker, AL

NAVY: NSWC Dahlgren, VA
NAWC Indianapolis, IN
NSWC Warmister, PA

AIR FORCE: 476 WEG Tyndall AFB, FL

EC ALTERNATIVE

CORE ACTIVITIES

ARMY: Electronic Proving Ground, Ft. Huachuca, AZ

NAVY: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Pt. Mugu, CA

AIR FORCE: AFDTC Eglin AFB, FL
AFFTC Edwards AFB, CA
AFDTC Holloman AFB, NM

REALIGNMENTS

ARMY: None

NAVY: NSWC Crane, IN

AIR FORCE: AFDTC Buffalo (REDCAP), NY
AFDTC Ft. Worth (AFEWES), TX

EC**TABLE 4. LOSING AND GAINING ACTIVITIES**

CONTROL NUMBER	LOSING ACTIVITY	POTENTIAL GAINING ACTIVITY	TFC	WORKLOAD REALIGNED (test hours)	EXCESS CAPACITY DELETED (test hours)
TE-1(EC)	AFDTC Buffalo (REDCAP)		HITL	86	1040
		AFFTC Edwards AFB①			
		NAWC Point Mugu			
		NAWC Patuxent River			
TE-2(EC)	AFDTC Ft Worth (AFEWES)		HITL	2524	9130
		AFFTC Edwards AFB①			
		NAWC Point Mugu			
		NAWC Patuxent River			
TE-3(EC)	NSWC Crane		MF-EM	4344	6301
		EPG, Ft Huachuca			
		NAWC Patuxent River②			
TOTAL				6954	16471

① 3AA(?) at Edwards
 ② A>TE at PAX

A/W ALTERNATIVE

CORE ACTIVITIES

ARMY: White Sands Missile Range, NM
Yuma Proving Ground, AZ

NAVY: NAWC China Lake, CA
NAWC Patuxent River, MD
NAWC Pt. Mugu, CA
NAWC WSMR, NM

AIR FORCE: AEDC Arnold AFB, TN
AFDTC Eglin AFB, FL
AFDTC Holloman AFB, NM

REALIGNMENTS

ARMY: RTTC Redstone Arsenal, AL

NAVY: NSWC Crane, IN
NSWC Dahlgren, VA
NSWC Indian Head, MD

AIR FORCE: None

A/w

TABLE 4. LOSING AND GAINING ACTIVITIES

CONTROL NUMBER	LOSING ACTIVITY	POTENTIAL GAINING ACTIVITY	TFC	PROJECTED WORKLOAD (TEST HOURS)	CAPACITY DELETED (TEST HOURS)
TE-1(AW)	NSWC Crane		MF-E	153	360
		NAWC China Lake			
		NAWC Point Mugu			
		WSMR			
		YPG			
			MF-GO	989	1,680
		NAWC China Lake			
		AFDTC Eglin AFB			
TE-2(AW)	NSWC Dahlgren		MF-EM	684	1,011
		NAWC Point Mugu			
		WSMR			
			MF-GO	270	540
		NAWC China Lake			
		AFDTC Eglin AFB			
TE-3(AW)	NSWC Indian Head		MF-E	1,152	1,600
		NAWC China Lake			
		NAWC Point Mugu			
		WSMR			
		YPG			

A/w

TABLE 4. LOSING AND GAINING ACTIVITIES (Cont'd)

CONTROL NUMBER	LOSING ACTIVITY	POTENTIAL GAINING ACTIVITY	TFC	PROJECTED WORKLOAD (TEST HOURS)	CAPACITY DELETED (TEST HOURS)
TE-3(AW)			MF-P	1,044	2,000
(Cont'd)		AEDC Arnold AFB			
		NAWC China Lake			
TE-4(AW)	RTTC Redstone Arsenal		MF-E	9,749	14,370
		NAWC China Lake			
		NAWC Point Mugu			
		WSMR			
		YPG			
			MF-G	20,340	30,719
		NAWC China Lake			
		AFDTC Eglin AFB			
		AFDTC Holloman AFB			
		NAWC Point Mugu			
			OAR	786	1,188
		NAWC China Lake			
		AFDTC Eglin AFB			
		NAWC Point Mugu			
		WSMR			
		NAWC WSMR			
		YPG			
TOTAL				35,167	53,468

EXCESS CAPACITY - AIR VEHICLES

Test Facility Category	Workload (test hours)	Existing Capacity (test hours)		Excess Capacity (test hours)		Excess Capacity Reductions (test hours)	
		All activities	Core activities	All Activities	Core Activities	Potential (w/o capability fit)	All Alternatives
DM&S	1,273	3,380	1,987	2,107	714	1,987	0
MF-A	2,631	6,155	6,155	3,524	3,524	3,383	0
MF-C	1,136	2,091	2,091	955	955	880	0
MF-E	23,158	35,314	12,096	12,156	-11,062*	12,096	6,894
MF-EM	943	3,347	0	2,404	-943*	0	0
MF-G	30,719	47,487	47,487	16,768	16,768	5,287	0
MF-P	25,854	37,155	37,155	11,301	11,301	4,815	0
MF-ST	170	614	614	444	444	0	0
IL	81,806	138,167	123,879	56,361	42,073	28,167	4,242
HITL	114,171	166,054	163,371	51,883	49,200	28,496	2,683
ISTF	9,674	16,087	16,087	6,413	6,413	1,968	0
OAR	27,578	53,761	39,085	26,183	11,507	26,137	14,676

* Existing capacity at core activities less than projected workload requirement; alternatives based on increasing capacity at core sites to accommodate total workload within this category.

EXCESS CAPACITY - ELECTRONIC COMBAT

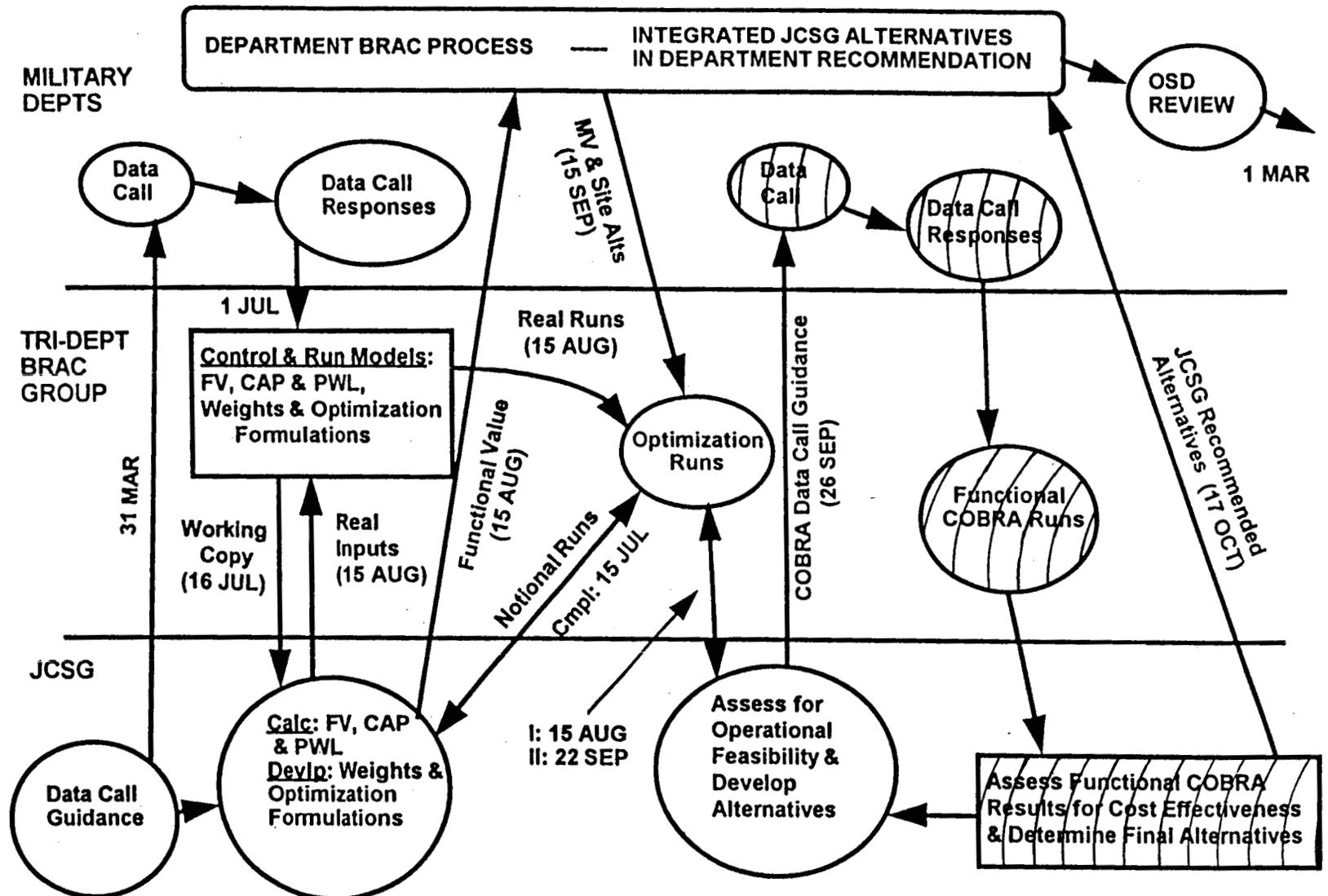
Test Facility Category	Workload (test hours)	Existing Capacity (test hours)		Excess Capacity (test hours)		Excess Capacity (test hours)	
		All activities	Core activities	All Activities	Core Activities	Potential (w/o capability fit)	All Alternatives
DM&S	246	1,010	1,010	764	764	0	0
MF-C	298	1,226	1,226	928	928	218	0
MF-E	2,174	5,431	5,431	3,257	3,257	775	0
MF-EM	4,929	7,927	1,626	2,998	-3,303*	1,626	6,301*
MF-G	1,728	2,400	2,400	672	672	0	0
MF-R	6,674	13,763	13,763	7,089	7,089	3,843	0
MF-S	826	1,516	1,516	690	690	0	0
IL	5,317	8,434	8,434	3,117	3,117	3,100	0
HITL	2,833	10,590	420	7,757	-2,413*	1,460	10,170*
ISTF	3,604	6,752	6,752	3,148	3,148	2,202	0
OAR	2,771	5,860	5,860	3,089	3,089	3,021	0

* Existing capacity at core activities less than projected workload requirement; alternatives based on utilizing capacity at core sites in other functional areas and test facility categories.

EXCESS CAPACITY - ARMAMENT / WEAPONS

Test Facility Category	Workload (test hours)	Existing Capacity (test hours)		Excess Capacity (test hours)		Excess Capacity Reductions (test hours)	
		All activities	Core activities	All Activities	Core Activities	Potential (w/o capability fit)	All Alternatives
DM&S	55,305	93,574	93,574	38,269	38,269	35,754	0
MF-E	56,129	142,303	125,973	86,174	69,844	86,122	16,330
MF-EM	2,096	3,626	2,615	1,530	519	1011	1,011
MF-G	44,228	86,726	56,007	42,498	11,779	42,494	30,719
MF-GO	14,296	27,344	25,124	13,048	10,828	13,044	2,220
MF-P	6,801	17,312	15,312	10,511	8,511	10,501	2,000
MF-ST	2,608	5,944	5,944	3,336	3,336	2,180	0
IL	13,368	26,854	26,854	13,486	13,486	13,346	0
HITL	52,667	76,680	76,680	24,013	24,013	23,880	0
ISTF	792	1,374	1,374	582	582	443	0
OAR	31,742	68,857	67,669	37,115	35,927	37,112	1,188

JOINT ANALYSIS PROCESS



Phases: I: UNCONSTRAINED
II: MV CONSTRAINED

- ANALYSIS TO BE DEFERRED TO MILDEPS

ANALYSIS PLAN EXECUTION

- ANALYSIS TO BE DEFERRED TO MILDEPS
 - COST EFFECTIVENESS/ROI (COBRA)
 - COMPREHENSIVE OPERATIONAL FEASIBILITY ANALYSIS
 - CAPABILITY SHORTFALLS
 - CONCEPTS OF OPERATION
 - MILCON
 - PERSONNEL MOVEMENTS

T&E JCSG DATA ARCHIVES

ITEM	DESTROY AFTER DELIVERY OF ALTERNATIVES TO MILDEPs	RECOMMENDED RETENTION		STATUS OF DOCUMENTATION
		TEMPORARY	PERMANENT	
Data Calls (Initial and Supplemental)			X	Complete
Certified Data Call Responses (Basic changes, and RFC's, Phone logs, MFRs, etc.)			X	Complete
Analysis Plan			X	Complete
Activity and Facility Exclusions (Memorandum)			X	Complete
Functional Area Scoring Books (Working Papers)	X			Complete
JCSWG Working Files	X	X		In Work
Functional Area Scoring Books and Procedures			X	In Work
Functional Value Computations (Spreadsheets and D-PAD)			X	Complete
Optimization Model Run Requests (Including input data)		X	X	In Work
Optimization Model Outputs		X	X	In Work
Alternatives			X	In Work

ISSUES

- PROCEDURES FOR ACCESS TO DATA BY MILDEPS
- CROSSWALK WITH LJCSG
- FUTURE JCSWG SUPPORT

MILDEP ACCESS TO T&E JCSG DATA

- DATA TO MILDEP BRAC PERSONNEL ON AUTHORIZATION LIST PROVIDED BY MILDEP BRAC OFFICES
- ALL DATA IN T&E JCSG ARCHIVES (TEMPORARY OR PERMANENT) AVAILABLE
- USE PROCEDURES SIMILAR TO LJCSG FOR COPYING AND LOGGING OF MILDEP ACCESS
- INCLUDE PROCEDURES IN TRANSMITTAL LETTER FOR ALTERNATIVES

CROSSWALK WITH LJCSG

- T&E FUNCTIONALS TO REVIEW LJCSG ALTERNATIVES
- IDENTIFY REALIGNMENT OPPORTUNITIES
- COMPLETE CROSSWALK BY 18 NOV 94

FUTURE T&E JCSWG SUPPORT

- CURRENT SUPPORT COMPLETE BY 18 NOV 94
- FUTURE SUPPORT ON ON-CALL BASIS
- REQUESTS TO BE CHANNNELED THROUGH THE T&E JCSCG SERVICE PRINCIPALS

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COMPARISON OF FUNCTIONAL VALUES AIR VEHICLES

SITE	ORIG FV SCORE	INTERIM SCORE	RM* FV SCORE
AFFTC-EDWARDS AFB	85	81	80
NAWCAD-PATUXENT	81	78	77
NAWCWPNS-PT MUGU	69	70	69
AFDTC-EGLIN AFB	56	53	52
476 WEG-TYNDALL AFB	49	50	49
ATTC-EDWARDS	46	48	47
UTTR	46	45	44
USA EPG	44	45	44
NAWCWPNS-CHINA LAKE	43	45	43
USA YPG	35	37	37
ATTC-FORT RUCKER	34	31	32
HOLLOMAN AFB	33	36	35
NSWC-DAHLGREN	25	31	30
NAWCAD-INDIANAPOLIS	19	19	19
AEDC-ARNOLD AFB	18	18	18
NAWCAD-WARMINSTER	14	14	14

CHANGES:

- UTTR DROPPED FROM 6TH (TIE) TO 7TH (TIE)
- HOLLOMAN VS FT. RUCKER: REVERSED POSITION
- SPREAD NARROWED AMONG TOP 13

* "Reasonable-man"

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COMPARISON OF FUNCTIONAL VALUES ARMAMENT WEAPONS

SITE	ORIG FV SCORE	INTERIM SCORE	RM* FV SCORE
AFDTC-EGLIN AFB	82	81	79
NAWCWPNS-PT MUGU	77	75	74
NAWCAD-PATUXENT	(57)	52	(51)
NAWCWPNS-CHINA LAKE	57	58	(57)
WSMR	50	49	48
HOLLOMAN AFB	30	32	31
USA YPG	29	31	30
NAWCWPNS-CHINA LAKE	25	27	25
RTTC-REDSTONE ARSENAL	21	*	(21)
NSWC-DAHLGREN	(17)	19	(22)
AEDC-ARNOLD AFB	16	16	16
NSWC-INDIAN HEAD	14	*	14
NSWCCD-CRANE	13	13	13

CHANGES:

- CHINA LAKE VS PATUXENT - CHANGED POSITIONS
 - Pax score dropped 12%
- REDSTONE VS DAHLGREN - CHANGED POSITIONS
 - Dahlgren score up: +30%
- REMAINDER - SAME ORDER, SOME NARROWING OF SPREAD

* "Reasonable-man"

**Not Calculated

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COMPARISON OF FUNCTIONAL VALUES ELECTRONIC COMBAT

SITE	ORIG FV SCORE	INTERIM SCORE	RM* FV SCORE
AFDTC-EGLIN	65	63	62
NAWCWPNS-PT MUGU	58	59	57
NAWCAD-PATUXENT	53	54	50
AFFTC-EDWARDS AFB	52	50	49
NAWC-CHINA LAKE & WSM	47	50	49
USA EPG	47	47	48
HOLLOMAN AFB	29	30	30
AFEWES-EGLIN AFB	17	17	17
NSWCCD-CRANE	17	17	17
RDCAP-EGLIN	15	15	15

* "Reasonable-man"

CHANGES:

- AFFTC AND CHINA LAKE NOW TIED
- NARROWED SPREAD AMONG TOP SIX
- DID NOT OTHERWISE CHANGE POSITIONS
 - Largest Change, original to final "RM": -6% (Pax)
 - Largest Change, interim to final "RM": -8% (Pax)

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T&E
JOINT CROSS-SERVICE GROUP
FUNCTIONAL VALUE SCORING PROCESS

16 NOV 94

Functional Value Methodologies

- Three Approaches
 - Field Data + D-PAD
 - “Reasonable-man” Quick-Look Data & Manual Calculation
 - “Reasonable-man” (OSD Certified) + D-PAD

Functional Value Methodologies (Cont)

- Original Methodology
 - Scoring Based On:
 - Field Certified Data
 - Decision-PAD (D-PAD)
 - Issue - Claimed & Certified Airspace
 - Services interpreted differently
 - *Appeared* to cause significant discrimination based on FV
 - Action - Directed to Perform Sensitivity Analysis Using “Reasonable-man” Approach

Functional Value Methodologies (Cont)

- Interim Approach
 - Scoring Based On:
 - “Reasonable-man” Quick-Look Estimate of Restricted Airspace
 - Manual Calculation of FV
 - Result - No Significant Differences to FV
 - Verified Using D-PAD w/”Reasonable-man” Airspace Measures

“Reasonable-man” Airspace Calculation

- Method
 - Selected Candidate Radii
 - 150 nautical mile radius for AW & AV
 - 200 nautical mile radius for EC
 - Reference Data
 - NOAA Maps: IFR Enroute High Altitude - U.S.
 - Scale: - 1:500,000
 - 1 inch equals 30 nm (projection corrected for latitude)
 - Calculated using 7.5x7.5 nm grid
 - DoT/FAA Order 7400.8B - Special Use Airspace
 - Location Coordinates
 - Altitudes
 - Controlling & Using Agency(s)

“Reasonable-man” Airspace Calculation

- Method (Continued)
 - Measured Restricted Area within 150 and 200 nm radius of Center-point
 - Set at/near center of installation
 - Ft. Rucker & White Sands located using coordinates in FAA Order 7400.8B and DoD 3200.11D
 - Used acetate overlays with 1/4 inch grids (56.25 sq nm) or multiples (225 or 900 sq nm)
 - Counted squares to determine areas
 - At boundaries counted only if more than half included
 - Validation
 - DoD IG personnel replicated process - results reconciled
 - Calculated area of R 2508 geometrically using range coordinates - results within 5%

Functional Value Methodologies (Cont)

- Completed Sensitivity Analysis for “Reasonable-man” Approach
 - Scoring Based On:
 - Estimated Airspace (150 nm/200 nm)
 - In-put to D-Pad
 - Result - *Generally Confirmed Manual Calculations*



**BRIEFING FOR BRAC
COMMISSION**

**BRAC 95
JOINT CROSS-SERVICE GROUP
TEST AND EVALUATION**

21 MAR, 1995

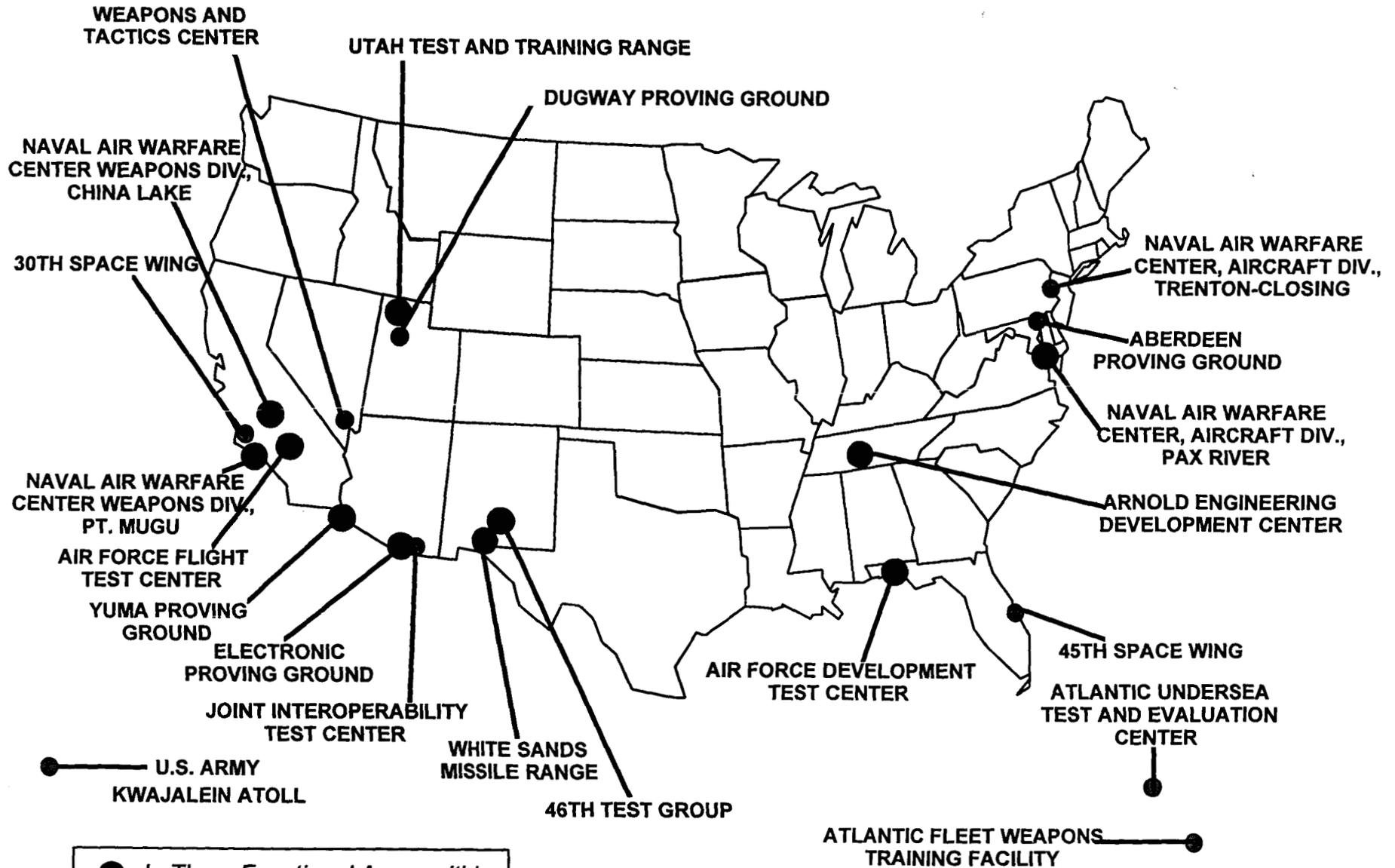
BRIEFING OUTLINE

- Review of T&E Infrastructure
- T&E Joint Cross Service Group
- Process and Analyses

DoD T&E INFRASTRUCTURE

- 21 major activities constitute the Major Range and Test Facility Base (MRTFB)
 - T&E activities managed and operated under uniform guidelines
 - Sized, operated and maintained to support all DoD users: cross-Service utilization
 - Available to non-DoD users with testing requirements
- Testing capabilities also exist at other bases
 - Non-core T&E sites

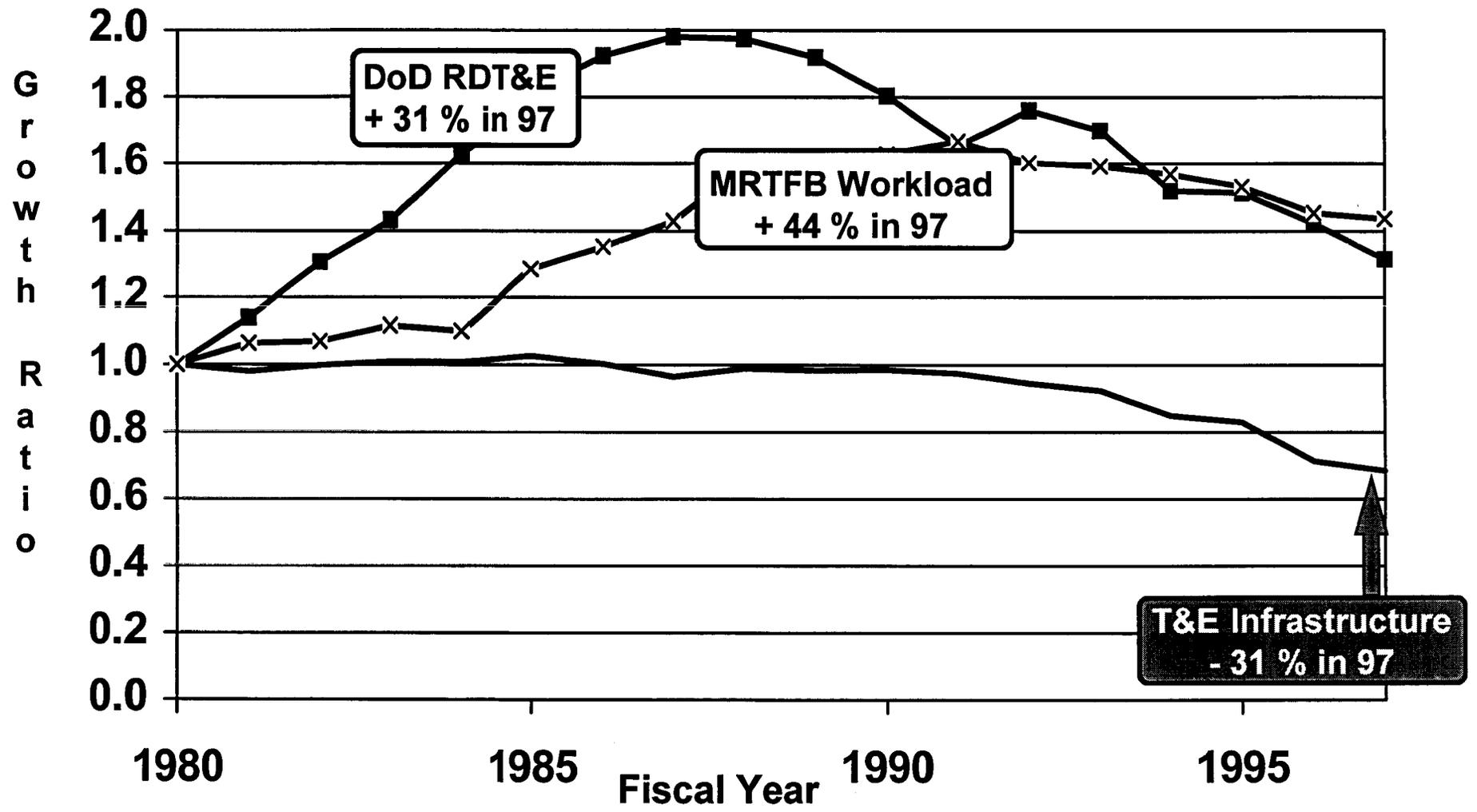
Major Range and Test Facility Base (MRTFB)



T&E INFRASTRUCTURE

- Large in Land, Sea, and Air Space
 - 7 million land acres (over 50 percent of total DoD land area)
- Costly to replace
 - Replacement value of \$ 25 billion
- Active
 - Sites for several thousand test projects per year
- Activity not driven by force structure
 - T&E Infrastructure budget declined by 18% since 1980 -- by 31% in 1997

DoD TRENDS IN T&E AND RDT&E BUDGETS SINCE FY1980



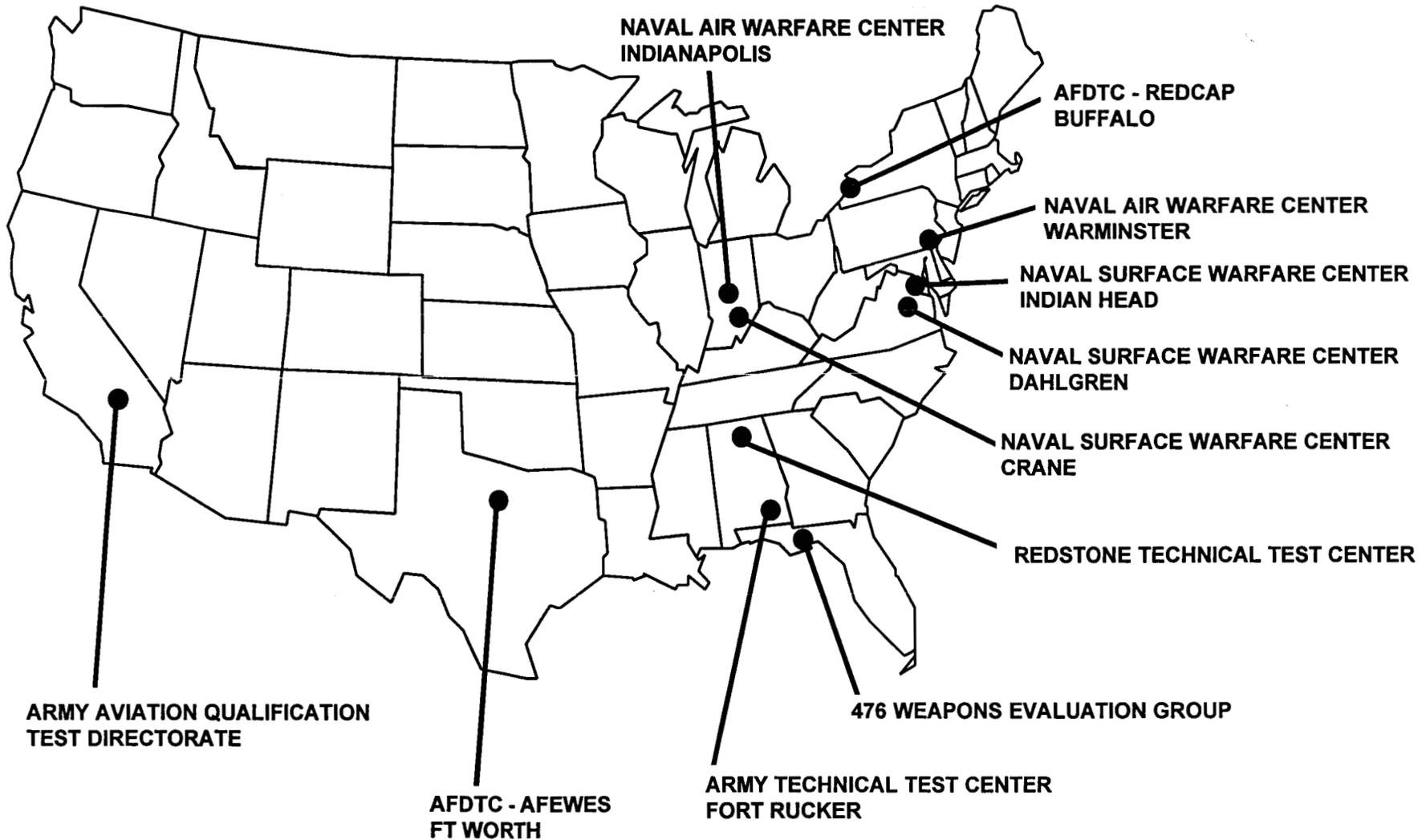
1996 COST OF T&E INFRASTRUCTURE

- T&E RDT&E Infrastructure costs \$ 1.1 billion per year
 - About 10 % of Acquisition Infrastructure
- Acquisition Infrastructure costs \$ 11.5 billion
 - About 11 % of DoD Infrastructure

T&E Infrastructure cost is 1 % of DoD Infrastructure cost

Non-Core T&E Facilities

(in Three Functional Areas within Scope of T&E JCSG Analysis)



T&E JOINT CROSS SERVICE GROUP

**Provide guidance to Military Services and
DoD Agencies for the conduct of
BRAC 95 T&E Cross-Service Analysis**

MEMBERSHIP

- Co-Chairmen: DOT&E
OUSD(A&T), DTSE&E
- Team Leaders: DOT&E
OUSD(A&T), DTSE&E
- Members:

Army	Navy
Air Force	DNA
BMDO	DISA
PA&E, OSD	OSD BRAC
- Observers:
DoD Comptroller
DoD IG
Lab Joint Cross Service Group

AREAS SELECTED FOR ANALYSIS

- T&E Functional Areas with commonality among the Military Departments
 - Air Vehicles
 - Electronic Combat
 - Armament/Weapons (excluding surface-to-surface)
- T&E Facility Categories (TFC)
 - Digital Modeling and Simulation
 - Measurement Facilities (further subdivided)
 - Integration Laboratories
 - Hardware in the Loop
 - Installed Systems Test Facilities
 - Open Air Ranges

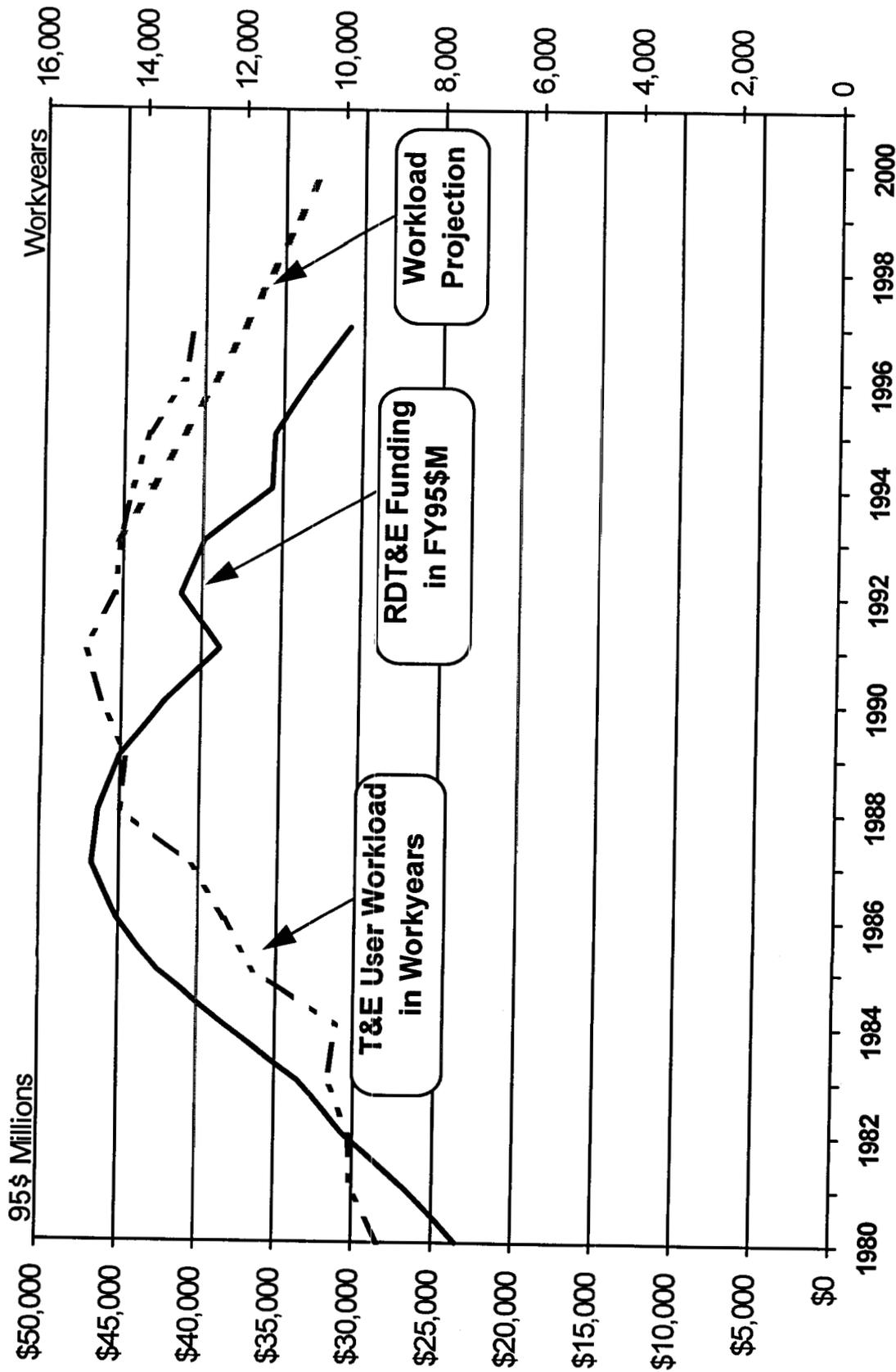
JCSG POLICY IMPERATIVES

- Retain irreplaceable Air, Land, and Sea space
- Retain the capability to satisfy requirements in each test facility category for each functional area, and retain critical backup capability
- Realign/consolidate capabilities, where cost effective, into existing MRTFB activities with open air ranges
- Exclude operational test agencies and dedicated training activities
- Remove from closure or realignment consideration in each functional area, those facilities/capabilities that:
 - Are Military Department unique
 - Have 5% or less of their total workload in that T&E functional area

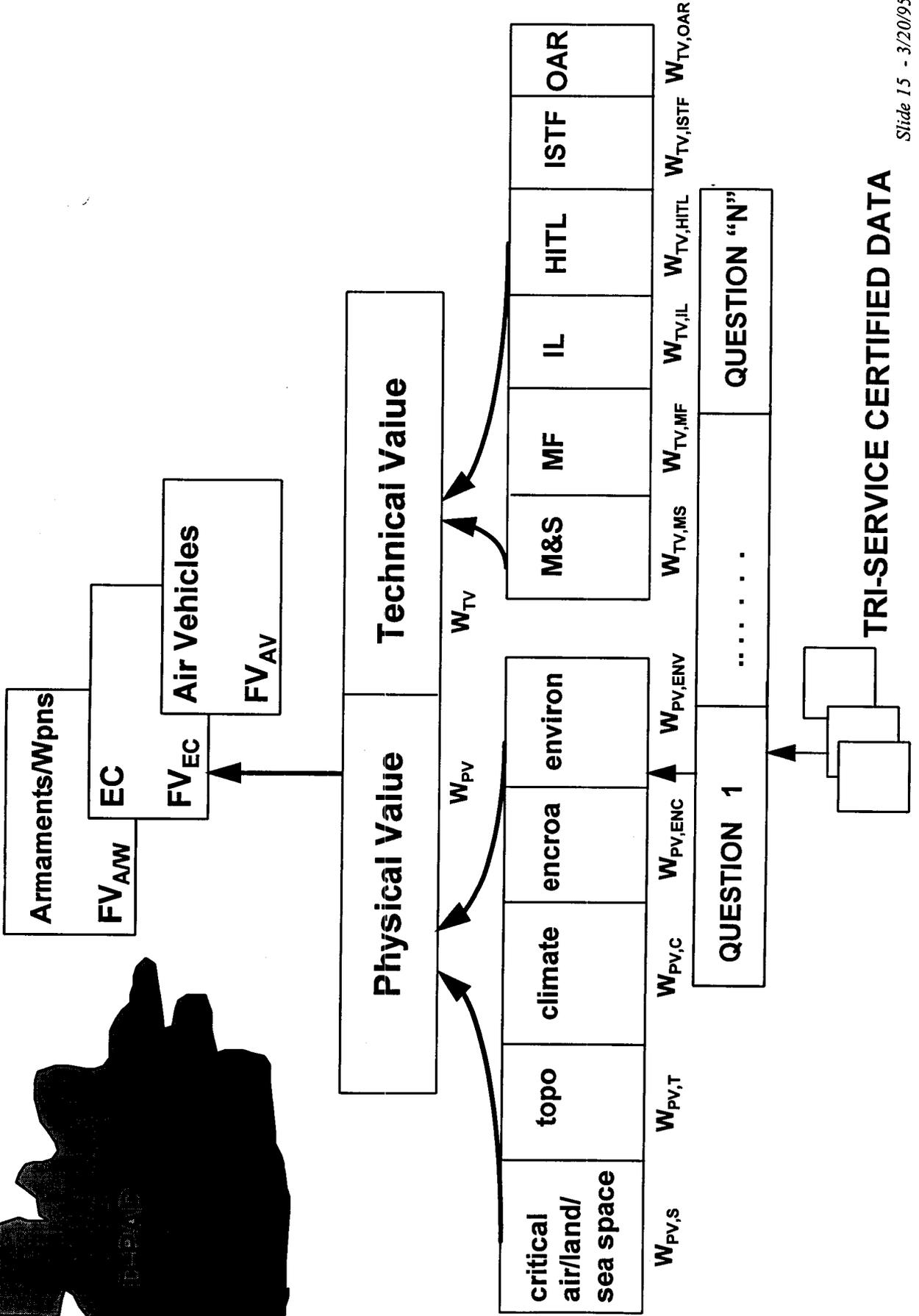
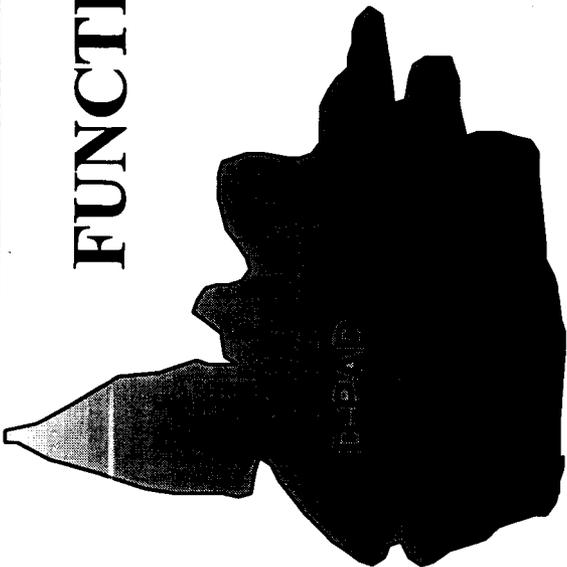
ANALYSIS TERMINOLOGY

- Capacity - the peak annual workload (in test hours) that the test site experienced during the period FY86-FY93
- Workload - the projected workload for FY99-FY01 using outlay rates in FY95 PB (Resulted in 0.72 times average workload in FY92 and FY93)
- Excess Capacity - the capacity minus projected workload
- Functional Value
 - Physical Value - Value of the site considering air, land, sea space as well as varied topography and climates as related to T&E in real-world environments under realistic conditions
 - Technical Value - Value of the site considering man-made assets in terms of their capability to support T&E of current and future weapon systems

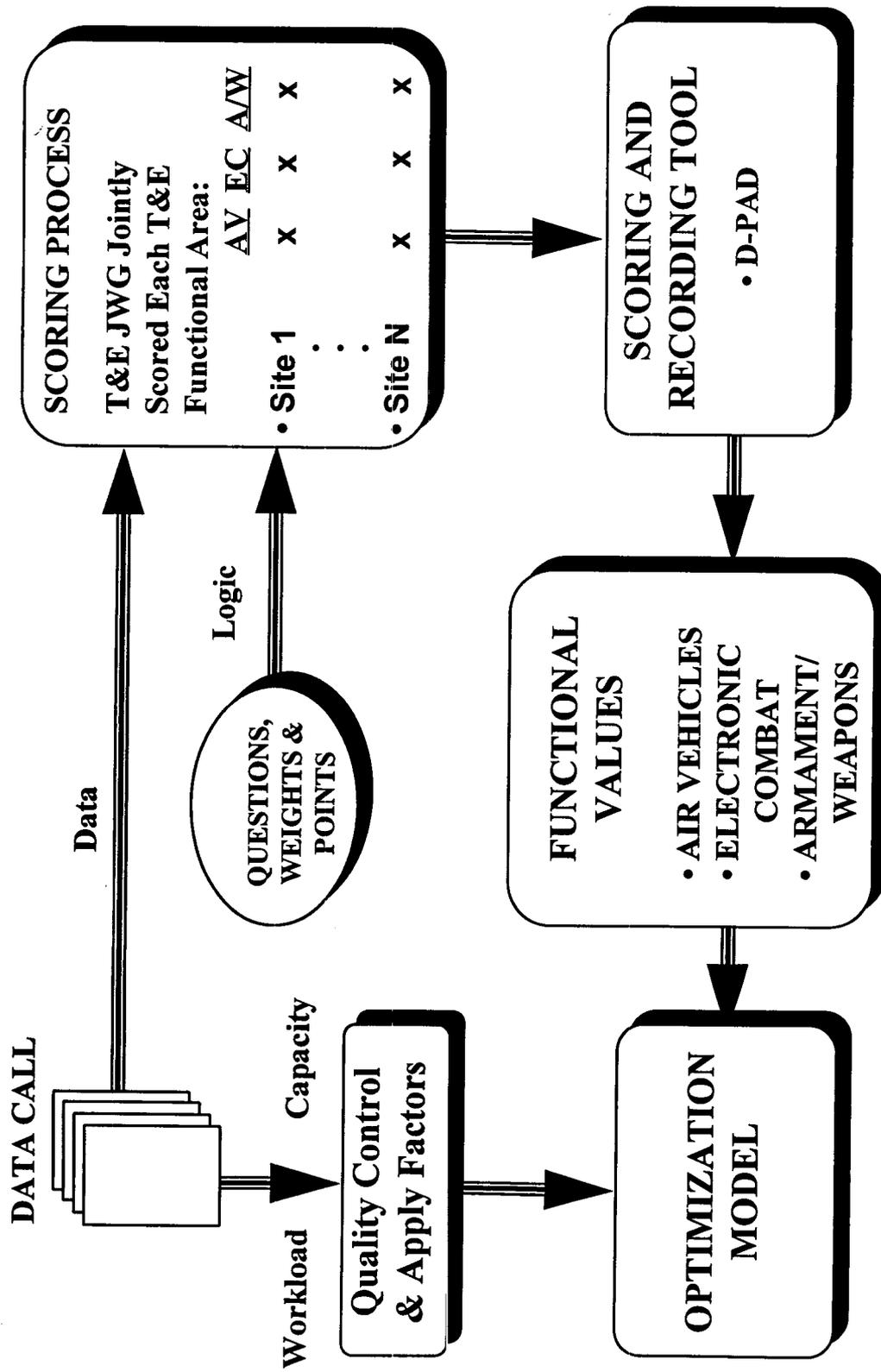
T&E WORKLOAD PROJECTION



FUNCTIONAL VALUE FRAMEWORK



T&E JCSCG FUNCTIONAL VALUE SCORING PROCESS



DATA ANALYSIS

Workload and Capacity in Test Hours Open Air Ranges - Core and Non-Core Sites

T&E Functional Areas	Workload	Capacity	Excess Capacity	Percent Excess Capacity
Air Vehicle	27,578	53,761	26,183	49%
Electronic Combat	2,771	5,860	3,089	53%
Armament/ Weapons	31,742	68,857	37,115	54%
Total	62,091	128,478	66,387	52%

DATA ANALYSIS

Workload and Capacity in Test Hours

All Test Facility Categories - Core and Non-Core Sites

T&E Functional Areas	Workload	Capacity	Excess Capacity	Percent Excess Capacity
Air Vehicle	319,113	509,612	190,499	37%
Electronic Combat	31,400	64,909	33,509	52%
Armament/ Weapons	280,032	550,595	270,563	49%
Total	630,545	1,125,116	494,571	44%

DATA ANALYSIS

Workload and Capacity in Test Hours Non-Core Sites Only

T&E Functional Areas	Workload	Capacity	Excess Capacity	Excess as a % of Total Excess
Air Vehicle	35,282	59,605	24,323	13 %
Electronic Combat	6,954	16,471	9,517	28 %
Armament/ Weapons	35,167	53,469	18,302	7 %
Total	77,403	129,545	52,142	11 %

JCSG POLICY IMPERATIVES

- Retain irreplaceable Air, Land, and Sea space
- Retain the capability to satisfy requirements in each test facility category for each functional area, and retain critical backup capability
- Realign/consolidate capabilities, where cost effective, into existing MRTFB activities with open air ranges
- Exclude operational test agencies and dedicated training activities
- Remove from closure or realignment consideration in each functional area, those facilities/capabilities that:
 - Are Military Department unique
 - Have 5% or less of their total workload in that T&E functional area

JCSG ALTERNATIVES - NON-CORE

- Close, realign, or mothball the T&E facilities at the following non-core locations:
 - Army - Fort Rucker, Redstone, AQTED Edwards
 - Navy - Indianapolis, Dahlgren, Crane, Indian Head, Warminster
 - Air Force - Tyndall AFB, REDCAP (Buffalo, NY), AFEWES (Fort Worth, TX)

- Full enactment of this proposal
 - Open air range excess capacity from 52 % to 45 %
 - All facilities excess capacity from 44 % to 37 %

SERVICE RESPONSES - NON-CORE REDUCTIONS

- Partially Responsive: Intra-Service Only

JCSG ALTERNATIVES - CORE

- If all non-core activities closed, open air excess capacity would only reduce from 52% to 45%.
- The JCSG Co-Chairs generated, for Military Department consideration, additional alternatives to close, realign, or mothball test facilities at the core sites.
- The driving factor in the selections was the excess capacity in the open air range facility category in all three functional areas.

JCSG PROPOSAL - CORE REDUCTIONS ALTERNATIVES

- Pax River T&E missions primarily to Edwards OR
 - Edwards T&E missions primarily to Pax River
 - If either is enacted, consolidate Army air vehicle T&E to the receiving site
-
- Eglin T&E missions primarily to China Lake OR
 - China Lake T&E missions primarily to Eglin
-
- Pt. Mugu T&E missions primarily to China Lake OR to Eglin

In these alternatives, realignment is to primary site and to other nearby sites

SERVICE RESPONSES CORE ALTERNATIVES

- **No Cross-Service Results/Outcomes
From Services**

(Eglin EC mission move was intra-Service)

BRAC 95 T&E JOINT
CROSS-SERVICE GROUP

BRIEFING FOR BRAC COMMISSION

18 MAY 94

JOHN V. BOLINO
DEPUTY DIRECTOR
TEST FACILITIES AND RESOURCES

OVERVIEW

T&E JOINT CROSS-SERVICE GROUP

- T&E MISSION
- BACKGROUND
- PROCESS/APPROACH
- PRODUCT (GUIDANCE TO SERVICES)

T&E MISSION

TEST

A PROGRAM, PROCEDURE, OR PROCESS TO OBTAIN, VERIFY, OR PROVIDE DATA FOR DETERMINING THE DEGREE TO WHICH A SYSTEM MEETS, EXCEEDS, OR FAILS TO MEET ITS STATED OBJECTIVES.

EVALUATION

THE REVIEW, ANALYSIS, AND ASSESSMENT OF DATA OBTAINED FROM TESTING OR OTHER SOURCES.

BACKGROUND

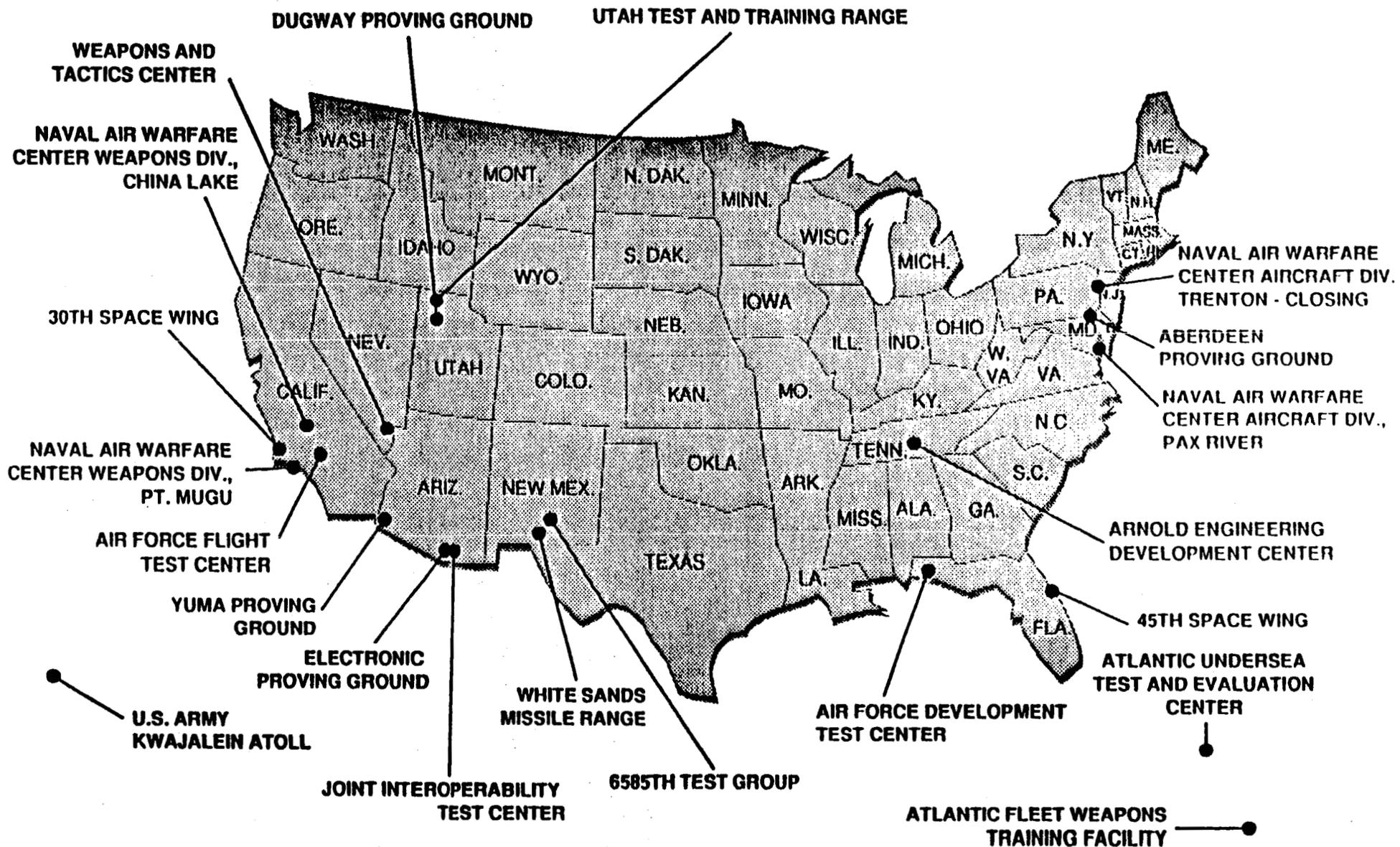
DoD T&E INFRASTRUCTURE

- 21 major T&E activities constitute the Major Range and Test Facility Base (MRTFB)
 - A broad base of T&E activities managed and operated under uniform guidelines
 - Sized, operated and maintained to support all DoD users
 - Available to other users with testing requirements
- Testing capabilities also exist at other bases
 - For example: laboratories, depots

*Points: ... other functions there.
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MAJOR RANGE AND TEST FACILITY BASE

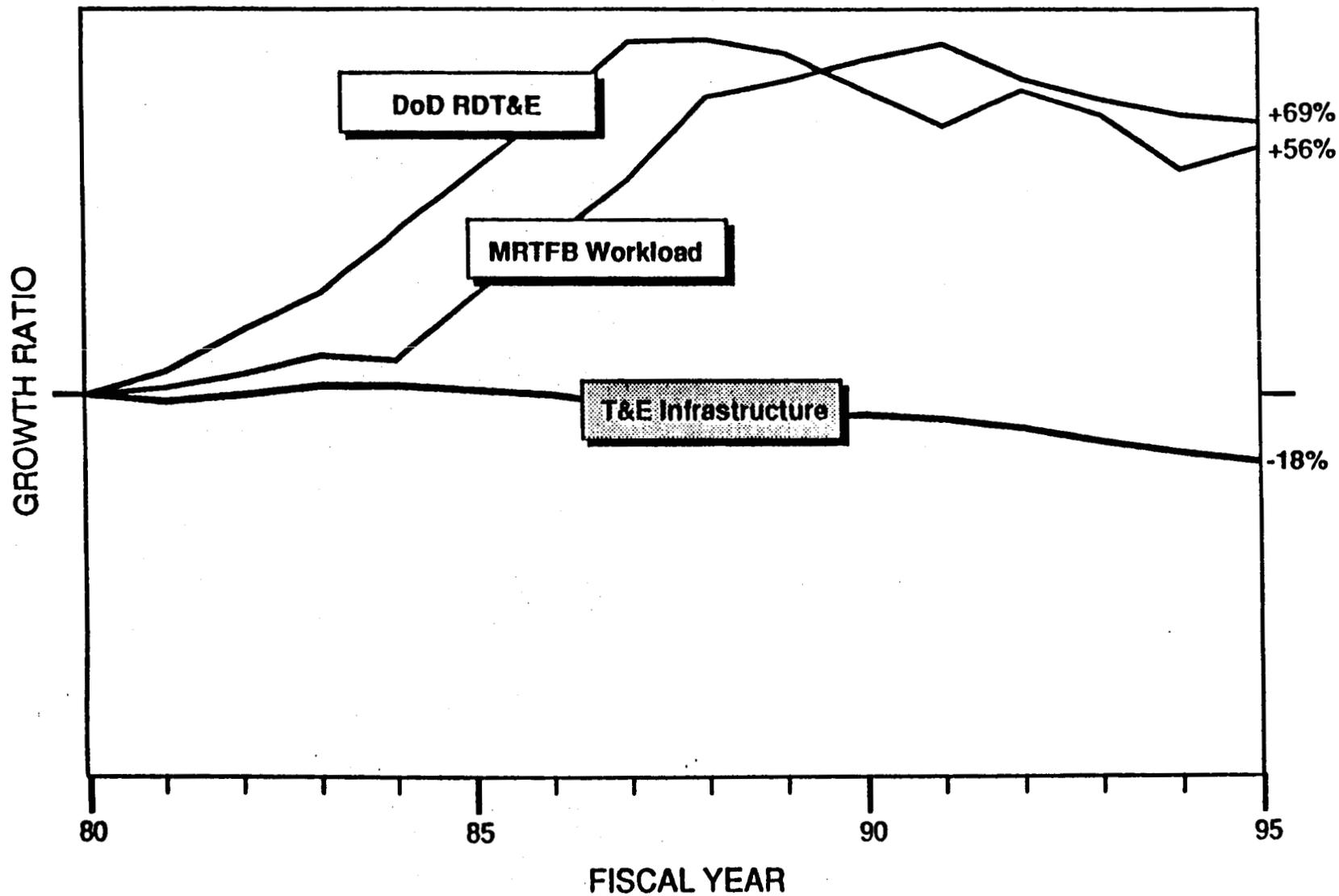


T&E INFRASTRUCTURE

CHARACTERISTIC	EXAMPLE
Large in Land, Sea, and Air Space	7 million land acres (over 50 percent of total DoD land area)
Costly to Replace	Replacement cost of \$ 25 Billion
Active	Sites for several thousand test projects each year
Activity not driven by force structure	T&E Infrastructure budget declined during period of increased DoD budgets



DoD TRENDS IN T&E AND RDT&E BUDGETS



1995 COST OF T&E INFRASTRUCTURE

- T&E Infrastructure costs \$ 1.7 billion
 - About 15 percent of Acquisition Infrastructure
- Acquisition Infrastructure costs \$ 12.2 billion
 - About 10.8 % of DoD Infrastructure cost

***T&E Infrastructure cost is 1.5 % of DoD
Infrastructure cost***

PROCESS/APPROACH

MISSION
T&E JOINT CROSS-SERVICE GROUP

**PROVIDE GUIDANCE TO MILITARY SERVICES
AND DoD AGENCIES FOR THE CONDUCT OF
BRAC 95 T&E CROSS-SERVICE ANALYSIS**

MEMBERSHIP

- INCLUDED ALL ORGANIZATIONS WITH POTENTIAL FOR THE CROSS-SERVICE SAVINGS:
 - CO-CHAIRMEN: DOT&E
DT&E, OUSD/A
 - TEAM LEADERS: DOT&E
DT&E, OUSD/A
 - MEMBERS: ARMY
NAVY
AIR FORCE
DNA
BMDO
DISA
PA&E, OSD
OSD BRAC
 - OBSERVERS: DoD COMPTROLLER
DoD IG
LAB JOINT C-S GROUP

PROCESS/APPROACH T&E JOINT CROSS-SERVICE GROUP

- **ESTABLISHED TRI-SERVICE WORKING GROUP**
- **DEVELOPED CRITICAL MILESTONES, ASSIGNED TASKERS**
- **ESTABLISHED GUIDELINES/SCOPE OF EFFORT**
- **RECEIVED WEEKLY PROGRESS REPORTS FROM WORKING GROUP**
- **SOUGHT CONSENSUS**

**PRODUCT
(GUIDANCE TO SERVICES)**

GUIDANCE, STANDARDS, AND ASSUMPTIONS

- INCLUDE ALL FACILITIES PERFORMING OR WHO HAVE PERFORMED T&E
- FACILITIES FROM ALL FUNDING SOURCES
- T&E WORKLOAD IS NOT A DIRECT FUNCTION OF FORCE STRUCTURE
- THE FYDP IS CONSIDERED CERTIFIED DATA
- INFORMATION FROM NON-DoD ACTIVITIES CANNOT BE CERTIFIED AND WILL NOT BE USED AS A BASIS FOR ANALYSES

GUIDANCE, STANDARDS, AND ASSUMPTIONS (continued)

- AT LEAST ONE TEST FACILITY/CAPABILITY WILL BE REQUIRED TO ADDRESS ANY TECHNOLOGY IN USE OR NEARING MATURATION
- POTENTIAL FOR INTERNETTING FACILITIES/CAPABILITIES CAN BE CONSIDERED IF INVESTMENTS ARE PROGRAMMED
- WORK CURRENTLY PERFORMED IN-HOUSE WILL REMAIN IN-HOUSE; WORK OUTSOURCED WILL REMAIN OUTSOURCED
- FMS WORKLOAD WILL CONTINUE AT FY93 LEVELS INTO THE FUTURE (STRAIGHT-LINED)

CAPABILITY

FUNCTIONAL AREAS

AIR VEHICLES

ELECTRONIC COMBAT

ARMAMENTS/WEAPONS

FACILITY TYPES

MODEL/SIMULATION

MEASUREMENT FACILITIES

INTEGRATION LABS

HARDWARE-IN-THE-LOOP

INSTALLED SYSTEMS

OPEN AIR RANGES

MEASURES OF MERITS FOR EACH FUNCTIONAL AREA

- OVERARCHING MEASURES:

INTERCONNECTIVITY

FACILITY CONDITION

ENVIRONMENTAL

ENCROACHMENT

SPECIALIZED SUPPORT
FACILITIES/TARGETS

AVAILABLE AIR, LAND
AND SEA SPACE

UNIQUENESS

EXPANDABILITY

GEOGRAPHY/CLIMATE

- PARTICULAR MEASURES FOR EACH FUNCTIONAL AREA